# ø22 Switches & Pilot Lights

# HW Series



Complete with finger-safe contact blocks. Ensure safety and save wiring time.



• DC-DC converter types are not approved by standards. • See website for details on approvals and standards.



HW Series Illuminated Pushbuttons



HW1Z Illuminated Buzzer

HW Series Pilot Lights (short body)











# **HW Series Selection Guide**

| Function |                      |                      | Pushbutton                    |                                  |                                  |
|----------|----------------------|----------------------|-------------------------------|----------------------------------|----------------------------------|
| Category | Flush                | Extended             | ø29mm Mushroom                | ø40mm Mushroom                   | ø60mm Mushroom                   |
| Galeguly | Momentary/Maintained | Momentary/Maintained | Momentary/Maintained          | Momentary/Maintained             | Momentary                        |
| Shape    |                      |                      |                               |                                  | 6                                |
| Model    | HW1B-M1<br>HW1B-A1   | HW1B-M2<br>HW1B-A2   | HW1B-M3<br>HW1B-A3            | HW1B-M4<br>HW1B-A4               | HW1B-M5                          |
| Page     | B-187                | B-187                | B-187                         | B-187                            | B-187                            |
| Function |                      |                      | Pushbutton                    |                                  |                                  |
| Category | Square Flush         | Square Extended      | Round Flush<br>w/Square Bezel | Round Extended<br>w/Square Bezel | ø29mm Mushroom<br>w/Square Bezel |
|          | Momentary/Maintained | Momentary/Maintained | Momentary/Maintained          | Momentary/Maintained             | Momentary/Maintained             |
| Shape    |                      |                      |                               |                                  |                                  |
| Model    | HW2B-M1<br>HW2B-A1   | HW2B-M2<br>HW2B-A2   | HW3B-M1<br>HW3B-A1            | HW3B-M2<br>HW3B-A2               | HW3B-M3<br>HW3B-A3               |
| Page     | B-188                | B-188                | B-189                         | B-189                            | B-189                            |
| Function |                      | Pilot                | Light                         |                                  |                                  |
| Category | Flush (Marking)      | Extended (Dome)      | Square Flush (Marking)        | Jumbo Dome                       |                                  |
| Shape    | 1                    | <b>``</b>            | P                             |                                  |                                  |
| Model    | HW1P-1               | HW1P-2               | HW2P-1                        | HW1P-5                           |                                  |
| Page     | B-190                | B-190                | B-190                         | B-190                            |                                  |
| Function |                      |                      | Illuminated Pushbutton        |                                  |                                  |
| Catagory | Flush                | Extended             | Extended w/Full Shroud        | Square Flush                     | Flush w/Square Bezel             |
| Category | Momentary/Maintained | Momentary/Maintained | Momentary/Maintained          | Momentary/Maintained             | Momentary/Maintained             |

| Category |                    |                    | Extended w/Full Shroud | Square Flush                              | Flush w/Square Bezel |
|----------|--------------------|--------------------|------------------------|-------------------------------------------|----------------------|
| Galegoly |                    |                    | Momentary/Maintained   | Momentary/Maintained Momentary/Maintained |                      |
| Shape    |                    |                    |                        |                                           |                      |
| Model    | HW1L-M1<br>HW1L-A1 | HW1L-M2<br>HW1L-A2 | HW1L-MF2<br>HW1L-AF2   | HW2L-M1<br>HW2L-A1                        | HW3L-M1<br>HW3L-A1   |
| Page     | B-192              | B-192              | B-193                  | B-194                                     | B-194                |

| Function | Illuminated Pushbutton |                      |                        |  |  |
|----------|------------------------|----------------------|------------------------|--|--|
| Category | Flush                  | Extended             | Extended w/Full Shroud |  |  |
| Galegoly | Momentary/Maintained   | Momentary/Maintained | Momentary/Maintained   |  |  |
| Shape    |                        |                      |                        |  |  |
| Model    | HW1L-M3<br>HW1L-A3     | HW3L-M3<br>HW3L-A3   | HW1L-M4<br>HW1L-A4     |  |  |
| Page     | B-195                  | B-195                | B-196                  |  |  |

|     | Miniature    |
|-----|--------------|
| zel | Pilot Lights |
| ned |              |
|     |              |
|     |              |
| )   | TW           |
|     | YW           |
|     |              |

Flush Silhouette

ø16

ø30

APEM

Control Boxes Emergency Stop Switches Enabling Switches Safety Products Explosion Proof Terminal Blocks Relays & Sockets Circuit Protectors Power Supplies LED Illumination Controllers Operator Interfaces Sensors AUTO-ID

# **HW Series Selection Guide**

| APEM                       |
|----------------------------|
| Switches &<br>Pilot Lights |
| Control Boxes              |
| Emergency<br>Stop Switches |
| Enabling<br>Switches       |
| Safety Products            |
| Explosion Proof            |
| Terminal Blocks            |
| Relays & Sockets           |
| Circuit<br>Protectors      |
| Power Supplies             |
| LED Illumination           |
| Controllers                |
| Operator<br>Interfaces     |
| Sensors                    |
| AUTO-ID                    |
|                            |
| Flush Silhouette           |

ø16

ø30 Miniature Pilot Lights

> TW YW

| Function | Dual Pushbutton               |                                  |                               |                               |  |  |  |
|----------|-------------------------------|----------------------------------|-------------------------------|-------------------------------|--|--|--|
| FUNCTION | w/o Pil                       | ot Light                         | w/ Pilo                       | t Light                       |  |  |  |
| Category | Flush (top)<br>Flush (bottom) | Flush (top)<br>Extended (bottom) | Flush (top)<br>Flush (bottom) | Flush (top)<br>Flush (bottom) |  |  |  |
|          | Momentary/Interlocking        | Momentary/Interlocking           | Momentary/Interlocking        | Momentary/Interlocking        |  |  |  |
| Shape    |                               |                                  |                               |                               |  |  |  |
| Model    | HW7D-B11<br>HW7D-B21          | HW7D-B12<br>HW7D-B22             | HW7D-L11<br>HW7D-L21          | HW7D-L12<br>HW7D-L22          |  |  |  |
| Page     | B-199                         | B-199                            | B-200                         | B-200                         |  |  |  |

| Function | Selector Switch |                 |                  | Illuminated Selector |                | Pushbutton Selector |  |
|----------|-----------------|-----------------|------------------|----------------------|----------------|---------------------|--|
| Category | Selector        | Pin Tumbler Key | Disc Tumbler Key | Knob Operator        | Lever Operator |                     |  |
| Shape    |                 |                 |                  |                      |                |                     |  |
| Model    | HW1S            | HW1K-□P         | HW1K             | HW1F                 | HW1F-□L        | HW1R                |  |
| Page     | B-203           | B-204           | B-206            | B-208                | B-209          | B-214               |  |

| Function | Mono-Lever Switch |              |  |
|----------|-------------------|--------------|--|
| Category | Standard          | Interlocking |  |
| Shape    |                   |              |  |
| Model    | HW1M              | HW1M-L       |  |
| Page     | B-215             | B-215        |  |

For more information, visit http://eu.idec.com

# Ø22 HW Series Switches & Pilot Lights

# Complete with finger-safe contact blocks Ensure safety and save wiring time

- Finger-safe terminal blocks
- Self-cleaning rolling action contacts.
- Degree of protection: IP65 (except dual pushbutton: IP40)
- Dual pushbutton switches available with two pushbuttons and a pilot light integrated into one space-saving unit.
- A wide range of operating voltages for worldwide application.



### Application for dual pushbuttons:

Ideal for use as power switches and start/stop switches (available with I/ON and O/OFF markings on the buttons and a pilot light in the center).

Interlock type prevents two pushbuttons from being pressed at the same time, providing the best solution for up/down switches.

### **Specifications and Ratings**

### **Contact Ratings**

| Pushbuttons                                                                | Rated insulation voltage                                | 600V                  |
|----------------------------------------------------------------------------|---------------------------------------------------------|-----------------------|
| Illuminated Pushbuttons<br>Dual Pushbuttons                                | Rated continuous current                                | 10A                   |
| Selector Switches<br>Illuminated Selector Switches<br>Selector Pushbuttons | Contact ratings by utilization category<br>IEC60947-5-1 | AC-15 (A600)<br>DC-13 |

# **Contact Ratings by Utilization Category**

### HW-U10 (NO contact), HW-U01 (NC contact)

| Operating Voltag | Operating Voltage |                                                        |     | 48V | 50V | 110V | 220V | 440V |
|------------------|-------------------|--------------------------------------------------------|-----|-----|-----|------|------|------|
|                  | AC                | AC-12 Control of resistive loads and solid state loads | 10A | _   | 10A | 10A  | 6A   | 2A   |
| Operating        | 50/60 Hz          | AC-15 Control of electromagnetic loads (> 72 VA)       | 10A | —   | 7A  | 5A   | ЗA   | 1A   |
| Current          | DC                | DC-12 Control of resistive loads and solid state loads | 10A | 5A  | —   | 2.2A | 1.1A | —    |
| DC               |                   | DC-13 Control of electromagnets                        | 5A  | 2A  | —   | 1.1A | 0.6A | —    |

### HW-U10R (EM contact/NO contact), HW-U01R (LB contact/NC contact)

| Operating Voltage |          |                                                        | 24V  | 48V  | 50V  | 110V  | 220V  | 440V |
|-------------------|----------|--------------------------------------------------------|------|------|------|-------|-------|------|
|                   | AC       | AC-12 Control of resistive loads and solid state loads | 5A   | —    | 5A   | 5A    | 3A    | 1A   |
| Operating         | 50/60 Hz | AC-15 Control of electromagnetic loads (> 72 VA)       | 5A   | —    | 3.5A | 2.5A  | 1.5A  | 0.5A |
| Current           | DC       | DC-12 Control of resistive loads and solid state loads | 5A   | 2.5A | —    | 1.1A  | 0.55A | —    |
|                   | DC       | DC-13 Control of electromagnets                        | 2.5A | 1A   | _    | 0.55A | 0.3A  | _    |

• The operating current represents the classification by making and breaking currents (IEC 60947-5-1).

Contact materials: Silver contacts

• Minimum applicable load: 3V AC/DC, 5 mA (applicable range may vary with operating conditions and load types)

Power Supplies

LED Illumination

Controllers

Operator

Interfaces Sensors

### Miniature

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Pilot Lights

| HW |  |
|----|--|
| TW |  |
| YW |  |

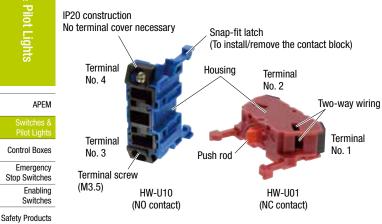
APEM

Control Boxes

Emergency Stop Switches Enabling Switches Safety Products Explosion Proof Terminal Blocks Relays & Sockets Circuit Protectors

# ø22 HW Series Switches & Pilot Lights

# **HW-U Contact Block**



| Part No.    | HW-U10      | HW-U01     | HW-U10R                 | HW-U01R                 |  |  |  |  |  |
|-------------|-------------|------------|-------------------------|-------------------------|--|--|--|--|--|
| Contact     |             | ~~         |                         |                         |  |  |  |  |  |
| Contact     | 1N0         | 1NC        | EM (NO)<br>(early make) | LB (NC)<br>(late break) |  |  |  |  |  |
| Contact No. | 3-4         | 1-2        | 3-4                     | 1-2                     |  |  |  |  |  |
| Housing     | Blue        | Purple red | Blue                    | Purple red              |  |  |  |  |  |
| Push Rod    | Green       | Red        | Black                   | White                   |  |  |  |  |  |
| Weight      | Approx. 11g |            |                         |                         |  |  |  |  |  |

• Up to 2 layers (4 blocks) can be attached.

· Gold contacts available (gold-plated silver)

### **LED Specifications**

| Terminal Blocks  | · ·                         |                         |                        |          |                  |      |           |          |
|------------------|-----------------------------|-------------------------|------------------------|----------|------------------|------|-----------|----------|
| Terminar Diocks  | Unit                        |                         |                        |          |                  |      | LED       | lamp     |
| Relays & Sockets | Unit                        | Color                   | Rated Voltage          |          | Operating Volta  | age  | Lamp Base | Part No. |
| Circuit          |                             |                         | 6V AC/DC               |          | 6V AC/DC         |      |           | LSTD-6*  |
| Protectors       |                             |                         | 12V AC/DC<br>24V AC/DC |          | 12V AC/DC        |      |           | LSTD-1*  |
| Power Supplies   |                             |                         |                        |          | 24V AC/DC        |      |           | LSTD-2*  |
|                  | Illuminated pushbutton      | R (red)                 | 100/110V AC            |          | 100/110V AC      |      | BA9S/13   | LSTD-6*  |
| LED Illumination | Illuminated selector switch | G (green)               | 115/120V AC            | 50/60 Hz | 115/120V AC (*1) | ±10% |           |          |
| Controllers      | Pilot light                 | Y (yellow)<br>A (amber) | 200/220V AC            |          | 200/220V AC      |      |           |          |
| Operator         | Dual pushbutton             | S (blue)                | 230/240V AC            |          | 230/240V AC (*1) |      |           |          |
| Interfaces       | (with pilot light)          | PW (pure white)         | 380V AC                |          | 380V AC          |      |           | L31D-0*  |
| Sensors          |                             |                         | 400/440V AC            |          | 400/440V AC      |      |           |          |
|                  | <u> </u>                    |                         | 480V AC                |          | 480V AC          |      |           |          |
| AUTO-ID          |                             |                         | 110V DC                |          | 90 to 140V DC    |      |           |          |

• See B-182. for details on LED lamp ratings.

• For the LED lamp used in jumbo dome pilot lights, see B-182.

• Yellow (Y) cannot be used with dual pushbuttons. Flush Silhouette

• Color codes for units without LED lamps: ø16

R (red), G (green), A (amber), Y (yellow), S (blue)

When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.

### **Power Unit Terminal**

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Miniature

| Pilot Lights |                |                      | Illuminated Unit | Pilot Light  |                    |                      |                |                    |
|--------------|----------------|----------------------|------------------|--------------|--------------------|----------------------|----------------|--------------------|
|              | Power Unit     | Full voltage adapter | Transforme       | r            | DC-DC<br>converter | Full voltage adapter | Transformer    | DC-DC<br>converter |
|              | Rated Voltage  | 6, 12, 24V AC/DC     | 100 to 240V AC   | 380V AC min. | 110V DC            | 6, 12, 24V AC/DC     | 100 to 480V AC | 110V DC            |
| HW           | Polarity       | None                 | None             | None         | X1 (+)<br>X2 (–)   | None                 | None           | X1 (+)<br>X2 (–)   |
| TW           |                | X1                   |                  |              |                    |                      |                |                    |
| YW           |                | 6 3                  | TANK INCOME.     |              |                    |                      |                |                    |
|              | Shape/Terminal | X2                   | x1 X2            | t            | X1<br>X2           | X1 X2                | T              | X1 X2              |

Explosion Proof

# LED Lamp Ratings

|                  | ehr Juinne       | Dome Plic | Ji Liyins)                        |                  |                         |                    |                |     |                                    |                 |
|------------------|------------------|-----------|-----------------------------------|------------------|-------------------------|--------------------|----------------|-----|------------------------------------|-----------------|
| Part No.         |                  |           | LSTD-6*                           |                  | l                       | LSTD-1* LSTD-2*    |                |     |                                    |                 |
| Lamp Base        | amp Base BA9S/13 |           |                                   |                  |                         |                    |                |     | ilot Lights                        |                 |
| Rated Voltag     | ge               | 6V AC/DC  |                                   |                  | 12V AC/DC               |                    | 24V AC/DC      |     | <u>نې</u>                          | Q               |
| Voltage Ran      | ige              | 6V AC/DC  | ±10%                              |                  | 12V AC/DC ±10%          |                    | 24V AC/DC ±10% | 6   |                                    |                 |
| _                | Color            | R, A      | G, PW                             | S                | R, G, A, PW             | S                  | R, G, A, PW    | S   | APEM                               |                 |
| Current<br>Draw  | DC               | 7mA       | 5.5mA                             | 4.5mA            | 10mA                    | 8mA                | 10mA           | 8mA | Switches 8                         |                 |
| Diaw             | AC               | 8mA       | 8mA                               | 7mA              | 11mA                    | 9mA                | 11mA           | 9mA | Pilot Lights                       |                 |
| Lamp Base        | Color            | Same as   | illumination color                | r (PW: gray)     |                         |                    |                |     | Control Box                        | xes             |
| Voltage Mar      | rking            | Die stamp | oed on the base                   |                  |                         |                    |                |     | Emergency                          | у               |
| Life (referen    | nce value)       |           | 0,000 hours<br>nance is reduced   | I to 50% the ini | tial intensity when use | d on complete DC a | at 25°C.)      |     | Stop Switc<br>Enabling<br>Switches | hes             |
| Internal Circuit |                  | X 1 4     | X 1 - Symbols<br>Kample: LSTD-2PW |                  |                         |                    |                |     |                                    | ducts           |
|                  |                  |           | $\square$                         | ×<br>×<br>Ŕn     | LED Chip                | LED chip           |                |     | Explosion F                        | Explosion Proof |
|                  |                  |           |                                   |                  | Zener diode             |                    | -              |     | Terminal B                         | locks           |
|                  |                  | X 2 4     |                                   |                  | - Resistor              |                    | Base Color     |     | Relays & So                        | ockets          |
| Weight           |                  | Approx. 2 | g                                 |                  |                         |                    |                |     | Circuit<br>Protectors              |                 |

 $\bullet$  Specify a color code in place of \*. R (red), G (green), A (amber), S (blue), PW (pure white)

• Use a pure white (PW) LED for yellow (Y) illumination.

### LSTDB (For Jumbo Dome Pilot Lights HW1P-5Q4 Only)

| Part No.               | LSTD                                                                                                              | )B-2*                                                                  |  |  |  |  |  |  |  |
|------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--|--|--|--|--|--|--|
| Lamp Base              | BA9S/13                                                                                                           |                                                                        |  |  |  |  |  |  |  |
| Voltage Range          | 24V AC/DC±10%                                                                                                     |                                                                        |  |  |  |  |  |  |  |
| Current Draw           | 15mA                                                                                                              |                                                                        |  |  |  |  |  |  |  |
| Rated Voltage          | 24V AC/DC                                                                                                         |                                                                        |  |  |  |  |  |  |  |
| Life (reference value) | Approx. 20,000 hours<br>(The luminance is reduced to 50% the initial intensity when used on complete DC at 25°C.) |                                                                        |  |  |  |  |  |  |  |
|                        | R, A                                                                                                              |                                                                        |  |  |  |  |  |  |  |
| Internal Circuit       |                                                                                                                   | - H ED chip<br>- H Rectifier diode<br>- H Zener diode<br>- □- Resistor |  |  |  |  |  |  |  |
|                        | G, S, PW                                                                                                          | 4                                                                      |  |  |  |  |  |  |  |
|                        |                                                                                                                   |                                                                        |  |  |  |  |  |  |  |

• Specify a color code in place of \*. R (red), G (green), A (amber), S (blue), PW (pure white)

• Use a pure white (PW) LED for yellow (Y) illumination.

Power Supplies

LED Illumination

Flush Silhouette

ø16

ø30 Miniature Pilot Lights

ΤW

YW

Controllers Operator Interfaces Sensors AUTO-ID

# Ø22 HW Series Switches and Pilot Lights

## **Specifications**

| <b>2</b> 0                 | opeemeations                |                                                                                                                                                                                 |  |  |  |  |  |
|----------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| & Pilot Liç                | Operating<br>Temperature    | Non-illuminated: -25 to +60°C (no freezing)<br>Illuminated: -25 to +50°C (no freezing)<br>Jumbo dome pilot lights: -25 to +55°C (no freezing)<br>45 to 85% RH (no condensation) |  |  |  |  |  |
| ght                        | Operating Humidity          |                                                                                                                                                                                 |  |  |  |  |  |
|                            | Storage Temperature         | -40 to +80°C (no freezing)                                                                                                                                                      |  |  |  |  |  |
|                            | Contact Resistance          | 50 mΩ maximum (initial value)                                                                                                                                                   |  |  |  |  |  |
| APEM                       | Insulation Resistance       | 100 MΩ minimum (500V DC megger)                                                                                                                                                 |  |  |  |  |  |
| Switches &<br>Pilot Lights | Dielectric Strength         | Between live and dead metal parts: 2,500V AC, 1 minute<br>(Full voltage and illuminated units: 2,000V AC, 1 minute) (*1)                                                        |  |  |  |  |  |
| ntrol Boxes                | Vibration Resistance        | Damage limits: 30 Hz, amplitude 1.5 mm                                                                                                                                          |  |  |  |  |  |
| Emergency                  | VIDIATION RESISTANCE        | Operating extremes: 5 to 55 Hz, amplitude 0.5 mm                                                                                                                                |  |  |  |  |  |
| p Switches                 | Chask Desistance            | Damage limits: 1,000m/s <sup>2</sup>                                                                                                                                            |  |  |  |  |  |
| Enabling<br>Switches       | Shock Resistance            | Operating extremes: 100m/s <sup>2</sup>                                                                                                                                         |  |  |  |  |  |
| ty Products                |                             | Pushbutton, Illuminated pushbutton<br>Momentary······5,000,000                                                                                                                  |  |  |  |  |  |
| osion Proof                |                             | Maintained                                                                                                                                                                      |  |  |  |  |  |
| inal Blocks                | Mechanical Life<br>(minimum | Dual pushbutton       -500,000         Selector switch       -500,000         Key selector switch (Disc tumbler)       -500,000                                                 |  |  |  |  |  |
| s & Sockets                | operations)                 | Key selector switch (Pin tumbler)                                                                                                                                               |  |  |  |  |  |
| Circuit<br>Protectors      |                             | Pushbutton selector switcher 250,000<br>Mono-lever switches 250,000                                                                                                             |  |  |  |  |  |
|                            |                             |                                                                                                                                                                                 |  |  |  |  |  |
| er Supplies                |                             | Pushbutton, Illuminated pushbutton                                                                                                                                              |  |  |  |  |  |
| llumination                |                             | Momentary                                                                                                                                                                       |  |  |  |  |  |
| Controllers                |                             | Dual pushbutton•••••••••••••••••••••••••••••••••••                                                                                                                              |  |  |  |  |  |
| Operator                   | Electrical Life (*5)        | Selector switch                                                                                                                                                                 |  |  |  |  |  |
| Interfaces                 |                             | Key selector switch (Disc tumbler)••••••500,000 (*3)<br>Key selector switch (Pin tumbler)••••••100,000 (*3)                                                                     |  |  |  |  |  |
| Sensors                    |                             | Illuminated selector switch                                                                                                                                                     |  |  |  |  |  |
| AUTO-ID                    |                             | Pushbutton selector                                                                                                                                                             |  |  |  |  |  |
|                            |                             | 66g (HW1B-M122)<br>20g (HW1P-1Q4)<br>84g (HW1L-M122Q4)                                                                                                                          |  |  |  |  |  |
| n Silhouette               |                             | 66g (HW1S-2T22)                                                                                                                                                                 |  |  |  |  |  |
| ø16                        | Weight (Apporox.)           | 94g (HW1K-2A22)<br>72g (HW1K-2JPC11)                                                                                                                                            |  |  |  |  |  |
| ø22                        |                             | 84g (HW1F-222Q4)<br>71g (HW1R-2A22)<br>82g (HW1M-2222-22N9)                                                                                                                     |  |  |  |  |  |
| ø30                        |                             | 82g (HWTM-2222-22N9)<br>72g (HW7D-B111111)<br>90g (HW7D-L111111Q4)                                                                                                              |  |  |  |  |  |
| Miniature                  |                             |                                                                                                                                                                                 |  |  |  |  |  |

\*1) Dielectric strength for dual pushbuttons are as follows:

Full voltage type: 1,000V AC, 1 minute (between live and dead metal parts) Transformer and DC-DC converter types: 2,000V AC, 1 minute (between live and dead metal parts)

\*2) Switching frequency 1,800 operations/h, duty ratio 40%

\*3) Switching frequency 1,200 operations/h, duty ratio 40%

\*4) Switching frequency 900 operations/h, duty ratio 40%

\*5) Load condition 220V AC, 3A (AC-15)

τw YW

Pilot Lights

# **Ordering Information**

### Standard models

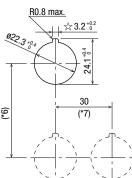
- · Specify Ordering No. when ordering.
- . Specify a button or lens color code in place of \*.
- · Pilot lights, illuminated pushbuttons, and illuminated selector switches have an LED lamp installed unless otherwise specified.
- Nameplates and accessories for mono-lever switch are ordered separately. See B-216 to B-218.
- · Color codes for units without LED lamps:
- R (red), G (green), A (amber), Y (yellow), S (blue)

When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.

# **Mounting Hole Layout**

(Dimensions in mm)





- . The minimum mounting centers are applicable to switches with one layer of contact blocks (one to two contact blocks). When two layers of contact blocks are mounted, determine the minimum mounting centers in consideration of convenience for wiring.
- . When high temperature is expected, take necessary measures such as securing sufficient mounting centers or using a cooling fan.

### Minimum Mounting Centers

| winning contors             |        |        |
|-----------------------------|--------|--------|
| Unit                        | A (*6) | B (*7) |
| ø40mm mushroom button       | 50     | 40     |
| Pushbutton selector         | 50     | 50     |
| Mono-lever switch           | 72     | 72     |
| Pilot light                 | 30     | 30     |
| Jumbo dome pilot light      | 85     | 85     |
| Dual pushbutton switch      | 55     | 30     |
| Illuminated selector switch | 50     | 50     |

. When using the safety lever lock, determine the vertical spacing (\*6) in consideration of convenience for installing and removing the safety lever lock. (Recommended vertical spacing: 100 mm) The minimum length of vertical spacing (\*6) is 45 mm when safety lever lock is not used.

 The 3.2 mm recess is for preventing rotation and is not necessary when the nameplate or anti-rotation ring is not used.

# **Degree of Protection**

| Unit                                      | IEC 60529 |
|-------------------------------------------|-----------|
| All units except dual pushbutton switches | IP65 (*8) |
| Dual pushbutton switches                  | IP40 (*9) |

\*8) When using a nameplate with the HW series, IP65 protection degree is achieved only when nameplates shown on B-216 are used. (IP40 when other ø22 namplates such as NWA are used)

\*9) IP65 protection degree when HW9Z-D7D button cover is used.

Contr Er Stop

Safety

Explos

Termin

Relays &

Power LED IIIu С

Flush S



### Pilot Lights (B-190)

When specifying LED operating voltage:

**Ordering Information** 

HW1B-M1 11 R -MAU

When specifying gold-plated silver contact and contact configuration:

Optional contact

Operating voltage

Contact configuration

Pushbuttons (B-187 to B-189)

HW1P-1 <u>H2</u> R

Without LED lamp QO: Q2: 6V AC/DC 12V AC/DC Q3: 04: 24V AC/DC H2: 100/110V AC H22: 115/120V AC M2: 200/220V AC 230/240V AC M42: S2: 380V AC T2: 400/440V AC T82: 480V AC D2: 110V DC

MAU: Gold contact

1N01NC

2N02NC

1N03NC 3N01NC

1N02NC 2N01NC

1N0 1NC

2N0

2NC

4N0

4NC

3N0

3NC

10:

01:

11: 20:

02:

22:

40:

04:

13:

31:

30:

03:

12:

21:

Note: Color codes for units without LED lamps: R (red), G (green), A (amber), Y (yellow), W (white), S (blue) When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.

### Illuminated Pushbuttons (B-192 to B-196)

When specifying gold-plated silver contact, contact configuration, and LED operating voltage:

HW1L-M1 <u>11 H2</u> R - <u>MAU</u> **Optional contact** MAU Gold contact Without LED lamp **Operating Voltage** 00: Q2: 6V AC/DC 12V AC/DC Q3: Q4: 24V AC/DC H2: 100/110V AC H22: 115/120V AC M2: 200/220V AC M42: 230/240V AC 380V AC S2: 400/440V AC T2: T82: 480V AC 110V DC D2: Contact configuration 10: 1N0 01: 1NC 1N01NC 11: 20: 2N0 02: 2NC 22: 2N02NC 40: 4N0 04: 4NC 13: 1N03NC 31: 3N01NC 30: 3N0 03: 3NC 12: 1N02NC 21: 2N01NC

Note:

• Color codes for units without LED lamps: R (red), G (green), A (amber), Y (yellow), S (blue)

When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.

• Odd number of contact blocks, such as 1N0, 1NC, 3N0, 2N0-1NC, 1N0-2NC, and 3NC, is not available for transformer type or DC-DC converter type.

Explosion Proof

Terminal Blocks

Relays & Sockets

Power Supplies

LED Illumination

Controllers

Operator

Interfaces

Sensors

AUTO-ID

Flush Silhouette

ø16

ø30

ΤW

YW

Miniature

Pilot Lights

Circuit

Protectors

| Ordering | Information |
|----------|-------------|
| oraoring | mormation   |

| ~~~                                         | Uluelli         | iy i     | mu          | 11110       |            | 11           |        |                                          |                          |                                                          |
|---------------------------------------------|-----------------|----------|-------------|-------------|------------|--------------|--------|------------------------------------------|--------------------------|----------------------------------------------------------|
| & Pilot Lights                              | Dual Pushbut    | ton      | Swit        | ches        | s [w       | /ithout pi   | lot I  | ight] ( <mark>B-199</mark> )             |                          |                                                          |
| Lig                                         | When specifying | g gol    | ld-pla      | ated s      | silve      | er contact a | and    | contact configuration:                   |                          |                                                          |
| Ints                                        | НW7D-В <u>1</u> | 11       | <u>0 02</u> | <u>GR 1</u> | <u>– M</u> | <u>AU</u>    |        |                                          |                          |                                                          |
|                                             |                 |          |             |             | I          |              |        | Optional contact                         |                          | Gold-plated silver                                       |
|                                             |                 |          |             |             |            |              |        | Button legends                           | Blank:                   | : Without legend<br>I/ON + 0/OFF                         |
| APEM<br>Switches &                          |                 |          |             |             |            |              |        | Button color code                        | GR:<br>WB:               | Green (top) Red (bottom)<br>White (top) Black (bottom)   |
| Pilot Lights                                |                 |          | L           |             |            |              |        | Contact arrangement code                 | 10:                      | 1N0                                                      |
| Control Boxes<br>Emergency<br>Stop Switches |                 |          |             |             |            |              |        | (bottom button)                          | 01:<br>11:<br>20:        | 1NC<br>1N01NC<br>2N0                                     |
| Enabling<br>Switches                        |                 |          |             |             |            |              |        | Contact arrangement code                 | 02:<br>10:               | 2NC<br>1NO                                               |
| Safety Products                             |                 |          |             |             |            |              |        | (top button)                             | 01:<br>11:               | 1NC<br>1NO1NC                                            |
| Explosion Proof                             |                 |          |             |             |            |              |        |                                          | 20:<br>02:               | 2NO<br>2NC                                               |
| Terminal Blocks                             |                 |          |             |             |            |              |        | Button style                             | 1:<br>2:                 | Flush + Flush<br>Flush + Extended                        |
| Relays & Sockets                            | L               |          |             |             |            |              |        | Operation                                | 1:                       | Momentary                                                |
| Circuit<br>Protectors                       |                 |          |             |             |            |              |        |                                          | 2:                       | Interlock                                                |
| Power Supplies                              | Dual Duabhut    | <b>.</b> | o:          |             | . г        |              | l'a la |                                          |                          |                                                          |
| LED Illumination                            | Dual Pushbut    |          |             |             | -          |              | -      | LJ (D-200)<br>tact configuration, and LE | -D one                   | rating voltage.                                          |
| Controllers                                 | HW7D-L <u>1</u> |          |             |             |            |              | 0011   |                                          | _D 000                   | rating voltage.                                          |
| Operator<br>Interfaces                      |                 |          |             |             |            |              |        | Optional contact                         | MAU:                     | Gold-plated silver                                       |
| Sensors                                     |                 |          |             |             |            |              |        | Button legends                           | Blank<br>1:              | : Without legend<br>I/ON + 0/OFF                         |
| AUTO-ID                                     |                 |          |             |             |            |              |        | Button color code                        | GR:<br>WB:               | Green (top), Red (bottom)<br>White (top), Black (bottom) |
|                                             |                 |          |             |             |            |              |        | Lamp color code                          | G:<br>PW:                | Green<br>Pure White                                      |
| Flush Silhouette                            |                 |          |             |             |            |              |        | Operating voltage                        | Q2:<br>Q3:               | 6V AC/DC<br>12V AC/DC                                    |
| ø16                                         |                 |          |             |             |            |              |        |                                          | Q4:<br>H2:               | 24V AC/DC<br>100/110V AC                                 |
| ø22                                         |                 |          |             |             |            |              |        |                                          | H22:<br>M2:              | 115/120V AC<br>200/220V AC                               |
| ø30                                         |                 |          |             |             |            |              |        |                                          |                          | 230/240V AC<br>380V AC                                   |
| Miniature                                   |                 |          |             |             |            |              |        |                                          | T2:                      | 400/440V AC                                              |
| Pilot Lights                                |                 |          |             |             |            |              |        | Contact arrangement code                 | T82:<br>10:              | 480V AC<br>1NO                                           |
| Н₩                                          |                 |          |             |             |            |              |        | (bottom button)                          | 01:<br>11:<br>20:<br>02: | 1NC<br>1N01NC<br>2N0<br>2NC                              |
| TW                                          |                 |          |             |             |            |              |        | Contact arrangement code                 | 10:                      | 1N0                                                      |
| YW                                          |                 |          |             |             |            |              |        | (top button)                             | 01:<br>11:<br>20:<br>02: | 1NC<br>1N01NC<br>2N0<br>2NC                              |
|                                             |                 |          |             |             |            |              |        | Button style                             | 1:<br>2:                 | Flush + Flush<br>Flush + Extended                        |
|                                             |                 |          |             |             |            |              |        | Operation                                | 1:<br>2:                 | Momentary<br>Interlock                                   |

Note: Transformer type cannot have a contact arrangement of 3 contact blocks for the total of top and bottom.

| hen specifying gold-plated silver contact, key                                                 | . ,                                    | number:                                                                                                                                                                              | ot Lights                  |
|------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| HW1K- <u>2 J</u> P <u>A</u> 01 - <u>501</u> - <u>MAU</u>                                       | romoval poolion, and koy               |                                                                                                                                                                                      | ight                       |
|                                                                                                | — Optional contact                     | MAU: Gold-plated silver                                                                                                                                                              | S                          |
|                                                                                                | — Different key number                 | -501 - 515                                                                                                                                                                           |                            |
|                                                                                                | — Key removal position                 | 2-position A: Removable in all positions<br>B: Removable in the left only                                                                                                            | APEM                       |
|                                                                                                |                                        | C: Removable in the right only<br>3-position A: Removable in all positions                                                                                                           | Switches & Pilot Lights    |
|                                                                                                |                                        | B: Removable in the left and center<br>C: Removable in the right and center                                                                                                          | Control Boxes              |
|                                                                                                |                                        | D: Removable in center only<br>E: Removable in right and left                                                                                                                        | Emergency<br>Stop Switches |
|                                                                                                |                                        | G: Removable in left only<br>H: Removable in right only                                                                                                                              | Enabling<br>Switches       |
|                                                                                                | — Cam code                             | Blank, J, or S                                                                                                                                                                       | Safety Products            |
|                                                                                                | — Operator position code               | 2: 2-position, maintained<br>21: 2-position, spring return from right                                                                                                                | Explosion Proo             |
|                                                                                                |                                        | 3: 3-position, maintained<br>31: 3-position, spring return from right                                                                                                                | Terminal Block             |
|                                                                                                |                                        | 32: 3-position, spring return from left<br>33: 3-position, spring return two way                                                                                                     | Relays & Socke             |
| Note:<br>• The key cannot be removed in a spring re                                            | turn position.                         |                                                                                                                                                                                      | Circuit<br>Protectors      |
| • The key number is engraved on the key c                                                      |                                        | raved with a number)                                                                                                                                                                 | Power Supplie              |
|                                                                                                |                                        |                                                                                                                                                                                      | LED Illuminati             |
| V Selector Switches (Disc Tumbler Key<br>en specifying gold-plated silver contact, key         | , ,                                    | number                                                                                                                                                                               | Controllers                |
| HW1K- <u>3 J A</u> 22 - <u>1H</u> - <u>MAU</u>                                                 |                                        |                                                                                                                                                                                      | Operator<br>Interfaces     |
|                                                                                                | — Optional contact                     | MAU: Gold-plated silver                                                                                                                                                              | Sensors                    |
|                                                                                                | — Different key number                 | -1H, -2H, -3H                                                                                                                                                                        | AUTO-ID                    |
|                                                                                                | — Key removal position                 | (same as pin tumbler key shown above)                                                                                                                                                | AUTO-ID                    |
|                                                                                                | — Cam code<br>— Operator position code | (same as pin tumbler key shown above)<br>(same as pin tumbler key shown above)                                                                                                       |                            |
| Note:                                                                                          | Operator position code                 | (same as pin tumble) key shown above)                                                                                                                                                |                            |
| • The key cannot be removed in a spring re                                                     | turn position.                         |                                                                                                                                                                                      | Flush Silhoue              |
| • The key number is engraved on the key c                                                      | ylinder. (default key is not eng       | raved with a number)                                                                                                                                                                 | ø16                        |
|                                                                                                |                                        |                                                                                                                                                                                      | ø22                        |
| minated Selector Switches (B-208 to I                                                          | -                                      |                                                                                                                                                                                      | ø30                        |
| en specifying gold-plated silver contact and<br>HW1F- <u>2 J L</u> 11 <u>H2</u> R - <u>MAU</u> | LED operating voltage:                 |                                                                                                                                                                                      | Miniature                  |
|                                                                                                | Optional contact                       | MAU: Gold-plated silver                                                                                                                                                              |                            |
|                                                                                                | Operating voltage                      | QO: Without LED lamp M2: 200/220V AC                                                                                                                                                 | Pilot Lights               |
|                                                                                                |                                        | Q2: 6V AC/DC M42: 230/240V AC                                                                                                                                                        |                            |
|                                                                                                |                                        | Q3: 12V AC/DC S2: 380V AC<br>Q4: 24V AC/DC T2: 400/440V AC                                                                                                                           |                            |
|                                                                                                |                                        | H2: 100/110V AC T82: 480V AC                                                                                                                                                         | HW                         |
|                                                                                                | Or eventury of                         | H22: 115/120V AC                                                                                                                                                                     | TW                         |
|                                                                                                | — Operator shape<br>— Cam code         | Blank (Knob), L (Lever)<br>Blank, J, or S                                                                                                                                            | YW                         |
|                                                                                                | — Operator position code               | <ol> <li>2: 2-position, maintained</li> <li>21: 2-position, spring return from right</li> <li>3: 3-position, maintained</li> <li>31: 3-position, spring return from right</li> </ol> |                            |
|                                                                                                |                                        | <ul> <li>32: 3-position, spring return from left</li> <li>33: 3-position, spring return two way</li> </ul>                                                                           |                            |

Color codes for units without LED lamps: R (red), G (green), A (amber), Y (yellow), S (blue) Note:

When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.

### Selector Switches (B-203)

When specifying gold-plated silver contact

**Ordering Information** 

Key Selector Switches (Pin Tumbler Key) (B-204 to B-205)

HW1S- 2T11 - MAU

**Optional contact** 

MAU: Gold-plated silver

• See **B-203** for operator position.

bownload catalogs and CAD from http://eu.idec.com/downloads

# ø22 HW Series Pushbuttons

# Flush / Extended / Mushroom Pushbuttons

| Pilot Lights               |                           |            |                |                          |                   | Package Quantity: 1                                        |  |  |
|----------------------------|---------------------------|------------|----------------|--------------------------|-------------------|------------------------------------------------------------|--|--|
| t Li                       | Shape                     | Operation  | Contact        | Part No.                 | Color Code        | Dimensions (mm)                                            |  |  |
| ght                        | Flush                     |            | 1N0            | HW1B-M110*               |                   |                                                            |  |  |
| 0,                         | HW1B-M1<br>HW1B-A1        |            | 1NC            | HW1B-M101*               |                   |                                                            |  |  |
|                            |                           | Momentary  | 1NO-1NC<br>2NO | HW1B-M111*<br>HW1B-M120* |                   | Locking Ring<br>Safety Lever Lock Panel Thickness 0.8 to 6 |  |  |
| APEM                       |                           |            | 2N0<br>2NC     | HW1B-M120*               | В                 |                                                            |  |  |
| Switches &                 |                           |            | 2NO-2NC        | HW1B-M122*               | G<br>R            |                                                            |  |  |
| Pilot Lights               | 1 Marca                   |            | 1N0            | HW1B-A110*               | Y                 |                                                            |  |  |
| Control Boxes              |                           |            | 1NC            | HW1B-A101*               | S<br>W            |                                                            |  |  |
| Emergency<br>Stop Switches |                           | Maintained | 1NO-1NC        | HW1B-A111*               | vv                | 49.4 (1 or 2 blocks)<br>69.4 (3 or 4 blocks)<br>29.4       |  |  |
| Enabling                   |                           | Mamanou    | 2N0            | HW1B-A120*               |                   |                                                            |  |  |
| Switches                   |                           |            | 2NC<br>2N0-2NC | HW1B-A102*               |                   |                                                            |  |  |
| Safety Products            | Estandad                  |            | 1N0            | HW1B-A122*<br>HW1B-M210* |                   |                                                            |  |  |
| Explosion Proof            | Extended<br>HW1B-M2       |            | 1NC            | HW1B-M201*               |                   |                                                            |  |  |
| Terminal Blocks            | HW1B-A2                   |            | 1NO-1NC        | HW1B-M211*               |                   | Locking Ring                                               |  |  |
|                            |                           | Momentary  | 2N0            | HW1B-M220*               | В                 | Safety Lever Lock Panel Thickness 0.8 to 6                 |  |  |
| Relays & Sockets           |                           |            | 2NC            | HW1B-M202*               | G                 |                                                            |  |  |
| Circuit<br>Protectors      |                           |            | 2NO-2NC        | HW1B-M222*               | R                 |                                                            |  |  |
| Power Supplies             |                           |            | 1N0<br>1NC     | HW1B-A210*<br>HW1B-A201* | Y<br>S            |                                                            |  |  |
|                            |                           |            | 1NO-1NC        | HW1B-A201*               | W                 |                                                            |  |  |
| LED Illumination           |                           | Maintained | 2N0            | HW1B-A220*               |                   | 69.4 (3 or 4 blocks)                                       |  |  |
| Controllers                |                           |            | 2NC            | HW1B-A202*               |                   |                                                            |  |  |
| Operator<br>Interfaces     |                           |            | 2NO-2NC        | HW1B-A222*               |                   |                                                            |  |  |
|                            | ø29mm Mushroom            | Momentary  | 1N0            | HW1B-M310*               | - B<br>- G<br>- R |                                                            |  |  |
| Sensors                    | HW1B-M3<br>HW1B-A3        |            | 1NC            | HW1B-M301*               |                   |                                                            |  |  |
| AUTO-ID                    | TIW ID-AS                 |            | 1NO-1NC<br>2NO | HW1B-M311*<br>HW1B-M320* |                   | Locking Ring<br>Safety Lever Lock Panel Thickness 0.8 to 6 |  |  |
|                            |                           |            | 2N0<br>2NC     | HW1B-M302*               |                   |                                                            |  |  |
|                            |                           |            | 2NO-2NC        | HW1B-M322*               |                   |                                                            |  |  |
| Flush Silhouette           |                           |            | 1N0            | HW1B-A310*               | Y                 |                                                            |  |  |
|                            |                           |            | 1NC            | HW1B-A301*               | S<br>W            |                                                            |  |  |
| ø16                        |                           | Maintained | 1NO-1NC        | HW1B-A311*               |                   | 49.4 (1 or 2 blocks) 13<br>69.4 (3 or 4 blocks) 23.2       |  |  |
| ø22                        |                           |            | 2N0            | HW1B-A320*               |                   |                                                            |  |  |
| ø30                        |                           |            | 2NC<br>2NO-2NC | HW1B-A302*<br>HW1B-A322* |                   |                                                            |  |  |
| Miniatura                  | ø40mm Mushroom            |            | 1N0            | HW1B-M410*               |                   |                                                            |  |  |
| Miniature                  | HW1B-M4                   |            | 1NC            | HW1B-M401*               |                   |                                                            |  |  |
| Pilot Lights               | HW1B-A4                   | Momentary  | 1NO-1NC        | HW1B-M411*               |                   | Locking Ring<br>Safety Lever Lock Panel Thickness 0.8 to 6 |  |  |
|                            |                           | WOMENTALY  | 2N0            | HW1B-M420*               | В                 | Safety Lever Lock                                          |  |  |
|                            |                           |            | 2NC            | HW1B-M402*               | G                 |                                                            |  |  |
| HW                         |                           |            | 2NO-2NC<br>1NO | HW1B-M422*<br>HW1B-A410* | R<br>Y            |                                                            |  |  |
|                            |                           |            | 1NC            | HW1B-A410*<br>HW1B-A401* | S                 |                                                            |  |  |
| TW                         |                           |            | 1NO-1NC        | HW1B-A411*               | W                 | 49.4 (1 or 2 blocks) 13                                    |  |  |
| YW                         |                           | Maintained | 2N0            | HW1B-A420*               |                   | 69.4 (3 or 4 blocks) 23.2                                  |  |  |
|                            |                           |            | 2NC            | HW1B-A402*               |                   |                                                            |  |  |
|                            |                           |            | 2N0-2NC        | HW1B-A422*               |                   |                                                            |  |  |
|                            | ø60mm Mushroom<br>HW1B-M5 |            | 1N0            | HW1B-M510*               |                   | Safety Lever Lock                                          |  |  |
|                            |                           |            | 1NC            | HW1B-M501*               |                   |                                                            |  |  |
|                            |                           | Momentary  | 1NO-1NC        | HW1B-M511*               | B<br>G            |                                                            |  |  |
|                            |                           |            | 2N0            | HW1B-M520*               | R                 |                                                            |  |  |
|                            |                           |            | 2NC            | HW1B-M502*               |                   | 49.4 (1 or 2 blocks) 15                                    |  |  |
|                            |                           |            | 2N0-2NC        | HW1B-M522*               |                   | 69.4 (3 or 4 blocks) 30.1                                  |  |  |

• Specify a color code in place of \* in Part No. B (black), G (green), R (red), Y (yellow), S (blue), W (white)

- Pushbuttons with 1 or 3 contact blocks have a dummy block.
- See B-184 for other contact configurations and gold-plated silver contacts.
- Pushbuttons: M3.5 Terminal screws integrated terminal cover

Switches &

# Square Flush / Square Flush Pushbuttons

|                                    |                  |            |                          |            | Package Quantity: 1                                                                                                                                          | Pilo                       |
|------------------------------------|------------------|------------|--------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Shape                              | Operation        | Contact    | Part No.                 | Color Code | Dimensions (mm)                                                                                                                                              | 1 E                        |
| Square Flush<br>HW2B-M1<br>HW2B-A1 |                  | 1N0<br>1NC | HW2B-M110*<br>HW2B-M101* | -          |                                                                                                                                                              | Pilot Lights               |
| TIW2D-AT                           | Momentary        | 1N0-1NC    | HW2B-M111*               | _          | Locking Ring<br>Safety Lever Lock Panel Thickness 0.8 to 6                                                                                                   |                            |
|                                    |                  | 2N0<br>2NC | HW2B-M120*<br>HW2B-M102* | В          |                                                                                                                                                              | APEM                       |
|                                    |                  | 2NO-2NC    | HW2B-M102*               | – G<br>R   |                                                                                                                                                              | Switches &                 |
|                                    |                  | 1N0        | HW2B-A110*               | Y          | ╡ <del>┋</del> ╶┅╌┉╴╌╴ <u>┥</u> ╌┝╴╴╴ <u>┥</u>                                                                                                               | Pilot Lights               |
|                                    |                  | 1NC        | HW2B-A101*               | S          |                                                                                                                                                              | Control Boxes              |
|                                    | Maintained       | 1NO-1NC    | HW2B-A111*               | W          | $\begin{array}{c} 49.4 (1 \text{ or } 2 \text{ blocks}) \\ 69.4 (3 \text{ or } 4 \text{ blocks}) \\ 69.4 (3 \text{ or } 4 \text{ blocks}) \\ 13 \end{array}$ | Emergency<br>Stop Switches |
|                                    | Walltalleu       | 2N0        | HW2B-A120*               | ]          |                                                                                                                                                              | Enabling                   |
|                                    |                  | 2NC        | HW2B-A102*               |            |                                                                                                                                                              | Switches                   |
|                                    |                  | 2N0-2NC    | HW2B-A122*               |            |                                                                                                                                                              | Safety Products            |
| Square Extended                    |                  | 1N0        | HW2B-M210*               |            |                                                                                                                                                              |                            |
| HW2B-M2                            |                  | 1NC        | HW2B-M201*               |            |                                                                                                                                                              | Explosion Proof            |
| HW2B-A2                            | Momentary        | 1NO-1NC    | HW2B-M211*               |            | Locking Ring<br>Safety Lever Lock Panel Thickness 0.8 to 6                                                                                                   | Terminal Blocks            |
|                                    | literiteriterity | 2N0        | HW2B-M220*               | В          | Safety Lever Lock Panel Thickness 0.8 to 6                                                                                                                   | Relays & Sockets           |
|                                    |                  | 2NC        | HW2B-M202*               | G          |                                                                                                                                                              |                            |
|                                    |                  | 2N0-2NC    | HW2B-M222*               | R          |                                                                                                                                                              | Circuit<br>Protectors      |
|                                    |                  | 1N0        | HW2B-A210*               | Y<br>S     |                                                                                                                                                              | Power Supplies             |
|                                    |                  | 1NC        | HW2B-A201*               | - W        |                                                                                                                                                              | Power Supplies             |
|                                    | Maintained       | 1N0-1NC    | HW2B-A211*               |            | 49.4 (1 or 2 blocks) 13<br>69.4 (3 or 4 blocks) 19                                                                                                           | LED Illumination           |
|                                    |                  | 2N0        | HW2B-A220*               | _          |                                                                                                                                                              | Controllers                |
|                                    |                  | 2NC        | HW2B-A202*               | _          |                                                                                                                                                              |                            |
|                                    |                  | 2N0-2NC    | HW2B-A222*               |            |                                                                                                                                                              | Operator<br>Interfaces     |

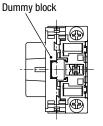
• Specify a color code in place of \* in Part No. B (black), G (green), R (red), Y (yellow), S (blue), W (white)

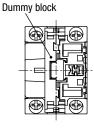
• Pushbuttons with 1 or 3 contact blocks have a dummy block.

• See B-184 for other contact configurations and gold-plated silver contacts.

• Pushbuttons: M3.5 Terminal screws

# **Bottom View**





1NO contact block

3 contact blocks



2/4 contact blocks

| Flush Silhouette |
|------------------|
| ø16              |
|                  |
| ø30              |
| Miniature        |
| Pilot Lights     |
|                  |

Sensors

AUTO-ID

| HW |  |
|----|--|
| TW |  |
| YW |  |

• For 1NC contact, the contact block will mount on the opposite side.

• See B-227 for wiring.

• Integrated terminal cover

# ø22 HW Series Pushbuttons

Switches

# Round Flush / Round Extended /Mushroom with Square Bezel

|                               |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Package Quantity: 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |
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| Shape                         | Operation                                           | Contact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Part No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Color Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Dimensions (mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
| Round Flush with Square Bezel |                                                     | 1N0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HW3B-M110*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
| HW3B-M1                       |                                                     | 1NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HW3B-M101*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
| HW3B-A1                       | Momontary                                           | 1NO-1NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | HW3B-M111*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Locking Ring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  |
|                               | WOMENTALY                                           | 2N0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HW3B-M120*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | р                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Safety Lever Lock Panel Thickness 0.8 to 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |  |
|                               |                                                     | 2NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HW3B-M102*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
|                               |                                                     | 2N0-2NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | HW3B-M122*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
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|                               | Maintained                                          | 1NO-1NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | HW3B-A111*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 49.4 (1 or 2 blocks)<br>69.4 (3 or 4 blocks)<br>13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |
|                               | Maintaineu                                          | 2N0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HW3B-A120*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
|                               |                                                     | 2NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HW3B-A102*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
|                               |                                                     | 2N0-2NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | HW3B-A122*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
| Round Extended                |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | HW3B-M210*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
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|                               | Momentary<br>Maintained                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Locking Ring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  |
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|                               |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Ŵ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 49.4 (1 or 2 blocks) 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |
|                               | Maintained                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 49.4 (1 07 2 000cks) 13 4<br>69.4 (3 or 4 blocks) 23.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |
|                               |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
|                               |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
|                               |                                                     | 2110-2116                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | IIWOD-AJZZ*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |
|                               | Round Flush with Square Bezel<br>HW3B-M1<br>HW3B-A1 | Round Flush with Square Bezel       Momentary         HW3B-A1       Momentary         Image: Constraint of the second | Round Flush with Square Bezel<br>HW3B-A11N0<br>1NC<br>1NO-1NC<br>2NO<br>2NO<br>2NO-2NCImage: Strain Strain<br>With Square Bezel<br>HW3B-A21N0<br>1NC<br>1NO-1NC<br>2NO-2NCRound Extended<br>with Square Bezel<br>HW3B-A21N0<br>1NC<br>1NO-1NC<br>2NO-2NCRound Extended<br>with Square Bezel<br>HW3B-A31N0<br>1NC<br>1NO-1NC<br>2NO-2NCImage: Strain Strain<br>Provided Strain<br>Womentary1N0<br>1NC<br>2NO-2NC<br>2NO-2NC<br>2NO-2NCImage: Strain Strain<br>Provided Strain<br>Womentary1N0<br>1NC<br> | Round Flush with Square Bezel<br>HW3B-A1         1N0         HW3B-M110*           Womentary         1NC         HW3B-M10*           IW3B-A1         Momentary         1N0-1NC         HW3B-M102*           IW3B-A1         IW3B-M102*         2NC         HW3B-M102*           IW3B-M102*         2NC         HW3B-M102*         2NC           IW3B-M102*         2NC         HW3B-M102*         2NC           IW3B-M102*         2NC         HW3B-M102*         2NC           IW0         HW3B-A10*         1NC         HW3B-A10*           IW0         HW3B-A10*         1NC         HW3B-A10*           IW0         HW3B-A10*         1NC         HW3B-A10*           IW3B-M2         Momentary         1NC         HW3B-M210*           IW3B-A2         Momentary         1NC         HW3B-M210*           IW3B-M2         Momentary         1NC         HW3B-M211*           INO         HW3B-M21         1NC         HW3B-M210*           IW3B-M2         Momentary         1NC         HW3B-M210*           IW3B-M2         Momentary         2NC         HW3B-M210*           IW3B-M2         Maintained         1NC         HW3B-M210*           IW3B-M3         Mome | Round Flush with Square Bezel<br>HW3B-M1<br>HW3B-A1         INO         HW3B-M110*<br>HW3B-M10*           INO         HW3B-M110*         INC         HW3B-M10*           INO         HW3B-M10*         INO         HW3B-M10*           INO         HW3B-M10*         INO         HW3B-M10*           INO         HW3B-M10*         INO         HW3B-M10*           INO         HW3B-A110*         INO         HW3B-A10*           INO         HW3B-A10*         INO         HW3B-A10*           INO         HW3B-M20*         INO         HW3B-M20*           INO         HW3B-M20*         INO         HW3B-M20*           INO         HW3B-M20*         INO         HW3B-A20*         Y           INO         HW3B-M20*         INO         HW3B-A20*         Y           INO         HW3B-A20*         INO         HW3B-M30*         Y |  |  |  |

Miniature • Specify a color code in place of \* in Part No. B (black), G (green), R (red), Y (yellow), S (blue), W (white)

Dummy block

• Pushbuttons with 1 or 3 contact blocks have a dummy block.

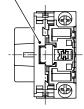
• See B-184 for other contact configurations and gold-plated silver contacts.

• Pushbuttons: M3.5 Terminal screws

# **Bottom View** ΤW

Pilot Lights

Dummy block YW

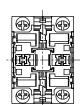


1NO contact block

3 contact blocks



- See B-227 for wiring.
- Integrated terminal cover



2/4 contact blocks

### Ø22 HW Series Pilot Lights



• Specify a color code in place of \* in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

• Pilot lights have an LED lamp installed unless otherwise specified.

• See B-184 for other operating voltages.

• See B-191 for bottom view.

• See **B-191** for how to specify units without LED lamps.

• When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used. \*1) Jumbo dome pilot lights contain an exclusive LED. See B-182 and B-221.

📩 Download catalogs and CAD from http://eu.idec.com/downloads

Gasket

Locking Ring

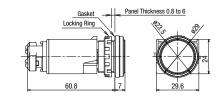
43.3

# Pilot Lights

Round Flush Terminal screws: M3.5, integrated terminal cover

Panel Thickness 0.8 to 6

6, 12, 24V AC/DC, Without LED lamp 100/110V AC, 200/220V AC (240V AC maximum)



100/110V AC, 200/220V AC (240V AC maximum)

17.

Gasket

Locking Ring

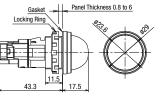
60.8

Panel Thickness 0.8 to 6

£

### Extended Terminal screws: M3.5, integrated terminal cover

6, 12, 24V AC/DC, Without LED lamp



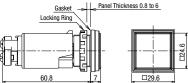
### Square Flush Terminal screws: M3.5, integrated terminal cover

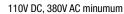
6, 12, 24V AC/DC, Without LED lamp

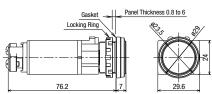
Panel Thickness 0.8 to 6 Gasket Locking Ring 124. \_11 43.3

100/110V AC, 200/220V AC (240V AC maximum) Gasket Locking Ring

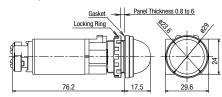
Ē



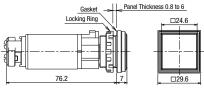




### 110V DC, 380V AC minimum



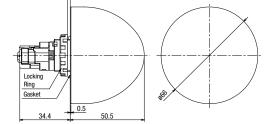
### 110V DC, 380V AC minimum





ø16 ø30 Miniature Pilot Lights

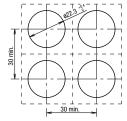
Flush Silhouette



Jumbo Dome Pilot Light Terminal screws: M3.5, integrated terminal cover

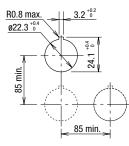
- ΤW YW
  - Panel Cut-Out **Mounting Centers** (Except jumbo dome) Close mounting on 30 mm centers

Panel Thickness 1 to 5



When mounting 100/110V AC, 200/220V AC, 110V DC units on 30mm centers vertically and horizontally, keep the ambient temperature below 40°C.

**Mounting Centers** (Jumbo dome)

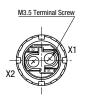


Determine the minimum mounting centers in consideration of convenience for wiring.

# **Pilot Light Bottom View**

6, 12, 24V AC/DC Without LED lamp

# 100/110V AC, 200/220V, 110V DC





 For DC-DC Converter types, terminal X1 is ⊕, X2 is⊖. • See B-228 for wiring.

APEM

Control Boxes

Emergency Stop Switches Enabling

Switches

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets

LED Illumination

Controllers

Operator

Interfaces Sensors

AUTO-ID

Circuit

Protectors Power Supplies

| Shape                                  | Illumination   | Operation  | Rated Voltage  | Contact            | Part No.                     | Color Code |                |
|----------------------------------------|----------------|------------|----------------|--------------------|------------------------------|------------|----------------|
| опаро                                  | Indifinitedion | oporation  | Thatou Voltago | Configuration      |                              |            | k Pilot Lights |
| Round Flush (Marking type)             |                |            |                | 1N0                | HW1L-M110Q4*                 |            | ŝ              |
| HW1L-M1                                |                |            |                | 1NC                | HW1L-M101Q4*                 |            |                |
| IW1L-A1                                |                |            | 24V AC/DC      | 1NO-1NC            | HW1L-M111Q4*                 |            |                |
|                                        |                |            |                | 2N0                | HW1L-M120Q4*                 |            | APEM           |
|                                        |                |            |                | 2NC                | HW1L-M102Q4*                 | R          | Switches       |
| E.                                     |                |            |                | 2NO-2NC            | HW1L-M122Q4*                 | G          | Pilot Light    |
|                                        |                | Momentary  |                | 1NO-1NC            | HW1L-M111H2*                 | Y          | Control B      |
|                                        |                | -          | 100/110V AC    | 2N0                | HW1L-M120H2*                 | A<br>S     | Emergen        |
|                                        |                |            |                | 2NC                | HW1L-M102H2*                 | - PW       | Stop Swit      |
|                                        |                |            |                | 2NO-2NC<br>1NO-1NC | HW1L-M122H2*                 |            | Enabling       |
|                                        |                |            |                | 2N0                | HW1L-M111M2*                 |            | Switches       |
| (24V AC/DC)                            |                |            | 200/220V AC    | 2N0<br>2NC         | HW1L-M120M2*                 |            | Safety Pr      |
|                                        |                |            |                | 2NC<br>2NO-2NC     | HW1L-M102M2*                 |            | Funlasia       |
|                                        | LED -          |            |                |                    | HW1L-M122M2*                 |            | Explosion      |
|                                        |                |            |                | 1N0<br>1NC         | HW1L-A10104*                 |            | Terminal       |
|                                        |                |            |                | 1NO-1NC            | HW1L-A101Q4*<br>HW1L-A111Q4* |            |                |
|                                        |                |            | 24V AC/DC      | 2N0                |                              |            | Relays &       |
| A CONTRACT                             |                |            |                | 2N0<br>2NC         | HW1L-A120Q4*                 | I          | Circuit        |
|                                        |                |            |                | 2NC<br>2NO-2NC     | HW1L-A102Q4*<br>HW1L-A122Q4* | R          | Protector      |
|                                        |                |            |                | 2NO-2NC<br>1NO-1NC | HW1L-A122Q4*<br>HW1L-A111H2* | G<br>Y     | Power Si       |
|                                        |                | Maintained |                | 2N0                | HW1L-A111H2*                 | YA         |                |
|                                        |                |            | 100/110V AC    | 2N0<br>2NC         | HW1L-A120H2*                 | S          | LED Illun      |
|                                        |                |            |                | 2NC 2NO-2NC        | HW1L-A102H2*                 | PW         | Controlle      |
| With transformer                       |                |            | 200/220V AC    | 1NO-1NC            | HW1L-A111M2*                 |            | Operator       |
| (100/110V AC)                          |                |            |                | 2N0                | HW1L-A120M2*                 | _          | Interface      |
|                                        |                |            |                | 2NC                | HW1L-A102M2*                 |            | Sensors        |
|                                        |                |            |                | 2N0-2NC            | HW1L-A122M2*                 |            | 0013013        |
|                                        |                |            |                | 1N0                | HW1L-M210Q4*                 |            | AUTO-ID        |
| ound Extended (Marking type)<br>W1L-M2 |                |            |                | 1NC                | HW1L-M201Q4*                 |            |                |
| W1L-M2<br>W1L-A2                       |                |            |                | 1NO-1NC            | HW1L-M211Q4*                 |            |                |
|                                        |                |            | 24V AC/DC      | 2N0                | HW1L-M220Q4*                 |            |                |
|                                        |                |            |                | 2NC                | HW1L-M202Q4*                 |            | Flush Sil      |
|                                        |                |            |                | 2N0-2NC            | HW1L-M222Q4*                 | R          |                |
| JET H                                  |                |            |                | 1NO-1NC            | HW1L-M211H2*                 | G<br>Y     | ø16            |
|                                        |                | Momentary  |                | 2N0                | HW1L-M220H2*                 | Y          | ø22            |
|                                        |                |            | 100/110V AC    | 2NC                | HW1L-M202H2*                 | S          | 022            |
|                                        |                |            |                | 2N0-2NC            | HW1L-M222H2*                 | PW         | ø30            |
|                                        |                |            |                | 1NO-1NC            | HW1L-M211M2*                 | —          |                |
|                                        |                |            |                | 2N0                | HW1L-M220M2*                 | —          | Miniature      |
| (24V AC/DC)                            |                |            | 200/220V AC    | 2NC                | HW1L-M202M2*                 | —          | Pilot Ligh     |
|                                        |                |            |                | 2N0-2NC            | HW1L-M222M2*                 | —          |                |
|                                        | LED –          |            |                | 1N0                | HW1L-A210Q4*                 |            |                |
|                                        |                |            |                | 1NC                | HW1L-A201Q4*                 | —          |                |
|                                        |                |            |                | 1NO-1NC            | HW1L-A211Q4*                 | —          | 10.0           |
|                                        |                |            | 24V AC/DC      | 2N0                | HW1L-A220Q4*                 |            | HW             |
|                                        |                |            |                | 2NC                | HW1L-A202Q4*                 |            | TW             |
| With transformer<br>(100/110V AC)      |                |            |                | 2N0-2NC            | HW1L-A222Q4*                 | R<br>G     | ·              |
|                                        |                | •• • • • • |                | 1NO-1NC            | HW1L-A211H2*                 | Y Y        | YW             |
|                                        |                | Maintained | 100/1100       | 2N0                | HW1L-A220H2*                 | Å          |                |
|                                        |                |            | 100/110V AC    | 2NC                | HW1L-A202H2*                 | S          |                |
|                                        |                |            |                | 2N0-2NC            | HW1L-A222H2*                 | PW         |                |
|                                        |                |            |                | 1NO-1NC            | HW1L-A211M2*                 | —          |                |
|                                        |                |            |                | 2N0                | HW1L-A220M2*                 | —          |                |
|                                        |                |            | 200/220VAC     | 2NC                | HW1L-A202M2*                 | —          |                |
|                                        |                |            |                | 2N0-2NC            | HW1L-A222M2*                 |            |                |

• Specify a color code in place of \* in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

Round Flush / Round Extended (Marking Type)

• Illuminated pushbuttons have an LED lamp installed unless otherwise specified.

• See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.

• See B-184 for other contact configurations and gold-plated silver contacts.

• Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.

• See **B-198** for bottom view.

LED

• See **B-184** for how to specify units without LED lamps.

• When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

# ø22 HW Series Illluminated Pushbuttons

APEM

Switches Pilot Ligi Control Boxes Emergency Stop Switches Enabling Switches Safety Products Explosion Proof Terminal Blocks Relays & Sockets Circuit Protectors Power Supplies LED Illumination Controllers Operator Interfaces Sensors AUTO-ID

|                                 |              |            |               |         |               | Package Quanti |
|---------------------------------|--------------|------------|---------------|---------|---------------|----------------|
| Shape                           | Illumination | Operation  | Rated Voltage | Contact | Part No.      | Color Code     |
| Round Extended with Full Shroud |              |            |               | 1N0     | HW1L-MF210Q4* |                |
| (Marking type)                  |              |            |               | 1NC     | HW1L-MF201Q4* |                |
| W1L-MF2                         |              |            | 24V AC/DC     | 1NO-1NC | HW1L-MF211Q4* |                |
| IW1L-AF2                        |              |            | 24V AC/DC     | 2N0     | HW1L-MF220Q4* |                |
|                                 |              |            |               | 2NC     | HW1L-MF202Q4* |                |
|                                 |              |            |               | 2N0-2NC | HW1L-MF222Q4* | R<br>G         |
|                                 |              | Momentary  |               | 1NO-1NC | HW1L-MF211H2* | Ŷ              |
|                                 |              | Momentary  | 100/110V AC   | 2N0     | HW1L-MF220H2* | A              |
|                                 |              |            | 100/110V AC   | 2NC     | HW1L-MF202H2* | S PW           |
|                                 |              |            |               | 2N0-2NC | HW1L-MF222H2* |                |
| (24V AC/DC )                    | LED          |            |               | 1NO-1NC | HW1L-MF211M2* |                |
|                                 |              |            | 200/220V AC   | 2N0     | HW1L-MF220M2* |                |
|                                 |              |            | 200/220V AG   | 2NC     | HW1L-MF202M2* |                |
|                                 |              |            |               | 2N0-2NC | HW1L-MF222M2* |                |
|                                 |              |            | -             | 1N0     | HW1L-AF210Q4* |                |
|                                 |              |            |               | 1NC     | HW1L-AF201Q4* |                |
|                                 |              |            | 24V AC/DC     | 1NO-1NC | HW1L-AF211Q4* |                |
|                                 |              |            | 24V AC/DC     | 2N0     | HW1L-AF220Q4* |                |
|                                 |              |            |               | 2NC     | HW1L-AF202Q4* |                |
|                                 |              |            |               | 2N0-2NC | HW1L-AF222Q4* | R<br>G         |
|                                 |              | Maintained |               | 1NO-1NC | HW1L-AF211H2* | Ŷ              |
|                                 |              | Walllaneu  | 100/110V AC   | 2N0     | HW1L-AF220H2* | A              |
|                                 |              |            | TUU/TTUV AC   | 2NC     | HW1L-AF202H2* | S PW           |
| With transformer                |              |            |               | 2N0-2NC | HW1L-AF222H2* | - PW           |
| (100/110V AC)                   |              |            |               | 1NO-1NC | HW1L-AF211M2* |                |
|                                 |              |            | 200/220V AC   | 2N0     | HW1L-AF220M2* |                |
|                                 |              |            | 200/220V AU   | 2NC     | HW1L-AF202M2* |                |
|                                 |              |            |               | 2NO-2NC | HW1L-AF222M2* |                |

• Specify a color code in place of \* in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

• Illuminated pushbuttons have an LED lamp installed unless otherwise specified.

• See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.

• See B-184 for other contact configurations and gold-plated silver contacts.

• Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.

• See B-198 for bottom view.

• See **B-184** for how to specify units without LED lamps.

• When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used. Miniature

Pilot Lights

Flush Silhouette

ø16

ø30

| τw |  |
|----|--|
| YW |  |

### ø22 HW Series Illluminated Pushbuttons

# Switches

| Shape                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1            |            |              |            |              | -                |                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|--------------|------------|--------------|------------------|-----------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Illumination | Operation  | Illumination | Contact    | Part No.     | Color Code       | nes & Pilot Lights    |
| quare Flush (Marking type)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              | •          |              | 1N0        | HW2L-M110Q4* |                  | igh                   |
| W2L-M1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |            |              | 1NC        | HW2L-M101Q4* |                  | 5                     |
| W2L-A1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |            | 0.01/1.0/100 | 1NO-1NC    | HW2L-M111Q4* |                  |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            | 24V AC/DC    | 2N0        | HW2L-M120Q4* |                  |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2NC        | HW2L-M102Q4* | R                | APEM                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2N0-2NC    | HW2L-M122Q4* | G                | Switches 8            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              | Momentery  |              | 1NO-1NC    | HW2L-M111H2* | Ŷ                | Pilot Light           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              | Momentary  | 100/110V AC  | 2N0        | HW2L-M120H2* | A                | Control Bo            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            | 100/110V AC  | 2NC        | HW2L-M102H2* | S                |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2N0-2NC    | HW2L-M122H2* | PW               | Emergeno<br>Stop Swit |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 1NO-1NC    | HW2L-M111M2* |                  | Enabling              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            | 200/220V AC  | 2N0        | HW2L-M120M2* |                  | Switches              |
| (24V AC/DC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |            | 200/220V AC  | 2NC        | HW2L-M102M2* |                  | Safety Pro            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | LED          |            |              | 2N0-2NC    | HW2L-M122M2* |                  |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | LLD          |            |              | 1N0        | HW2L-A110Q4* |                  | Explosion             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 1NC        | HW2L-A101Q4* |                  | Terminal              |
| and the second                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |            | 24V AC/DC    | 1NO-1NC    | HW2L-A111Q4* |                  |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            | 24V A0/D0    | 2N0        | HW2L-A120Q4* |                  | Relays &              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2NC        | HW2L-A102Q4* | R                | Circuit               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2N0-2NC    | HW2L-A122Q4* | G                | Protector             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              | Maintained | 100/110V AC  | 1NO-1NC    | HW2L-A111H2* | Y<br>A           | Power Su              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2N0        | HW2L-A120H2* | - S<br>- PW      |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2NC        | HW2L-A102H2* |                  | LED Illum             |
| With transformer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |            | 200/220V AC  | 2N0-2NC    | HW2L-A122H2* |                  | Controlle             |
| (100/110V AC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |            |              | 1NO-1NC    | HW2L-A111M2* |                  | Operator              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2N0        | HW2L-A120M2* |                  | Interface             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2NC        | HW2L-A102M2* |                  | Sensors               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2N0-2NC    | HW2L-A122M2* |                  |                       |
| und Flush with Square Bezel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |            |              | 1N0        | HW3L-M110Q4* | _                | AUTO-ID               |
| arking type)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |            |              | 1NC        | HW3L-M101Q4* |                  |                       |
| V3L-M1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |            | 24V AC/DC    | 1NO-1NC    | HW3L-M111Q4* |                  |                       |
| V3L-A1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |            |              | 2N0        | HW3L-M120Q4* | R<br>G<br>Y<br>A |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2NC        | HW3L-M102Q4* |                  | Flush Sill            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2N0-2NC    | HW3L-M122Q4* |                  |                       |
| A CONTRACTOR OF THE OWNER OWNER OF THE OWNER OWNE |              | Momentary  |              | 1N0-1NC    | HW3L-M111H2* |                  | ø16                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              | · ······ , | 100/110V AC  | 2N0        | HW3L-M120H2* | S                | ø22                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2NC        | HW3L-M102H2* | PW               |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2N0-2NC    | HW3L-M122H2* |                  | ø30                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 1NO-1NC    | HW3L-M111M2* |                  | Miniature             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            | 200/220V AC  | 2N0        | HW3L-M120M2* |                  |                       |
| (24V AC/DC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |            |              | 2NC        | HW3L-M102M2* |                  | Pilot Ligh            |
| ,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | LED          |            |              | 2NO-2NC    | HW3L-M122M2* |                  | ———                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 1N0        | HW3L-A110Q4* |                  |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 1NC        | HW3L-A101Q4* |                  |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            | 24V AC/DC    | 1NO-1NC    | HW3L-A111Q4* |                  | HW                    |
| With transformer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |            |              | 2N0        | HW3L-A120Q4* |                  |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2NC        | HW3L-A102Q4* | R                | TW                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2NO-2NC    | HW3L-A122Q4* | G                | YW                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              | Maintained |              | 1NO-1NC    | HW3L-A111H2* | Y                |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            | 100/110V AC  | 2N0        | HW3L-A120H2* | A<br>S           |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2NC        | HW3L-A102H2* | PW               |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              | 2N0-2NC    | HW3L-A122H2* |                  |                       |
| (100/110V AC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |            |              | 1NO-1NC    | HW3L-A111M2* |                  |                       |
| (100,110,10)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |            | 200/220V AC  | 2N0<br>2NC | HW3L-A120M2* |                  |                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |            |              |            | HW3L-A102M2* |                  |                       |

• Specify a color code in place of \* in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

• Illuminated pushbuttons have an LED lamp installed unless otherwise specified.

 $\bullet$  See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.

• See B-184 for other contact configurations and gold-plated silver contacts.

• Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.

• See B-198 for bottom view.

• See **B-184** for how to specify units without LED lamps.

• When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

# ø22 HW Series Illluminated Pushbuttons

# Mushroom (ø29mm) / Mushroom (ø29mm) with Square Bezel (Marking Type)

| Bogs         Bunnetion         Operation         Bunnetion         Contect         Part No.         Ooler Co.           42004         Control (Marcon)         Contect         Part No.         Ooler Co.         Ooler Co.           42004         Marcon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | es &           | LED Mushr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | oom (ø29mi   | m) / Mushroon | n (ø29mm) wi | th Square B | ezel (Marking Type | e)               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|--------------|-------------|--------------------|------------------|
| Import 1. 43 (3)<br>(M11. 43 (3)<br>(M11                                                                                                                                                                                                                                                                                                                                                                                                         | Pilot          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ,,           |               |              |             |                    | Package Quantity |
| Mini-Likal         With Likal         With L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | E.             | Shape                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Illumination | Operation     | Illumination | Contact     | Part No.           | Color Code       |
| Mini-Like         Mini-Like <t< td=""><td>ght</td><td>ø29mm Mushroom</td><td></td><td></td><td></td><td>-</td><td>HW1L-M310Q4*</td><td></td></t<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ght            | ø29mm Mushroom                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |               |              | -           | HW1L-M310Q4*       |                  |
| HVIL A3         HVIL A3         PVIL<br>P200         PV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | S.             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| AFN<br>Exected<br>Sector<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsection<br>Survey<br>Subsec                                                                                                                                                                                       |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 241/ 40/00   |             |                    |                  |
| Number         Numeriany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                | HW1L-A3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |               | 241710/00    |             |                    |                  |
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| Control         Interface         Interface         Interface         Interface         A Security           Control         Care                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Switches &     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             | HW1L-M322Q4*       |                  |
| Constrational<br>International<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch<br>Switch |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              | Momentary     |              |             |                    |                  |
| Encreption<br>Biological<br>Section<br>Intervalues<br>Section<br>Intervalues<br>Section<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalues<br>Intervalu                                                                                                                                                                                                                                                                                                                                                               | Control Boxes  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              | momontary     | 100/110V AC  |             | HW1L-M320H2*       |                  |
| Builting<br>Switchs<br>Besteing<br>Switchs<br>Re Products<br>Besteing<br>Switchs<br>Re Products<br>Besteing<br>Switchs<br>Re Products<br>Re Products<br>Sesceta<br>Dimination<br>Controlers<br>Particular<br>Sesceta<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Controlers<br>Binaniation<br>Binaniation<br>Controlers<br>Binaniation<br>Binaniation<br>Binaniation<br>Binaniation<br>Binaniati<br>Binani<br>Binani<br>Binaniation<br>Binaniation<br>Binaniation<br>Binaniation<br>B                                                                                                                                                                                                                                                                                                                                 | Emergency      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 100,1101,10  |             |                    |                  |
| Switchs<br>(bp Products<br>presson Proof<br>minimal Blocks<br>wp & 5 scoles<br>Drawinstein<br>Optimation<br>Sensors         (24V AC/DC)<br>(24V AC/DC)         LED         200/220V AC<br>200/220V AC         2NO         HW11-H30204-<br>2NO-2NC         HW11-H30224-<br>HW11-A31004-<br>1NO         HW11-H30224-<br>HW11-A32004-<br>2NO         Feature<br>HW11-H30204-<br>2NO         Feature<br>HW11-H302                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| Important         (24V AC/DC)         LED         200/220V AC         200/20V AC         200/220V AC         200/200/200         200/200/200         200/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| http://reductia         2N0         HV11-M322M2+           pelacin Prod         24V AC/DC         200-20C         HV11-M322M2+           pelacin Prod         100         HV11-A31004+         100         HV11-A31004+           pelacin Prod         100         HV11-A3204+         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200         200<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Switches       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 200/220V AC  |             |                    |                  |
| please Pool<br>mining Blocks<br>sys & Sockats<br>were Supplies<br>Digenatorial<br>Digenatorial<br>Summination<br>Controlling<br>Productions<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatorial<br>Digenatori<br>Digenatori<br>Digenatorial<br>Digenatorial<br>Digenatori<br>Digenatorial<br>D                                                                                                                                                                                                                                                                                                                                                                                                       | fety Products  | (24V AC/DC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |               | 200,2201110  | -           |                    |                  |
| upwash         IN0         HW1L-A3004*           minal Blocks         HW1L-A3004*           ws & Socks         IN0         HW1L-A3004*           Circuit         IN0         HW1L-A3004*           Diministran         W11-A3004*         2NO           With transformer         IN0         HW1L-A3004*           Diministran         W11-A3004*         2NO           W11-A3004*         2NO         HW1L-A3004*           2NO         HW1L-A3004*         2NO           W11-A3004*         2NO         HW1L-A3004*           2NO         HW1L-A3004*         2NO           W11-A3004*         2NO         HW1L-A3004*           2NO         HW1L-A3004*         2NO           W11-100         ZNO         HW1L-A3004*           2NO         HW1L-A3004*         2NO           2NO         HW1L-A3004*         2NO           2NO         HW1L-A3004*         2NO           W11-A322W2*         2NO         HW1L-A3004*           W11-A322W2*         2NO         HW1L-A3004*           W11-A322W2*         2NO         HW1L-A3004*           HW31-M3004*         HW1L-A3004*         1NO           HW31-M3004*         HW1-A3004*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | mission Dreaf  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I FD -       |               |              |             |                    |                  |
| Immunications<br>wer Supplies<br>Diminutations<br>Productions<br>Productions<br>Productions<br>Productions<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Diminutations<br>Di                                                                                                                                                                                                                                                                                                                                                                                                                                       | CPIOSION Proof |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| age & Sockets<br>Circuits<br>Protectors         Image: Sockets<br>Circuits<br>With transformer<br>(100/110V AC)         Image: Sockets<br>Circuits<br>With transformer<br>(100/110V AC)         Image: Sockets<br>Protectors         Image: Sockets<br>Protect                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | rminal Blocks  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              | -           |                    |                  |
| Byse 8.005<br>(Truit<br>Protection<br>Prescapiles<br>200         PRO<br>(W111-A32014-<br>200-20C         PRO<br>(W111-A32014-<br>20C         PRO<br>(W111-A32004-<br>20C         PRO<br>(W111-A32004-<br>20C         PR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 24V AC/DC    |             |                    |                  |
| Protections<br>wer Supples         Projections         Projectio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ays & Sockets  | A COLORED OF THE OWNER OWNER OF THE OWNER OWNE OWNER |              |               |              |             |                    |                  |
| NWE Supplies<br>Dilumination<br>Controlles<br>Operator<br>Interfaces         Maintained         Maintained         1N0-1NC         HW1L-A311H2-<br>2NO         A<br>HW1L-A320H2-<br>2NO         A<br>HW1L-A322H2-<br>2NO         A<br>HW1L-A322H2-<br>2NO         See<br>Servers           Querator<br>Interfaces         With transformer<br>(100/110V AC)         Into-1NC         HW1L-A32H2-<br>2NO-2NC         HW1L-A32H2-<br>2NO-2NC         See<br>Servers         HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         See<br>Servers         Into-1NC         HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H3-<br>A32H2-<br>2NO-2NC         HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         See<br>HW1L-A32H2-<br>2NO-2NC         See<br>HW3L-M32H2-<br>2NO-2NC         See<br>HW3L-M32H2-<br>2NO-2NC         See<br>HW3L-M32H2-<br>2NO-2NC         HW1L-M32H2-<br>2NO-2NC         See<br>HW3L-M32H2-<br>2NO-2NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    | R                |
| Maintained         Maintained         100/110VAC         2NO         HW1L-A320H2-*         A           Controllers         With transformer         100/110VAC         2NO         HW1L-A320H2-*         SPW           Operator         With transformer         100/110VAC         2NO         HW1L-A320H2-*         SPW           Operator         TW0         HW1L-A320H2-*         2NO         HW1L-A320H2-*         SPW           Operator         TW0         HW1L-A320H2-*         2NO         HW1L-A320H2-*         SPW           Outmination         UNO         HW1L-A320H2-*         2NO         HW1L-A320H2-*         SPW           AUTO-D         Based (Marking type)         HW3L-M3         HW1L-A320H2-*         2NO         HW1L-A320H2-*         SPW           AUTO-D         Based (Marking type)         HW3L-M3         H                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Protectors     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| Dimmination<br>Controllers<br>Operator<br>(100/110V AC)         100/110V AC         2NC         HW1L-A302H2*<br>2NO-2NC         S<br>HW1L-A3122H2*<br>HW1L-A322H2*<br>2NO-2NC         S<br>HW1L-A3122H2*<br>2NO-2NC         S<br>HW1L-A3122H2*<br>2NO-2NC         S<br>HW1L-A3122H2*<br>2NO-2NC         S<br>HW1L-A3120H2*<br>2NO         S<br>HW3L-M3104*         S<br>HW1L-A3120H2*<br>2NO         S<br>HW3L-M3104*         S<br>HW1L-A3120H2*<br>2NO         S<br>HW3L-M3104*         S<br>HW1L-A3120H2*<br>2NO         S<br>HW3L-M3104*         S<br>HW3L-M3104*         S<br>HW3L-M3104*         S<br>HW3L-M3104*         S<br>HW3L-M3104*         S<br>HW3L-M3204*         S<br>HW3L-M3204* <td>ower Supplies</td> <td></td> <td></td> <td>Maintained</td> <td>_</td> <td></td> <td></td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ower Supplies  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              | Maintained    | _            |             |                    |                  |
| Controllers<br>Operator<br>Interfaces         With transformer<br>(100/110V AC)         With transformer<br>(100/110V AC)         PW           With transformer<br>(100/110V AC)         With transformer<br>(100/110V AC)         PW         200/220V AC         2NO-2NC         HWIL-A322M2*         PW           200/220V AC         2NO-2NC         HWIL-A322M2*         2NO         HWIL-A322M2*         2NO         HWIL-A322M2*         PW           4/170-10         29mm Mushroom with Square<br>Bezel (Marking type)         PV         1NO         HW3L-M310d4*         NM         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | D Illumination |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 100/110V AC  |             |                    |                  |
| Controllers<br>Operation<br>Interfaces         With transformer<br>(100/110V AC)         UN         HW1L-A322H2**         HW1L-A320M2*           Sensors         200/220V AC         200         2NC         HW1L-A320M2*         2NC         HW1L-A320M2*           AUT0-ID         629mm Mushroom with Square<br>Bezel (Marking type)         No         HW3L-M31004*         1NC         HW3L-M31004*           MW3L-A3         1N0         HW3L-M31004*         1NC         HW3L-M31004*         R           sh Silnouteti         200-2NC         HW3L-M32004*         2NC         R         R           sh Silnouteti         100/110V AC         2NO         2NC         HW3L-M32004*         A           sport         (24V AC/DC)         LED         Into         HW3L-M32004*         No         HW3L-M32004*         A           1N0         HW3L-M32004*         2NO         HW3L-M32004*         2NO         HW3L-M32004*         No         A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              | -           |                    |                  |
| Operator<br>Interfaces         (100/110V AC)         INO         IN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Controllers    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| Interfaces<br>Sensors         200/220V AC         2NO         HW1L-A320M2*           AUTO-10<br>Bezel (Marking type)<br>HW3L-M3         a29mm Mushroom with Square<br>Bezel (Marking type)<br>HW3L-M3104*         a200/220VAC         1NO         HW3L-M3104*         a200/2204*         a200/220VAC         a200/220V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Operator       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| Sensors         2NO-2NC         HW1L-A322M2*           AUTO-10<br>Bezel (Marking type)<br>HW3L-M3         a29mm Mushroom with Square<br>Bezel (Marking type)<br>HW3L-M32004*         a200 - 200<br>- 200 - 200<br>- 200 - 200 - HW3L-M31004*         HW3L-M31004*         HW3L-M32004*         a<br>9 - 200 - 200<br>- 200 - 200 - HW3L-M32014*         R<br>9 - 200 - 200<br>- 200 - 200 - HW3L-M32014*         R<br>9 - 200 - 200<br>- 200 - 200 - HW3L-M32014*         A<br>9 - 200 - 200 - HW3L-M32014*         A<br>9 - 200 - 200 - HW3L-M32014*         A<br>9 - 200 - 200 - 200 - HW3L-M32004*         A<br>9 - 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 200/220V AC  |             |                    |                  |
| AUTO-ID<br>B29mm Mushroom with Square<br>Bezel (Marking type)<br>HW3L-M3<br>HW3L-A3         Participation         Non-INC         HW3L-M30104*         F           ash Sihouette<br>of 6<br>022<br>030<br>Miniature<br>Pilot Lights         ash Sihouette<br>of 6<br>020/220V AC         Momentary         100/110V AC<br>2NO-2NC         1NO-1NC         HW3L-M320Q4*<br>2NO-2NC         A<br>2NO-2NC         A<br>2NO-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sensors        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              | -           |                    |                  |
| Basel (Marking type)<br>HW3L-M3         INC         HW3L-M301Q4*         R           ush Sihouette         eif6         220         HW3L-M311Q4*         1NO-1NC         HW3L-M311Q4*         1NO-1NC         HW3L-M310Q4*         R         R         G           ush Sihouette         eif6         220         HW3L-M320Q4*         2NO         HW3L-M320Q4*         R         G         2NO         HW3L-M320Q4*         A         S         P         2NO         HW3L-M302D4*         A         S         P         2NO         HW3L-M302D4*         A         S         P         No         HW3L-M302D4*         A         S         P         P         2NO         HW3L-M302D4*         A         S         PW         2NO         HW3L-M302D4*         A         S         PW         PW         2NO         HW3L-M302D4*         A         S         PW         2NO         HW3L-M302M2*         ZNO         HW3L-M302M2*         ZNO         HW3L-M302M2*         S         PW         2NO         HW3L-M302M2*         ZNO         ZNO         ZNO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| HW3L-M3         HW3L-M311Q4*         24V AC/DC         1100-11NC         HW3L-M311Q4*         R           ish Silhouette         ish Silhouette         2NC         HW3L-M302Q4*         R         Y           ish Silhouette         ish Silhouette         2NC         HW3L-M302Q4*         Y         A           ish Silhouette         ish Silhouette         100/110V AC         100/110V AC         100/110V AC         HW3L-M311H2*         A           ish Silhouette         ish Silhouette         ish Silhouette         100/110V AC         100/110V AC         2NC         HW3L-M311H2*         A           ish Silhouette         ish Silhouette         ish Silhouette         100/110V AC         2NC         HW3L-M302H2*         S           ish Silhouette         ish Silhouette         ish Silhouette         2NC         HW3L-M302H2*         S           ish Silhouette         ish Silhouette         ish Silhouette         2NC         HW3L-M302H2*         S           ish Silhouette         ish Silhouette         ish Silhouette         ish Silhouette         2NC         HW3L-M302H2*         S           ish Silhouette         ish Silhouette         ish Silhouette         2NC         HW3L-M302H2*         S           ish Silhouette         ish Silhouette                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | AUTO-ID        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | -            |             |                    |                  |
| HW3L-A3         24V AC/DC         2N0         HW3L-M32004*         R         R         R         R         R         R         R         2NC         HW3L-M32024*         PR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | -            | -           |                    |                  |
| Sihouette         Bis Sihouette         Momentary         Momentary         Momentary         Momentary         Momentary         Momentary         R g Y A A S PW         R g Y A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 24V AC/DC    |             |                    |                  |
| Bin Sinductive         Image: Sinductive for the second secon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                | TWSE-AS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |               |              |             |                    |                  |
| e16         102         100-110C         HW3L-M311H2*         A         A           e30         100/110VAC         2NC         HW3L-M302H2*         B         B           ininiature         (24V AC/DC)         100/110VAC         2NO         HW3L-M302H2*         B         B           Pilot Lights         (24V AC/DC)         LED         100/110VAC         2NO         HW3L-M302M2*         B         B           WW         WW         LED         LED         2NO         HW3L-M320M2*         2NO         HW3L-M32004*         1NO         HW3L-M32004*         2NO         2NO         HW3L-M32004*         2NO         2NO </td <td>sh Silhouette</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | sh Silhouette  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| 022         030         100/110V AC         2N0         HW3L-M320H2*         A         S           030         0         100/110V AC         2N0         HW3L-M320H2*         P           0         0         0         2N0         2N0         HW3L-M320H2*         P           0         0         0         2N0         2N0         HW3L-M322H2*         P           0         0         200/220V AC         2N0         HW3L-M320M2*         2N0         HW3L-M320M2*           1         0         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 <td></td> <td></td> <td></td> <td></td> <td rowspan="4">100/110V AC</td> <td></td> <td></td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 100/110V AC  |             |                    |                  |
| 022<br>830         100/110V AC         2NC         HW3L-M302H2*         S<br>2NO-2NC         S<br>HW3L-M302M2*           Pilot Lights         (24V AC/DC)         LED         LED         200/220V AC         2NO         HW3L-M302M2*         2NO         HW3L-M302M2*         2NO         2NO         2NO         HW3L-M302M2*         2NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Ø16            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              | Momentary     |              |             |                    |                  |
| a30         2N0         1N0         1M32LM322H2*         PW           Miniature         (24V AC/DC)         1N0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ø22            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| Not         IN0         HW3L-M311M2*           Miniature         (24V AC/DC)         LED         200/220V AC         2NO         HW3L-M320M2*           Pilot Lights         (24V AC/DC)         LED         1NO         HW3L-M320M2*         2NO-2NC         HW3L-M320M2*           WW         TW         LED         LED         400/220V AC         1NO         HW3L-A310Q4*         1NO         HW3L-A320Q4*           TW         W         Maintained         24V AC/DC         1NO-1NC         HW3L-A32QQ4*         2NO         HW3L-A32QQ4*         1NO-1NC         HW3L-A32QQ4*         R         G           YW         W         With transformer<br>(100/110V AC)         Maintained         100/110V AC         2NO         HW3L-A32QH2*         A         S           200/220V AC         2NO         HW3L-A32QH2*         2NO         2NO         HW3L-A32QH2*         A         S           YW         With transformer<br>(100/110V AC)         With transformer         1NO-1NC         HW3L-A32H2*         A         S           With transformer         UN         200/220V AC         2NO         HW3L-A320M2*         A         S           200/220V AC         2NO         HW3L-A320M2*         2NO         2NO         HW3L-A320M2*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| Miniature<br>Pilot Lights         (24V AC/DC)         LED         200/220V AC         200/220V AC         2NO         HW3L-M320M2*           WW         LED         LED         LED         1NO         HW3L-M320M2*         1NO         HW3L-M320M2*           WW         TW         INO         HW3L-M310Q4*         1NO         HW3L-A310Q4*         1NO         HW3L-A310Q4*           TW         WW         WW         Maintained         2NO         HW3L-A32QQ4*         2NO         HW3L-A32QQ4*         8         9           WW         WW         WW         Maintained         100/110V AC         100/110V AC         2NO         HW3L-A32QH2*         8         9W           WW         WW th transformer<br>(100/110V AC)         WW th transformer         100/110V AC         2NO         HW3L-A32QH2*         A         S         9W           200/220V AC         2NO         HW3L-A32QH2*         A         S         PW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ø30            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| Pilot Lights         (24V AC/DC)         LED         200/220V AC         2NC         HW3L-M302M2*           1N0         HW3L-A310Q4*         1N0         HW3L-A310Q4*         1NC         HW3L-A300Q4*           1W         1N0         HW3L-A301Q4*         1NC         HW3L-A301Q4*         1NC         HW3L-A301Q4*           1W         1W         1N0         HW3L-A302Q4*         2NC         HW3L-A311Q4*         2NC         HW3L-A320Q4*         R         R         R         S         S         2NC         HW3L-A320Q4*         S         PW         NW         100/110V AC)         100/110V AC)         100/110V AC)         100/110V AC)         2NO         HW3L-A320H2*         A         S         S         PW           200/220V AC         2NO         HW3L-A320H2*         A         S         PW         S         PW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Miniature      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | -            |             |                    |                  |
| Pilot Lights         LED         2N0-2NC         HW3L-M322M2*           HW         INO         HW3L-A310Q4*         1NC         HW3L-A310Q4*           TW         INO         HW3L-A310Q4*         1NC         HW3L-A310Q4*           TW         INO         HW3L-A320Q4*         2NO         HW3L-A32Q4*         R           WW         WW         INO-1NC         HW3L-A32Q4*         1NO-1NC         HW3L-A32Q4*         PW           WW         WW         INO-1NC         HW3L-A32Q4*         S         PW           With transformer<br>(100/110V AC)         With transformer<br>(100/110V AC)         INO-1NC         HW3L-A322H2*         A           200/220V AC         2NO-2NC         HW3L-A320H2*         PW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 200/220V AC  |             |                    |                  |
| Image: Normal System       Image: Normal System <td< td=""><td>Pilot Lights</td><td>(24V AC/DC)</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Pilot Lights   | (24V AC/DC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |               |              |             |                    |                  |
| Image: Non-Inc         Image: Ima                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | LED –        |               | +            |             |                    |                  |
| HW         INO-1NC         HW3L-A31104*         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R         R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| HW         24V AC/DC         2NO         HW3L-A32004*         R         R         R         R         R         R         S         PW         2NO-2NC         HW3L-A32004*         R         R         R         R         R         R         S         PW         1N0-1NC         HW3L-A32004*         R         R         G         Y         PW         1N0-1NC         HW3L-A32004*         R         G         Y         PW         PW         1N0-1NC         HW3L-A32004*         A32204*         A35204*         A35204                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | -            |             |                    |                  |
| TW         2NC         HW3L-A30204*         R         R         R         R         Y         Y         2NO-2NC         HW3L-A3204*         R         R         Y         R         Y         Y         1N0-1NC         HW3L-A3204*         R         Y         Y         1N0-1NC         HW3L-A3204*         Y         A         Y         Y         100/110V AC         2NO         HW3L-A320H2*         A         S         Y         A         S         Y         Y         Y         INO-1NC         HW3L-A320H2*         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y         A         S         Y<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | HW             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 24V AC/DC    |             |                    |                  |
| Iw         Im         Im<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| YW         Maintained         1N0-1NC         HW3L-A311H2*         YA           With transformer<br>(100/110V AC)         With transformer<br>(100/110V AC)         100/110V AC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | TW             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| Maintained         Maintai                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | YW             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| With transformer<br>(100/110V AC)         100/110V AC         2NC         HW3L-A302H2*         S<br>PW           200/220V AC         1NO-1NC         HW3L-A321M2*         S<br>PW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              | Maintained    |              |             |                    |                  |
| With transformer<br>(100/110V AC)         2NO-2NC         HW3L-A322H2*         PW           200/220V AC         1NO-1NC         HW3L-A311M2*         200/220V AC         2NO         HW3L-A320M2*         2NO         HW3L-A302M2*         2NO         HW3L-A302M2*<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 100/110V AC  |             |                    |                  |
| With transformer<br>(100/110V AC)         1N0-1NC         HW3L-A311M2*           200/220V AC         2NO         HW3L-A320M2*           2NC         HW3L-A302M2*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| 200/220V AC 2NO HW3L-A320M2*<br>200/220V AC 2NC HW3L-A302M2*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |
| 200/220V AC 2NC HW3L-A302M2*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                | (100/110V AC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |               |              |             |                    |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               | 200/220V AC  |             |                    |                  |
| 2NO-2NC HW3L-A322M2*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |               |              |             |                    |                  |

• Specify a color code in place of \* in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

• Illuminated pushbuttons have an LED lamp installed unless otherwise specified.

• See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.

• See B-184 for other contact configurations and gold-plated silver contacts.

• Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.

• See B-198 for bottom view.

- See **B-184** for how to specify units without LED lamps.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

For more information, visit http://eu.idec.com

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            |              |         |              | Package Quantity: 1 | i                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|--------------|---------|--------------|---------------------|---------------------------|
| Shape                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Illumination | Operation  | Illumination | Contact | Part No.     | Color Code          | Pilot Lights              |
| ø40mm Mushroom                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |            |              | 1N0     | HW1L-M410Q4* |                     | ghi                       |
| (Marking type)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |            |              | 1NC     | HW1L-M401Q4* |                     | <u>5</u>                  |
| HW1L-M4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |            | 24V AC/DC    | 1NO-1NC | HW1L-M411Q4* |                     |                           |
| HW1L-A4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |            | 24V A0/D0    | 2N0     | HW1L-M420Q4* |                     |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            |              | 2NC     | HW1L-M402Q4* | р                   | APEM                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            |              | 2N0-2NC | HW1L-M422Q4* | R<br>G              | Switches &                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              | Momentary  |              | 1NO-1NC | HW1L-M411H2* | Ŷ                   | Pilot Lights              |
| W/P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              | WOMENTALY  | 100/110V AC  | 2N0     | HW1L-M420H2* | A                   | Control Boxes             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            | 100/110V AC  | 2NC     | HW1L-M402H2* | S<br>PW             | Emergency                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            |              | 2N0-2NC | HW1L-M422H2* | F VV                | Stop Switches<br>Enabling |
| The state of the s |              |            |              | 1NO-1NC | HW1L-M411M2* |                     | Switches                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            | 200/220V AC  | 2N0     | HW1L-M420M2* |                     | Safety Products           |
| (24V AC/DC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |            | 200/2200 AG  | 2NC     | HW1L-M402M2* |                     |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | LED          |            |              | 2N0-2NC | HW1L-M422M2* |                     | Explosion Proof           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            | -            | 1N0     | HW1L-A410Q4* |                     | Terminal Blocks           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            |              | 1NC     | HW1L-A401Q4* |                     |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            | 24V AC/DC    | 1NO-1NC | HW1L-A411Q4* |                     | Relays & Sockets          |
| The second se                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            | 24V A0/D0    | 2N0     | HW1L-A420Q4* |                     | Circuit                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            |              | 2NC     | HW1L-A402Q4* | — R                 | Protectors                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            |              | 2N0-2NC | HW1L-A422Q4* | G                   | Power Supplies            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              | Maintained |              | 1NO-1NC | HW1L-A411H2* | Y                   | LED Illumination          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              | Maintainea | 100/110V AC  | 2N0     | HW1L-A420H2* | A                   |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            | 100/110VAC   | 2NC     | HW1L-A402H2* | S<br>PW             | Controllers               |
| With transformer<br>(100/110V AC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |            |              | 2N0-2NC | HW1L-A422H2* |                     | Operator                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            |              | 1NO-1NC | HW1L-A411M2* |                     | Interfaces                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            | 200/220V AC  | 2N0     | HW1L-A420M2* |                     | Sensors                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            | 200/220V A0  | 2NC     | HW1L-A402M2* |                     | AUTO-ID                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |            |              | 2N0-2NC | HW1L-A422M2* |                     |                           |

• Specify a color code in place of \* in Part No. R (red), G (green), Y (yellow), A (Amber), S (blue), PW (pure white)

Mushroom (ø40mm) (Marking Type)

• Illuminated pushbuttons have an LED lamp installed unless otherwise specified.

• See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.

• See B-184 for other contact configurations and gold-plated silver contacts.

• Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.

• See B-198 for bottom view.

LED

• See **B-184** for how to specify units without LED lamps.

• When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

| ø16       |     |
|-----------|-----|
|           |     |
| ø30       |     |
| Miniatur  | е   |
| Pilot Lig | hts |

Flush Silhouette

| нพ |  |
|----|--|
| TW |  |
| YW |  |



Panel Th

0.8 to 6

Panel Thickness 0.8 to 6

13

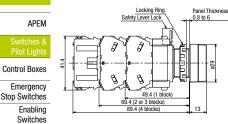
18.5

### **Dimensions**

### Illuminated Pushbuttons (Momentary / Maintained)

Round Flush Terminal screws: M3.5, integrated terminal cover

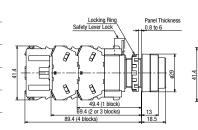
6, 12, 24V AC/DC, Without LED lamp 100/110V AC, 200/220V AC (240V maximum)



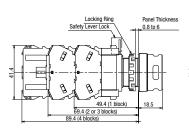
Round Extended Terminal screws: M3.5, integrated terminal cover

Ø

6, 12, 24V AC/DC, Without LED lamp



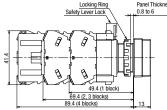
### **Round Extended with Full Shroud** 6, 12, 24V AC/DC, Without LED lamp



### Square Flush Terminal screws: M3.5, integrated terminal cover

B

6, 12, 24V AC/DC, Without LED lamp

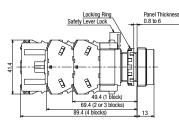


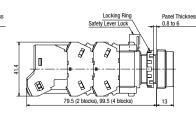
Safety L

100/110V AC, 200/220V AC (240V maximum)



Flush with Square Bezel Terminal screws: M3.5, integrated terminal cover 6, 12, 24V AC/DC, Without LED lamp 100/110V AC, 200/220V AC (240V maximum)



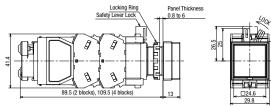




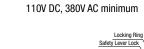




### 110V DC, 380V AC minimum







110V DC, 380V AC minimum

Safety Lever

ģ

Locking Bin

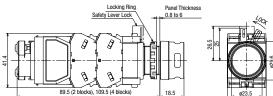
Safety Le

89.5 (2 blocks), 109.5 (4 blocks)

ĝ

89.5 (2 blocks), 109.5 (4 blocks)

110V DC, 380V AC minimum



Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets Circuit

LED Illumination

Controllers Operator Interfaces

Sensors

AUTO-ID

Flush Silhouette

ø16

ø30 Miniature

ΤW

YW

Pilot Lights

Protectors Power Supplies

0.8 to 6 ĝ B 13 79.5 (2 blocks), 99.5 (4 blocks) 18.5

Terminal screws: M3.5, integrated terminal cover

100/110V AC, 200/220V AC (240V maximum)

0.8 to 6

0.8 to 6

Safety I

ð

100/110V AC, 200/220V AC (240V maximum)

Locking Ring

Safety Lev

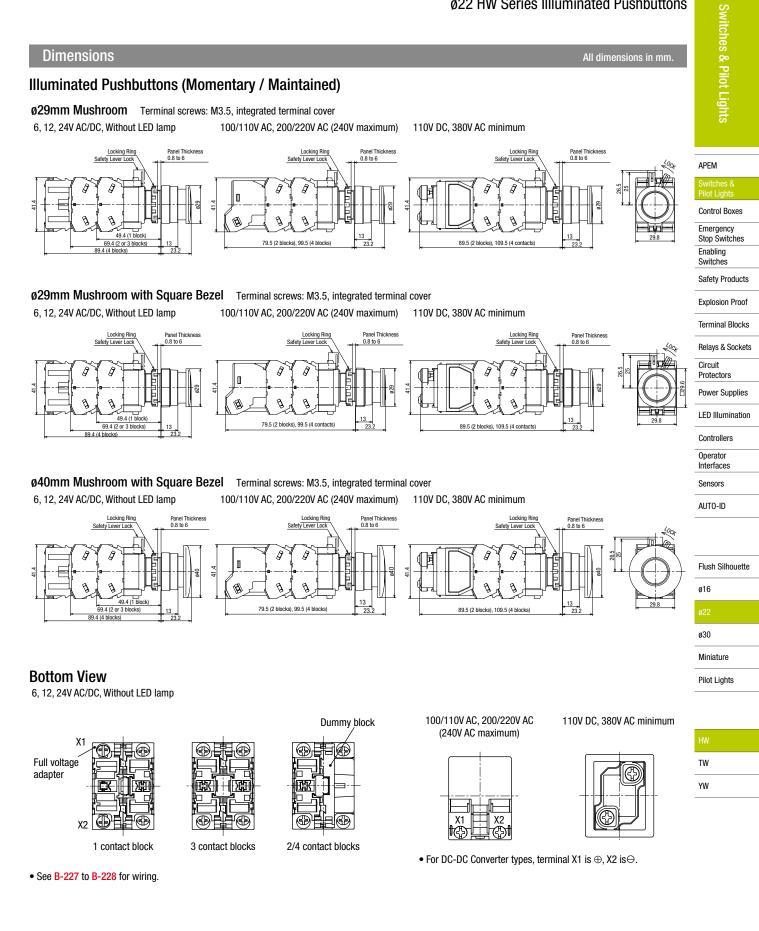
Safety Level

ĝ

79.5(2 blocks), 99.5 (4 blocks)

Panel Thi

0.8 to 6



# ø22 HW Series Dual Pushbuttons

Shape

Dual Pushbuttons (without Pilot Light)

 Specify a button color code in place of 2 and legend code in place of 3 in the Part No.
 Package Quantity: 1

 HW7D



| APEM                       |
|----------------------------|
| Switches &<br>Pilot Lights |
| Control Boxes              |
| Emergency<br>Stop Switches |
| Enabling<br>Switches       |
| Safety Products            |
| Explosion Proof            |
| Terminal Blocks            |
| Relays & Sockets           |
| Circuit                    |
| Protectors                 |
| Power Supplies             |
| LED Illumination           |
| Controllers                |
| Operator                   |
| Interfaces                 |
| Sensors                    |

| Emergency<br>op Switches |                |                   |            |               | -                |                     |                       |
|--------------------------|----------------|-------------------|------------|---------------|------------------|---------------------|-----------------------|
| Enabling                 | Operation      | Button Style      | Cor        | ntact         | Part No.         | 2 Button Color Code | 3 Legend Code         |
| Switches                 | Operation      | Dutton Style      | Top Button | Bottom Button | rait NU.         |                     |                       |
| ety Products             |                |                   | 1N0        | 1NC           | HW7D-B111001 2 3 |                     |                       |
| losion Proof             |                | Flush (top)       | 1N0        | 1N0           | HW7D-B111010 2 3 | ]                   |                       |
|                          |                | Flush (bottom)    | 1NO-1NC    | 1NO-1NC       | HW7D-B111111 2 3 |                     |                       |
| ninal Blocks             | Momentary      |                   | 2N0        | 2NC           | HW7D-B112002 2 3 |                     |                       |
| vs & Sockets             | Womentary      |                   | 1N0        | 1NC           | HW7D-B121001 2 3 |                     |                       |
|                          |                | Flush (top)       | 1N0        | 1N0           | HW7D-B121010 2 3 | ]                   |                       |
| Circuit<br>Protectors    |                | Extended (bottom) | 1NO-1NC    | 1NO-1NC       | HW7D-B121111 2 3 | GR: Green (top)     | Blank: Without legend |
| ver Supplies             |                |                   | 2N0        | 2NC           | HW7D-B122002 2 3 | Red (bottom)        | 1: I / ON (top)       |
|                          |                |                   | 1N0        | 1NC           | HW7D-B211001 2 3 | WB: White (top)     | 0 / OFF (bottom)      |
| Illumination             |                | Flush (top)       | 1N0        | 1N0           | HW7D-B211010 2 3 | Black (bottom)      |                       |
| Controllers              |                | Flush (bottom)    | 1NO-1NC    | 1NO-1NC       | HW7D-B211111 2 3 | ]                   |                       |
|                          | Interlook (*1) |                   | 2N0        | 2NC           | HW7D-B212002 2 3 | ]                   |                       |
| Operator<br>Interfaces   | Interlock (*1) |                   | 1N0        | 1NC           | HW7D-B221001 2 3 | ]                   |                       |
| Sensors                  |                | Flush (top)       | 1N0        | 1N0           | HW7D-B221010 2 3 | ]                   |                       |
| 00110013                 |                | Extended (bottom) | 1NO-1NC    | 1NO-1NC       | HW7D-B221111 2 3 | ]                   |                       |
| AUTO-ID                  |                |                   | 2N0        | 2NC           | HW7D-B222002 2 3 | ]                   |                       |

• For other contact arrangements, see Ordering Information on B-185 and Contact Arrangement Chart on B-202.

• Dual pushbuttons with 3 contact blocks have a dummy block.

• See B-202 for top and bottom button contact mounting positions.

<sup>1</sup> 1) Interlock: Momentary operation. When one of the buttons is pressed, the other button cannot be operated.

Do not operate top and bottom buttons at the same time. Operating the buttons at the same time may lead to malfunctions.

| Flush Silhouette |
|------------------|
| ø16              |
|                  |
| ø30              |
| Miniature        |
| Pilot Lights     |
|                  |

Package Quantity: 1

LED

### **Dual Pushbuttons (with Pilot Light)**

Specify a LED color code in place of 1, button color code in place of 2, and legend code in place of 3 in the Part No.

|                | HW7D<br>LED: LSTD-2* (24V) | AC/DC)       |               |                  |                                           |     |                     |                  | t Lights                    |
|----------------|----------------------------|--------------|---------------|------------------|-------------------------------------------|-----|---------------------|------------------|-----------------------------|
| Shape          |                            |              |               | 1                | du la | ON  |                     |                  | APEM<br>Switches &          |
|                |                            |              |               |                  |                                           |     |                     |                  | Pilot Lights                |
|                |                            |              |               |                  | OFF                                       | O   |                     |                  | Control Boxes               |
|                | <u> </u>                   |              | -             |                  |                                           |     |                     |                  | Emergency<br>Stop Switches  |
| Operation      | Button Style               | Illumination | Con           |                  | Dort No.                                  |     | Dutton Color Code   |                  | Enabling                    |
| Operation      | Button Style               | Illumination | Top<br>Button | Bottom<br>Button | Part No.                                  | LED | 2 Button Color Code | 3 Legend Code    | Switches<br>Safety Products |
|                |                            |              | 1N0           | 1NC              | HW7D-L111001Q4 1 2 3                      |     |                     |                  |                             |
|                | Flush (top)                | 24V AC/DC    | 1N0           | 1N0              | HW7D-L111010Q4 1 2 3                      | 1   |                     |                  | Explosion Proof             |
|                | Flush (bottom)             | 24V AU/DU    | 1N0-1NC       | 1N0-1NC          | HW7D-L111111Q4 1 2 3                      | 1   |                     |                  | Terminal Blocks             |
| Momentary      |                            |              | 2N0           | 2NC              | HW7D-L112002Q4 1 2 3                      | ]   |                     |                  |                             |
| VIUITEITAI y   |                            |              | 1N0           | 1NC              | HW7D-L121001Q4 1 2 3                      | ]   |                     |                  | Relays & Sockets            |
|                | Flush (top)                | 24V AC/DC    | 1N0           | 1N0              | HW7D-L121010Q4 1 2 3                      | ]   |                     |                  | Circuit<br>Protectors       |
|                | Extended (bottom)          | 24V AU/00    | 1N0-1NC       | 1N0-1NC          | HW7D-L121111Q4 1 2 3                      | R   | GR: Green (top)     | Blank: Without   |                             |
|                |                            |              | 2N0           | 2NC              | HW7D-L122002Q4 1 2 3                      | G   | Red (bottom)        | legend           | Power Supplies              |
|                | T                          |              | 1N0           | 1NC              | HW7D-L211001Q4 1 2 3                      | S   | WB: White (top)     | 1: I / ON (top)  | LED Illumination            |
|                | Flush (top)                | 24V AC/DC    | 1N0           | 1N0              | HW7D-L211010Q4 1 2 3                      | PW  | Black (bottom)      | 0 / OFF (bottom) | 0                           |
|                | Flush (bottom)             | LTTINGES     | 1N0-1NC       | 1N0-1NC          | HW7D-L211111Q4 1 2 3                      |     |                     |                  | Controllers                 |
| Interlock (*1) |                            | ļ            | 2N0           | 2NC              | HW7D-L212002Q4 1 2 3                      | -   |                     |                  | Operator<br>Interfaces      |
| ,              |                            |              | 1N0           | 1NC              | HW7D-L221001Q4 1 2 3                      | -   |                     |                  | Sensors                     |
|                | Flush (top)                | 24V AC/DC    | 1N0           | 1N0              | HW7D-L221010Q4 1 2 3                      |     |                     |                  | 56115015                    |
|                | Extended (bottom)          |              | 1NO-1NC       | 1NO-1NC          | HW7D-L221111Q4 1 2 3                      | -   |                     |                  | AUTO-ID                     |
|                |                            |              | 2N0           | 2NC              | HW7D-L222002Q4 1 2 3                      |     |                     |                  |                             |

• LED lamp code: G (green), PW (pure white)

• Only W (white) lens is available.

• See B-185 for other operating voltage such as 100/110V AC and 200/220V AC.

See B-202 for other contact configurations

• See **B-185** for gold-plated silver contacts.

• Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.

• See B-202 for top and bottom button contact mounting positions.

\*1) Interlock: Momentary operation. When one of the buttons is pressed, the other button cannot be operated.

Do not operate top and bottom buttons at the same time. Operating the buttons at the same time may lead to malfunctions.

Switches & Pilo

ΤW YW

Flush Silhouette

ø16

ø30

Miniature Pilot Lights



Switches & Pilot Lights

APEM

Control Boxes Emergency Stop Switches

Enabling

Switches Safety Products

Controllers

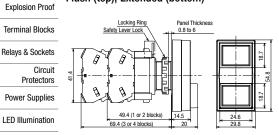
Operator

# **Dual Pushbuttons**

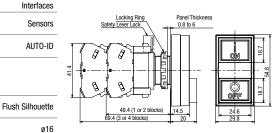
Without Pilot Light Terminal screws: M3.5, integrated terminal cover Flush (top), Flush (bottom)

LOCKING Ri Safety Lever Loc ģ 49.4 (1 or 2 blocks 24.6 29.8 69.4 (3 or 4 blo

Flush (top), Extended (bottom)



Flush (top), Extended (bottom) (with legend)



# **Bottom View**

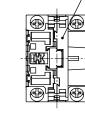
ø30 Without Pilot Light Miniature

ΤW

YW

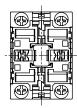
Pilot Lights

**Dummy Block** 



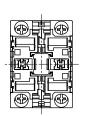
3 contact bocks

With Pilot Light 6, 12, 24V AC/DC



3 contact bocks

• See B-227 to B-228 for wiring.



2/4 contact blocks

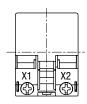
Dummy Block



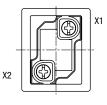
2/4 contact blocks

. Mounting position of the dummy block may change according to the contact configuration of the top and bottom buttons.

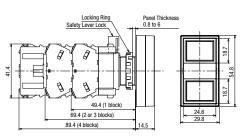
100/110V AC, 200/220V AC (240V maximum)



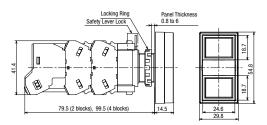
380V AC minimum



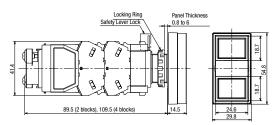
All dimensions in mm.



### Flush (top), Flush (bottom) (240V AC maximum)



### Flush (top), Flush (bottom) (380V AC minimum)



# **Contact Arrangement Chart**

|               | Contact          |                 | Contac               | t Block | Top B  | utton | Bottom | Button |
|---------------|------------------|-----------------|----------------------|---------|--------|-------|--------|--------|
| Top<br>Button | Bottom<br>Button | Contact<br>Code | Mounting<br>Position | Contact | Normal | Push  | Normal | Push   |
| 1N0           | 1N0              | 1010            | 1                    | NO      |        | •     |        |        |
|               | INO              | 1010            | 2                    | NO      |        |       |        | •      |
| 1N0           | 1NC              | 1001            | 1                    | NO      |        | •     |        |        |
|               |                  | 1001            | 2                    | NC      |        |       |        |        |
|               |                  |                 | 1                    | NO      |        | •     |        |        |
| 2N0           | 2NC              | 2002            | 2                    | NC      |        |       | •      |        |
|               | 2100             | 2002            | 3                    | NO      |        | •     |        |        |
|               |                  |                 | 4                    | NC      |        |       |        |        |
|               |                  |                 | 1                    | NO      |        | •     |        |        |
| 1NO-1NC       | 1NO-1NC          | 1111            | 2                    | NO      |        |       |        | •      |
|               | TNU-TNU          | 1111            | 3                    | NC      | •      |       |        |        |
|               |                  |                 | 4                    | NC      |        |       |        |        |

• Transformer types cannot mount 3 contact blocks.

 $\bullet$  Contact blocks  $\odot$  and  $\circledast$  are actuated by the top button. Contact blocks  $\circledast$  and  $\circledast$  are actuated by the bottom button.

| Contac               | t Block | Тор В  | utton | Bottom | Button | ← Button Position      |
|----------------------|---------|--------|-------|--------|--------|------------------------|
| Mounting<br>Position | Contact | Normal | Push  | Normal | Push   | ← Pushbutton Operation |
| 1                    | NO      |        | •     |        |        | ]                      |
| 2                    | NO      |        |       |        | •      |                        |
| 3                    | NC      | •      |       |        |        |                        |
| 4                    | NC      |        |       | •      |        | ]                      |

**Contact Block Mounting Position** 



With Pilot Light (Full Voltage Type)



With Pilot Light (Transformer Type)

Part No. Example HW7D-B121111GR Contact Code **Switches & Pilot Lights** 

### APEM

Control Boxes

Emergency Stop Switches

Enabling Switches

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets Circuit

Protectors Power Supplies

LED Illumination

Controllers

Operator Interfaces

Sensors

AUTO-ID

Flush Silhouette ø16 ø30 Miniature Pilot Lights

| HW |  |
|----|--|
| TW |  |
| YW |  |

# ø22 HW Series Selector Switches

# Selector Switches (Knob Operator)

Package Quantity: 1

| Pilot Ligi                 | Γ |
|----------------------------|---|
| lts                        |   |
| APEM                       |   |
| Switches &<br>Pilot Lights |   |
| Control Boxes              |   |
| Emergency<br>Stop Switches |   |
| Enabling<br>Switches       |   |
| Safety Products            | 0 |
| Explosion Proof            | 2 |
| Terminal Blocks            | 2 |
| Relays & Sockets           |   |
| Circuit<br>Protectors      |   |
| Power Supplies             |   |
| LED Illumination           | F |
| Controllers                |   |
| Operator<br>Interfaces     |   |
| Sensors                    |   |
| AUTO-ID                    |   |
|                            |   |
| Flush Silhouette           |   |
| ø16                        | 4 |
| ø22                        | 3 |
| ø30                        |   |
| Miniature                  |   |
| Pilot Lights               |   |
|                            |   |

| Shape                                                         | Knob Opera<br>HW1S | ator                 |          |                   |      |          |            |                             |                                   |                          |              |  |
|---------------------------------------------------------------|--------------------|----------------------|----------|-------------------|------|----------|------------|-----------------------------|-----------------------------------|--------------------------|--------------|--|
|                                                               | Contact            | Contact              | Block    | (                 | pera | tor Po   | sition     | Maintained (90°)            | Spring Return from<br>Right (60°) |                          | _            |  |
|                                                               |                    | Mounting<br>Position | Contact  | 1                 | 2    |          |            |                             |                                   |                          |              |  |
|                                                               | 1N0                | 0                    | NO       |                   | •    |          |            | HW1S-2T10                   | HW1S-21T10                        |                          |              |  |
| 90°                                                           | (10)               | 2                    |          |                   | Dum  | nmy Bl   | ock        | 11W13-2110                  | 11W13-21110                       |                          |              |  |
| 2-position/<br>60°<br>2-position<br>2-position<br>2NO<br>(11) |                    | 0                    | NO       |                   | •    |          |            | HW1S-2T11                   | HW1S-21T11                        |                          |              |  |
|                                                               | 2                  | NC                   | •        |                   |      |          |            |                             |                                   |                          |              |  |
|                                                               |                    | 1                    | NO       |                   | •    |          |            | HW1S-2T20                   | HW1S-21T20                        |                          |              |  |
|                                                               | (20)               | 2                    | NO       |                   | •    |          |            |                             |                                   |                          |              |  |
|                                                               |                    | 0                    | NO       |                   | •    |          |            |                             |                                   |                          |              |  |
|                                                               | 2NO-2NC            | 2                    | NC       | •                 |      |          |            | HW1S-2T22                   | HW1S-21T22                        |                          |              |  |
|                                                               | (22)               | 3                    | NO       |                   | •    |          |            |                             |                                   |                          |              |  |
|                                                               |                    | 4                    | NC       | •                 |      | L        |            |                             |                                   | /                        |              |  |
| Co                                                            | Contact            | Contact Block        |          | Operator Position |      | sition   | Maintained | Spring Return<br>from Right | Spring Return<br>from Left        | Spring Return<br>Two-way |              |  |
|                                                               |                    | Mounting<br>Position | Contact  | 1                 | 0    | 2        |            |                             |                                   |                          |              |  |
|                                                               | 2N0                | 0                    | NO       | •                 |      |          |            | HW1S-3T20                   | HW1S-31T20                        | HW1S-32T20               | HW1S-33T20   |  |
|                                                               | (20)               | 2                    | NO       |                   |      | •        |            | 11110 0120                  |                                   |                          | 11110 00120  |  |
|                                                               | 2NC                | 0                    | NC       |                   |      |          |            | HW1S-3T02                   | HW1S-31T02                        | HW1S-32T02               | HW1S-33T02   |  |
|                                                               | (02)               | 2                    | NC       |                   |      |          |            |                             |                                   |                          | 11010-00102  |  |
|                                                               |                    | 0                    | NO       | •                 |      |          |            |                             |                                   |                          |              |  |
|                                                               | 2NO-2NC            | 2                    | NO       |                   |      | •        |            | HW1S-3T22N1                 | HW1S-31T22N1                      | HW1S-32T22N1             | HW1S-33T22N1 |  |
|                                                               | (22N1)             | 3                    | NC       |                   |      |          |            |                             |                                   |                          |              |  |
| 45°<br>3-position                                             |                    | 4                    | NC       |                   |      |          |            |                             |                                   |                          |              |  |
| o position                                                    |                    | 0                    | NO       | •                 |      |          |            |                             |                                   |                          |              |  |
|                                                               | 4N0                | 2                    | NO       | -                 |      | •        |            | HW1S-3T40                   | HW1S-31T40                        | HW1S-32T40               | HW1S-33T40   |  |
|                                                               | (40)               | 3                    | NO       | •                 |      |          |            |                             |                                   |                          |              |  |
|                                                               |                    | 4                    | NO       |                   |      | •        |            |                             |                                   |                          |              |  |
|                                                               |                    | 0                    | NC       |                   |      |          |            |                             |                                   |                          |              |  |
|                                                               | 4NC<br>(04)        | 2<br>3               | NC<br>NC |                   |      |          |            | HW1S-3T04                   | HW1S-31T04                        | HW1S-32T04               | HW1S-33T04   |  |
|                                                               | (דט)               | 4                    | NC       | _                 |      |          |            |                             |                                   |                          |              |  |
|                                                               |                    | (4)<br>(1)           | NO       | •                 |      | $\vdash$ |            |                             |                                   |                          |              |  |
|                                                               | 2NO-1NC            | <br>                 | NO       | -                 |      | •        |            |                             |                                   |                          |              |  |
|                                                               | (21N1)             | 3                    | NC       |                   | •    |          |            | HW1S-3JT21N1                | -                                 | —                        | —            |  |
|                                                               | ★☆                 | 4                    |          |                   | -    | ımy Bl   | ock        | -                           |                                   |                          |              |  |
|                                                               |                    |                      |          |                   | Dan  |          |            | 1                           |                                   |                          |              |  |

• Knob operator: white indicator on black body

• On the contact arrangement marked with 🖈 in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

 $\bullet$  For models with  $\precsim$  , contacts may overlap when the operator position is changed.

• Other contact arrangements are also available. See B-211 to B-213.

• Selector switches with one or three contact blocks contain a dummy block.

• See **B-186** for gold-plated silver contacts.

• Turn the operator to each position accurately.

### **Contact Block Mounting Position**



TW YW

### Key Selector Switches (Pin Tumbler Key)

|                   |            |          |                      |         |                   |        |     |          | Package Quantity: 1 | , pio        |
|-------------------|------------|----------|----------------------|---------|-------------------|--------|-----|----------|---------------------|--------------|
|                   | No. of     |          | Contact Block        |         | Operator Position |        |     |          | Maintained          | Pilot Lights |
| Shape             | Positions  | Contact  | Mounting<br>Position | Contact | 1                 | 2      |     | Cam Code |                     | Ints         |
| in Tumbler Key    |            | 1NC      | 1                    | NC      | •                 |        |     |          | HW1K-2PA01          |              |
| W1K               |            | (01)     | 2                    | —       | Dur               | nmy Bl | ock | _        |                     | APEM         |
|                   |            | 1NO-1NC  | 0                    | NO      |                   | •      |     |          | HW1K-2PA11          | Switches &   |
|                   |            | (11)     | 2                    | NC      | •                 |        |     |          |                     | Pilot Lights |
|                   |            | 2NC      | 0                    | NC      | •                 |        |     |          | HW1K-2PA02          | Control Box  |
|                   |            | (02)     | 2                    | NC      | •                 |        |     |          |                     | Emergency    |
|                   |            |          | 0                    | NO      |                   | •      |     |          |                     | Stop Switcl  |
|                   |            |          | 2                    | NO      |                   | •      |     |          | HW1K-2PA21          | Enabling     |
|                   | 90°        |          | 3                    | NC      | •                 |        |     |          |                     | Switches     |
|                   | 2-position |          | 4                    | —       | Dur               | nmy Bl | ock |          |                     | Safety Proc  |
|                   |            |          | 0                    | NC      | •                 |        |     |          |                     | Explosion P  |
|                   |            | 3NC      | 2                    | NC      | •                 |        |     | _        | HW1K-2PA03          |              |
| (NC contact only) |            | (03)     | 3                    | NC      | •                 |        |     |          |                     | Terminal Bl  |
|                   |            |          | 4                    | —       | Dur               | nmy Bl | ock |          |                     | Relays & So  |
|                   |            |          | 0                    | NO      |                   | •      |     |          |                     | Circuit      |
|                   |            | 2NO-2NC  | 2                    | NC      | •                 |        |     | _        | HW1K-2PA22          | Protectors   |
|                   |            | (22)     | 3                    | NO      |                   | •      |     |          |                     | Power Supp   |
|                   |            | <u> </u> | 4                    | NC      | •                 |        |     |          |                     | LED Illumin  |

• Each selector key switch is supplied with two keys.

• 15 types of key numbers are available in addition to standard (500) key. See below for details.

• Spring-return type is also available. See below for details.

• Key retained position can be selected. See below for details.

### **Ordering Information**

Example: HW1K-2JPA01-501

 Image: Not specified: 500 (default key)

 501-515: The key number is engraved on the key cylinder.

 Cam code: Blank or J

 Operator position code:

 2: 2-position, maintained

21: 2-position, maintained 21: 2-position, spring return from right

| Maintained (9   | Maintained (90° 2-position) |                                                  |  |  |  |  |  |
|-----------------|-----------------------------|--------------------------------------------------|--|--|--|--|--|
| 1 2             | 2 1                         | Spring return<br>from right<br>$1 \rightarrow 2$ |  |  |  |  |  |
| Cam code: blank | Cam code: J                 | Cam code: blank                                  |  |  |  |  |  |

• For more contact arrangement, see **B-211** to **B-213**.

• Key selector switches with one or three contact blocks contain a dummy block.

• See B-186 for gold-plated silver contacts.

• Turn the operator to each position accurately.

### **Contact Block Mounting Position**



right only) all positions) left only) 0 ി Cam code: blank Key Retained Position B (removable in C (removable in A (removable in left only) all positions) right only) 0 1 2 1 2 Cam code: J

Key Retained Position

B (removable in

①②: Key removal position

A (removable in

• Contract the second s

Note: The key cannot be removed in a spring return position.

Controllers

Operator

Interfaces Sensors

AUTO-ID

Flush Silhouette

ø16

ø30

ΤW

YW

C (removable in

Miniature

Pilot Lights

Controllers

Operator

Sensors

AUTO-ID

ø16

Flush Silhouette

### Key Selector Switches (Pin Tumbler Key)

| Pilot Lights |                   | No. of     | Conta             | Operator Position    |    |    | Cam      | Maintained |      |                |
|--------------|-------------------|------------|-------------------|----------------------|----|----|----------|------------|------|----------------|
| hts          | Shape             | Positions  | Contact Code      | Mounting<br>Position |    |    | 1 0      |            | Code |                |
|              | Pin Tumbler Key   |            | 2NC               | 1                    | NC |    |          |            |      | HW1K-3PA02     |
| APEM         | HW1K              |            | (02)              | 2                    | NC |    |          |            |      | TIWTR-5FA02    |
| Switches &   |                   |            |                   | 1                    | NO | •  |          |            |      | HW1K-3PA22N1   |
| Pilot Lights |                   |            | 2N0-2NC           | 2                    | NO |    |          | •          |      |                |
| ontrol Boxes |                   |            | (22N1)            | 3                    | NC |    |          |            |      |                |
| Emergency    |                   |            |                   | 4                    | NC |    |          |            |      |                |
| op Switches  |                   |            | 4NC<br>(04)       | 1                    | NC |    |          |            |      | HW1K-3PA04     |
| Enabling     |                   |            |                   | 2                    | NC |    |          |            |      |                |
| Switches     |                   | 45°        |                   | 3                    | NC |    |          |            |      |                |
| ety Products |                   | 3-position |                   | 4                    | NC |    |          |            |      |                |
| losion Proof |                   |            |                   | 1                    | NO | •  |          |            |      |                |
|              |                   |            | 2NO-1NC<br>(21N1) | 2                    | NO |    |          | •          | J    | HW1K-3JPA21N1  |
| ninal Blocks |                   |            | (ZINI)<br>★☆      | 3                    | NC |    | •        |            | 5    | TWIN-3JPAZINI  |
| vs & Sockets |                   |            |                   | 4                    | _  | Du | ummy Blo | ck         |      |                |
| Circuit      |                   |            | 4NC               | 1                    | NC |    |          | •          |      |                |
| Protectors   |                   |            |                   | 2                    | NC | •  |          |            | s    | HW1K-3SPA04    |
| ver Supplies | (NC contact only) |            | (04)              | 3                    | NC |    |          | •          |      | 11W11X 331 A04 |
|              |                   |            |                   | 4                    | NC | •  |          |            |      |                |

• On the contact arrangement marked with 🖈 in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

• For models with  $rac{1}{\sim}$ , contacts may overlap when the operator is changed.

• For contact block mounting position, see the figure on the right. Interfaces

· Each key selector switch is supplied with two keys.

• 15 types of key numbers are available in addition to standard (500) key. See below for details.

- Spring-return type is also available. See below for details.
- Key retained position can be selected. See table below details.

**Contact Block Mounting Position** 

# **Ordering Information**



Example: HW1K - 3 S P A 04 - 501

Not specified: 500 (default key) 501-515: The key number is engraved on the key cylinder.

### Cam code: Blank, J, or S

- Operator position code:
- 3: 3-position, maintained
- 31: 3-position, spring return from right
- 32: 3-position, spring return from left
- 33: 3-position, spring return two way
- ΤW YW

| Maintained<br>(45° 3-position) | Sprir                       | ig Return (45° 3-pos       | ition)                   |
|--------------------------------|-----------------------------|----------------------------|--------------------------|
| Maintained                     | Spring Return<br>from Right | Spring Return<br>from Left | Spring Return<br>Two-way |
|                                |                             |                            |                          |
| Cam code:<br>blank, J, or S    |                             | Cam code: blank            |                          |

• For more contact arrangement, see B-211 to B-213.

. Key selector switches with one or three contact blocks contain a dummy block.

- See B-186 for gold-plated silver contacts.
- Turn the operator to each position accurately.

Key removal/retained positions

- A: Removable in all positions
- B: Removable in left and center
- C: Removable in right and center
- D: Removable in center only
- E: Removable in right and left G: Removable in left only
- H: Removable in right only

Note: The key cannot be removed in a spring return position.

|                                      | Key Retained Position (45° 3-position) |                                      |                                 |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------|----------------------------------------|--------------------------------------|---------------------------------|--|--|--|--|--|--|--|--|--|--|--|
| A (removable in all positions)       | B (removable in left and center)       | C (removable in<br>right and center) | D (removable in<br>center only) |  |  |  |  |  |  |  |  |  |  |  |
|                                      |                                        |                                      | 000                             |  |  |  |  |  |  |  |  |  |  |  |
| E (removable in right and left only) | G (removable in left only)             | H (removable in<br>right only)       |                                 |  |  |  |  |  |  |  |  |  |  |  |
|                                      | 0 0                                    |                                      |                                 |  |  |  |  |  |  |  |  |  |  |  |

①①②: Key removal position

OOO: Key retained position

Note: The key cannot be removed in a spring return position.

### Key Selector Switches (Disc Tumbler Key)

|                     |                        |                      |          |          |          |          |                  | Package Quantity: 1            | Pio                          |
|---------------------|------------------------|----------------------|----------|----------|----------|----------|------------------|--------------------------------|------------------------------|
|                     | Disc Tumbler K<br>HW1K | ey                   |          |          |          |          |                  |                                | Pilot Lights                 |
| No. of<br>Positions | (NC cont               | act only)            |          |          |          | <u> </u> |                  |                                | APEM                         |
|                     |                        |                      |          |          |          |          |                  |                                | Switches &<br>Pilot Lights   |
|                     | Conta                  | act Configurat       | ion      | Operator | Position |          | Maintained (90°) | Spring Return from Right (60°) | Control Boxes                |
|                     | Contact Code           | Mounting<br>Position | Contact  | 1        | 2        | Cam Code |                  |                                | Emergency<br>Stop Switches   |
|                     | 1N0                    | 0                    | NO       |          | ٠        |          | HW1K-2A10        | HW1K-21B10                     | Enabling<br>Switches         |
|                     | (10)                   | 2                    | —        | Dummy    | y Block  |          | HWIK-ZAIU        | HWIK-ZIBIU                     | Safety Products              |
|                     | 1NC                    | 0                    | NC       | •        |          |          | HW1K-2A01        | HW1K-21B01                     | Explosion Proof              |
|                     | (01)                   | 2                    |          | Dummy    | y Block  |          |                  |                                |                              |
|                     | 1NO-1NC                | 0                    | NO       |          | •        |          | HW1K-2A11        | HW1K-21B11                     | Terminal Blocks              |
|                     | (11)                   | 0                    | NC       | •        |          |          |                  |                                | Relays & Sockets             |
|                     | 2N0                    | 0                    | NO       |          | •        |          | HW1K-2A20        | HW1K-21B20                     | Circuit<br>Protectors        |
|                     | (20)                   | 2                    | NO       |          | •        |          |                  |                                | Protectors<br>Power Supplies |
|                     | 2NC<br>(02)            | 0                    | NC       | •        |          |          | HW1K-2A02        | HW1K-21B02                     |                              |
| 90°                 | (02)                   | 0                    | NC<br>NO | •        |          |          |                  |                                | LED Illumination             |
| 2-position/<br>60°  |                        | ①<br>②               | NO       |          | •        | -        |                  |                                | Controllers                  |
| 2-position          | 2NO-1NC<br>(21)        | 3                    | NC       | •        | •        |          | HW1K-2A21        | HW1K-21B21                     | Operator                     |
|                     | ()                     | <br>                 |          | Dummy    | v Block  | -        |                  |                                | Interfaces                   |
|                     |                        | 0                    | NC       | •        | y Dioolt |          |                  |                                | Sensors                      |
|                     | 3NC                    | <br>                 | NC       | •        |          | -        |                  |                                | AUTO-ID                      |
|                     | (03)                   | 3                    | NC       | •        |          |          | HW1K-2A03        | HW1K-21B03                     |                              |
|                     |                        | 4                    |          | Dummy    | y Block  | -        |                  |                                |                              |
|                     |                        | 0                    | NO       |          | •        |          |                  |                                | Flush Silhouette             |
|                     | 2N0-2NC                | 2                    | NC       | •        |          |          |                  |                                | ø16                          |
|                     | (22)                   | 3                    | NO       |          | •        |          | HW1K-2A22        | HW1K-21B22                     |                              |
|                     |                        | 4                    | NC       |          |          |          |                  |                                | ø22                          |

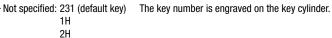
• Each key selector switch is supplied with two keys.

• 3 types of key numbers are available in addition to standard key.

• Key retained position can be selected. See table below for key retained positions.

### **Ordering Information**

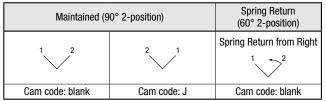
Example: HW1K - 2JA01 - 1H







- Cam code: Blank or J
- Operator position code:
- 2: 2-position, maintained
- 21: 2-position, spring return from right

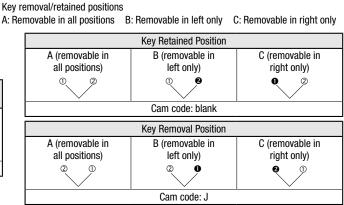


<sup>•</sup> For more contact arrangement, see B-211 to B-213.

. Key selector switches with one or three contact blocks contain a dummy block.

• See B-186 for gold-plated silver contacts.

• Turn the operator to each position accurately.



O : Key removal position

Download catalogs and CAD from http://eu.idec.com/downloads

● ②: Key retained position

Note: The key cannot be removed in a spring return position.



**Contact Block Mounting Position** 

Pilot Lights

Miniature

ø30

ΤW

YW

# ø22 HW Series Key Selector Switches

## Key Selector Switches (Disc Tumbler Key)

| Pilot                      |                     |                      |                      |          |     |                   |      |      |                 |               |               | Package Quantity: 1 |  |
|----------------------------|---------------------|----------------------|----------------------|----------|-----|-------------------|------|------|-----------------|---------------|---------------|---------------------|--|
| Pilot Lights               |                     | Disc Tumbler<br>HW1K | Кеу                  |          |     |                   |      |      |                 |               |               |                     |  |
| APEM                       | No. of<br>Positions | (NC cor              | ntact only)          |          |     |                   |      |      |                 |               |               |                     |  |
| Switches &<br>Pilot Lights |                     | Contact              | t Configurat         | ion      |     | perato<br>Positio |      |      | Maintained      | Spring Return | Spring Return | Spring Return       |  |
| Control Boxes              |                     |                      |                      | I        | r   | USILIU            |      | Cam  | 0               | from Right    | from Left     | Two-way             |  |
| Emergency<br>Stop Switches |                     | Contact Code         | Mounting<br>Position | Contact  | 1   | 0                 | 2    | Code |                 |               |               |                     |  |
| Enabling<br>Switches       |                     | 2N0                  | 0                    | NO       | •   |                   |      |      |                 |               |               |                     |  |
|                            |                     | (20)                 | 2                    | NO       |     |                   | •    | _    | HW1K-3A20       | HW1K-31B20    | HW1K-32C20    | HW1K-33D20          |  |
| Safety Products            |                     | 2NC                  | 0                    | NC       |     |                   |      |      | HW1K-3A02       | HW1K-31B02    | HW1K-32C02    | HW1K-33D02          |  |
| Explosion Proof            |                     | (02)                 | 2                    | NC<br>NO |     |                   |      |      |                 |               |               |                     |  |
|                            |                     | 2N0-2NC              | ①<br>②               | NO       | •   |                   | •    |      |                 |               |               |                     |  |
| Terminal Blocks            |                     | (22N1)               | 3                    | NC       |     |                   | _    | —    | HW1K-3A22N1     | HW1K-31B22N1  | HW1K-32C22N1  | HW1K-33D22N1        |  |
| Relays & Sockets           |                     | ()                   | 4                    | NC       |     |                   |      |      |                 |               |               |                     |  |
|                            |                     |                      | 0                    | NO       | •   |                   |      |      |                 |               |               |                     |  |
| Circuit<br>Protectors      |                     | 4N0                  | 2                    | NO       |     |                   | •    |      | HW1K-3A40       | HW1K-31B40    | HW1K-32C40    | HW1K-33D40          |  |
|                            |                     | (40)                 | 3                    | NO       |     |                   |      |      | HW1K-3A40       | HWIK-31D40    | HWIK-32640    | HW1K-33D40          |  |
| Power Supplies             | 45°                 |                      | 4                    | NO       |     |                   | •    |      |                 |               |               |                     |  |
| LED Illumination           | 3-position          |                      | 0                    | NC       |     |                   |      |      |                 |               |               |                     |  |
|                            |                     | 4NC                  | 2                    | NC<br>NC |     |                   |      | —    | HW1K-3A04       | HW1K-31B04    | HW1K-32C04    | HW1K-33D04          |  |
| Controllers                |                     | (04)                 | 3<br>4               | NC       |     |                   |      |      |                 |               |               |                     |  |
| Operator                   |                     |                      | 0                    | NC       |     |                   | •    |      |                 |               |               |                     |  |
| Interfaces                 |                     | 4NC                  | <br>                 | NC       | •   |                   | •    |      |                 |               |               |                     |  |
| Sensors                    |                     | (04)<br>★            | 3                    | NC       |     |                   | •    | S    | HW1K-3SA04      | -             | —             | —                   |  |
| 36115015                   |                     |                      | 4                    | NC       | •   |                   |      |      |                 |               |               |                     |  |
| AUTO-ID                    |                     | 2NO-1NC              | 0                    | NO       | •   |                   |      |      |                 |               |               |                     |  |
|                            |                     | (21N1)               | 0                    | NO       |     |                   | ٠    | J    | HW1K-3JA21N1    | _             | _             | _                   |  |
|                            |                     | (∠INI)<br>★☆         | 3                    | NC       |     |                   | L    |      | HATTY OUTLET AT |               |               |                     |  |
|                            |                     |                      | 4                    |          | Dun | 1my B             | lock |      |                 |               |               |                     |  |

• On the contact arrangement marked with 🖈 in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact Flush Silhouette block. The rated insulation voltage and the rated thermal current remain unchanged.

Not specified: 231 (default key) The key number is engraved on the key cylinder.

• For models with \*, contacts may overlap when the operator is changed. Each key selector switch is supplied with two keys.

3 types of key numbers are available in addition to standard key.

• Key retained position can be selected. See table below for key retained positions.

### **Contact Block Mounting Position**

### **Ordering Information**

Example: HW1K - <u>3</u> <u>5</u> <u>4</u> 04 - <u>1</u> H



Pilot Lights

ø16

ø30 Miniature

> 2H 3H Cam code: Blank, J, or S

Operator position code:

1H

- 3: 3-position, maintained
- 31: 3-position, spring return from right
- 32: 3-position, spring return from left
- 33: 3-position, spring return two way

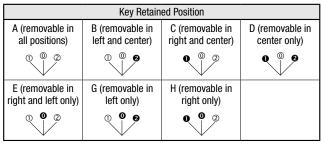
| Maintained (45° 3-position) | Sprir                       | ng Return (45° 3-pos       | ition)                   |
|-----------------------------|-----------------------------|----------------------------|--------------------------|
| Maintained                  | Spring Return<br>from Right | Spring Return<br>from Left | Spring Return<br>Two-way |
|                             |                             |                            |                          |
| Cam code:<br>blank, J, or S |                             | Cam code: blank            |                          |

- For more contact arrangement, see B-211 to B-213.
- . Key selector switches with one or three contact blocks contain a dummy block.
- See B-186 for gold-plated silver contacts.
- Turn the operator to each position accurately.



- A: Removable in all positions
- B: Removable in left and center
- C: Removable in right and center
- D: Removable in center only
- E: Removable in right and left G: Removable in left only H: Removable in right only

Note: The key cannot be removed in a spring return position.



①①②: Key removal position

```
O O O: Key retained position
```

Note: The key cannot be removed in a spring return position.

LED

| No. of<br>Positions         Contact Configuration         Operation<br>Position         Multifiered (90°)         Spring return<br>(10°)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | LED           |             | 00100        |            |          |       |          |                  |                      |                     |                                              | Package Qu   | antity: 1 | Pilo           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|--------------|------------|----------|-------|----------|------------------|----------------------|---------------------|----------------------------------------------|--------------|-----------|----------------|
| Alternative         Contact Configuration         Operating<br>Voltage         Maintained (90°)         Spring return<br>from right (90°)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |             | rator        |            |          |       |          |                  |                      |                     |                                              |              |           | & Pilot Lights |
| Contact Configuration         Operation<br>Position         Maintained<br>Operation<br>Position         Maintained<br>(90°)         Spring return<br>from right (80°)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |               |             |              |            |          |       |          |                  |                      |                     |                                              |              |           |                |
| Solution         Contact         Mounting<br>Code         Contact         No         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2         2 <th2< th="">         2         2         &lt;</th2<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               | Contac      | ct Configura | ation      |          |       |          | Operating        | Maintained (90°)     |                     |                                              |              | Color     | Pilot Lights   |
| go-<br>sposition         INO-INC         INO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |             |              | Contact    | 1        | 2     |          |                  | 1 2                  | 1 2                 | _                                            | —            |           |                |
| 90°<br>2-position       110°-110°<br>(11)       Q       NC       100/110VAC       HW1F-2111H2*       HW1F-211H2*       HW1F-2111H2*       HW1F-2111H2*       HW1F-2111H2*       HW1F-2111H2*       HW1F-2111H2*       HW1F-2111H2*       HW1F-211H2*       HW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |             | 1            | NO         |          | •     |          | 24V AC/DC        | HW1F-211Q4*          | HW1F-2111Q4*        |                                              |              |           | Enabling       |
| Contact         Online         24VAC/DC         HW1F-211M2+         HW1F-211M2+         HW1F-211M2+         HW1F-210M2+         HW1F-310M2+         HW1F-310M2+         HW1F-310M2+         HW1F-320M2+         HW1F-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ۹Uo           |             |              |            |          |       |          |                  |                      |                     |                                              |              |           |                |
| B0°<br>2-position         D         O         AC         24V AC/DC         HWIF-220Q4+<br>HWIF-2120H2+<br>DO/220V AC         HWIF-2120Q4+<br>HWIF-2120M2+<br>HWIF-2120M2+<br>HWIF-2120M2+<br>HWIF-2120M2+<br>HWIF-2120M2+<br>HWIF-2120M2+<br>HWIF-2120M2+<br>HWIF-2120M2+<br>HWIF-2120M2+<br>HWIF-2120M2+<br>HWIF-2120M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-2122M2+<br>HWIF-222M2+<br>HWIF-222M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-320M2+<br>HWIF-3220M2+<br>HWIF-3220M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-320M2+<br>HWIF-3                                                                                                                | 2-position/   | (11)        |              |            |          |       |          |                  |                      |                     |                                              |              | _         | Safety Produc  |
| 2:position         2NO         Q         NO         100/110V AC         HW1F-220H2*         HW1F-2120H2*         HW1F-3120H2*         HW1F-320H2*         <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 60°           |             | 0            | NO         |          |       |          |                  |                      |                     |                                              |              |           | Explosion Pro  |
| 45°<br>3-position         NO         200/220V AC         HW1F-22204+<br>HW1F-22224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224+<br>HW1F-21224                                           | 2-position    |             |              |            |          |       |          |                  | -                    |                     |                                              |              |           |                |
| 45°         3.         0.0         24V AC/DC         HWIF-222/4*         HWIF-2122/4*         HWIF-3220/4*         HWIF-3220/4* <td></td> <td>(20)</td> <td></td> <td>Α</td> <td>Terminal Bloc</td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               | (20)        |              |            |          |       |          |                  |                      |                     |                                              |              | Α         | Terminal Bloc  |
| 2NO-2NC         2         NC         100/110V AC         HW1F-222H2*         HW1F-2122H2*         PW         PW           (2)         0         NC         0         200/220V AC         HW1F-222H2*         HW1F-2122H2*         PW         PW         PW         PW         PW         PW         Poston                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               |             | 0            | NO         |          |       |          |                  | -                    |                     |                                              |              | S         | Relays & Sock  |
| Image: specify a color code in place of + in the Part No. R red), G (green), Y (pellow), A (amber), S (plue), PW (pure white)         Spring return<br>from right<br>from ri |               | 2N0-2NC     |              |            |          |       |          |                  |                      |                     |                                              |              | PW        |                |
| Image: Second control contenter contratin contrel control contrel control conte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |               |             |              |            |          | •     |          |                  |                      |                     |                                              |              |           |                |
| Contact Configuration         Operator<br>Position         Operating<br>Voltage         Maintained<br>voltage         Spring return<br>from right                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               | l           |              |            |          |       |          |                  | -                    | -                   |                                              |              |           | Power Suppli   |
| Contact<br>Code         Mounting<br>Position         Contact<br>0         1         0         2         Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |               | Contac      | ct Configura | ation      |          |       |          | Operating        | Maintained           |                     |                                              |              | Color     | LED Illuminati |
| 45°<br>3-position         0         0         24V AC/DC         HW1F-32004*         HW1F-322004*         HW1F-332004*         HW1F-330020*         HW1F-330020*         HW1F-330020*         HW1F-330020*         HW1F-3320014*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |             |              | Contact    | 1        | 0     | 2        |                  |                      |                     |                                              |              |           |                |
| 45°<br>3-position         0         NO         0         100/110V AC         HW1F-320H2*         HW1F-3120H2*         HW1F-3220H2*         HW1F-3320H2*         HW1F-3320H2*         HW1F-320M2*         HW1F-320QA*         HW1F-3322N1Q*         HW1F-3322N1Q*         HW1F-3322N1Q*         HW1F-3322N1Q*         HW1F-3322N1Q*         HW1F-332QAA*         HW1F-332QAA*         HW1F-332QAA*         HW1F-332QAA*         HW1F-332QAA*         HW1F-332QAA* <th< td=""><td></td><td></td><td></td><td>NO</td><td></td><td></td><td></td><td>24V AC/DC</td><td>HW1F-32004*</td><td>HW/1F-312004*</td><td>HW/1F-322004*</td><td>HW1E-332004*</td><td></td><td></td></th<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |             |              | NO         |          |       |          | 24V AC/DC        | HW1F-32004*          | HW/1F-312004*       | HW/1F-322004*                                | HW1E-332004* |           |                |
| 45°       3. Position       0       NC       200/220V AC       HW1F-320M2*       HW1F-3120M2*       HW1F-3202M2*       HW1F-3302M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-33400A2*       HW1F-33400A2*       HW1F-33400A2*       HW1F-33400A2*       HW1F-33400A2*       HW1F-3340M2*       MO       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               |             |              |            |          |       | •        |                  |                      |                     |                                              |              |           | Sensors        |
| 45°<br>3-position         0         NC         24V AC/DC         HWIF-302Q4*         HWIF-3102Q4*         HWIF-3302Q4*         HWIF-3304Q4*         HWIF-3304Q4*         HWIF-3304Q4*         HWIF-3304Q4*         HWIF-3304Q4*         HWIF-3304Q4*         HWIF-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               | (20)        |              |            |          |       | ~        |                  |                      |                     |                                              |              |           |                |
| 45°       2NC       2       NC       100/110V AC       HW1F-302H2*       HW1F-3202H2*       HW1F-3302H2*       HW1F-3302H2*       HW1F-3302M2*       HW1F-3302M12*       HW1F-3302M12*       HW1F-3302M12*       HW1F-3302M1*       HW1F-3302M2*       HW1F-3304M2*       HW1F-3304                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               | <br>        | 0            | NC         |          |       | -        |                  |                      |                     |                                              |              |           | AUTO-ID        |
| 45°       3-position       0       N0       200/220V AC       HW1F-302M2*       HW1F-3102M2*       HW1F-3302M2*       HW1F-3322N104*       HW1F-3322N104*       HW1F-3322N104*       HW1F-3322N104*       HW1F-3322N104*       HW1F-3322N104*       HW1F-3322N112*       HW1F-3322N112                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |               |             |              |            |          |       |          |                  |                      |                     |                                              |              |           |                |
| 45°       3-position       0       N0       24V AC/DC       HW1F-322N1Q4*       HW1F-3222N1Q4*       HW1F-3322N1Q4*       HW1F-3322N1Q4*       HW1F-3322N1Q4*       HW1F-3322N1Q4*       HW1F-3322N1Q4*       HW1F-3322N1H2*       HW1F-3324DQ4*       HW1F-3324DQ4*       HW1F-3324DQ4*       HW1F-3324DQ2*       HW1F-3324DQ2* <td></td> <td>(02)</td> <td>~</td> <td></td> <td><u> </u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |               | (02)        | ~            |            | <u> </u> |       |          |                  |                      |                     |                                              |              |           |                |
| 3-position       2N0-2NC <sup>©</sup> <sup>O</sup> <sup>NO</sup> <sup>O</sup>                                                                                                                                                                                                                                                                                                                                                                                             | 45°           |             | 0            | NO         |          |       |          |                  |                      |                     |                                              |              |           | Flush Cilbou   |
| (22N1)       3       NC       200/220V AC       HW1F-322N1M2*       HW1F-3222N1M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-3322N1M2*       HW1F-3320N1M2*       HW1F-3320N1M2*       HW1F-3320N1M2*       HW1F-3320N1M2*       HW1F-3320N1M2*       HW1F-3320N1M2*       HW1F-3340Q4*       HW1F-33240Q4*       HW1F-3340Q4*       HW1F-3340Q4*       HW1F-3340Q4*       HW1F-3340Q4*       HW1F-3340H2*       HW1F-3340H2*       HW1F-3340H2*       HW1F-3340H2*       HW1F-3340H2*       HW1F-3340H2*       HW1F-3340H2*       HW1F-3304Q4*       HW1F-3304H2*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -             | 2NO-2NC     |              |            |          |       | •        |                  |                      |                     |                                              |              |           | HUSH SIIIIOU   |
| Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Second construction of the part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |             |              |            |          |       |          |                  |                      |                     |                                              |              |           | ø16            |
| Image: No         Image: No <thimage: no<="" th="">         Image: No         <th< td=""><td></td><td>l</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td> </td><td></td><td>A</td><td></td></th<></thimage:>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               | l           |              |            |          |       |          |                  |                      |                     |                                              |              | A         |                |
| 4N0       2       N0       0       100/110V AC       HW1F-340H2*       HW1F-3140H2*       HW1F-3340H2*       HW1F-3304H2*       HW1F-3304H2*       HW1F-3304Q4*       HW1F-3304Q4*       HW1F-3304Q4*       HW1F-3304H2*       HW1F-3304H2* </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>24V AC/DC</td> <td>HW1F-340Q4*</td> <td>HW1F-3140Q4*</td> <td>HW1F-3240Q4*</td> <td>HW1F-3340Q4*</td> <td></td> <td>022</td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |             |              |            |          |       |          | 24V AC/DC        | HW1F-340Q4*          | HW1F-3140Q4*        | HW1F-3240Q4*                                 | HW1F-3340Q4* |           | 022            |
| Image: No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               | 4N0         |              |            |          |       | •        |                  |                      |                     |                                              |              | PW        | ø30            |
| Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       Image: Specify a color code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |             |              |            |          |       |          |                  |                      |                     |                                              | HW1F-3340M2* |           | Miniature      |
| Image: Prior Lights         4NC         (04)         Image: Prior Lights                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               | l           |              |            |          |       | •        |                  |                      |                     |                                              |              |           | ΜΙΠιαιωτε      |
| 4NC<br>(04) <sup>(2)</sup> NC<br><sup>(04)</sup> <sup>(04)</sup>                                                                                                                                                                                                                                                                                                                                                                                                             |               | i           |              |            |          |       |          | 24V AC/DC        | HW1F-304Q4*          | HW1F-3104Q4*        | HW1F-3204Q4*                                 | HW1F-3304Q4* |           | Pilot Lights   |
| (04)       ③       NC       ●       200/220V AC       HW1F-304M2*       HW1F-3104M2*       HW1F-3204M2*       HW1F-3304M2*         • Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •       •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               | 4NC         |              |            |          |       |          |                  |                      |                     |                                              |              |           |                |
| Image: Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)         • Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)         • See B-186 for other operating voltage such as 6V AC/DC and 12V AC/DC.         • Illuminated selector switches of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |             |              |            |          |       |          |                  |                      |                     |                                              |              |           |                |
| Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)     See B-186 for other operating voltage such as 6V AC/DC and 12V AC/DC.     Illuminated selector switches of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               | l           |              |            |          |       |          |                  |                      |                     |                                              |              |           |                |
| See B-186 for other operating voltage such as 6V AC/DC and 12V AC/DC.     Illuminated selector switches of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Specify a C   |             |              |            | vrt Nr   | . ⊑   | rod)     | C (green) Y (yel | low) A (amher) S (hl | ua) PW (nure white) | <u>.                                    </u> | ,            |           | HW             |
| •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | See B-186     | for other o | perating vo  | ltage sucl | h as (   | 6V A0 | C/DC     | and 12V AC/DC    |                      |                     |                                              |              |           |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | , IIIUMInateu | Selecion Sy | VITCHES UI 4 | 24V Au/Di  | υ OΓ ι   | Delow | 1 \\\\\\ | n 2 or /i comara | blocke nave a menu   |                     |                                              |              |           |                |

• See B-186 for gold-plated silver contacts.

• Turn the operator to each position accurately.

• See B-186 for how to specify units without LED lamps.

• When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

### **Contact Block Mounting Position**

Full Voltage 4 Adapter 3 1 1

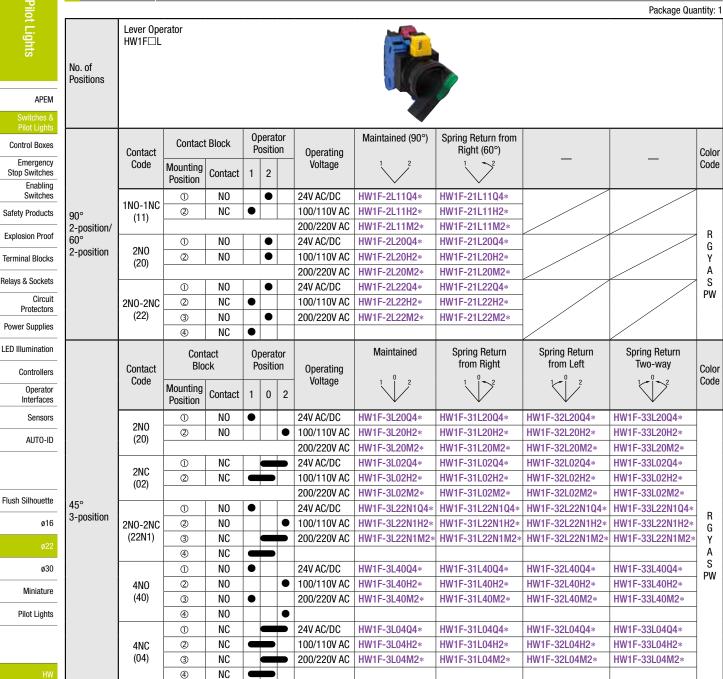
Illuminated (full voltage) Illuminated (transformer)

Switches

▲ Download catalogs and CAD from http://eu.idec.com/downloads

LED Selector Sw

Selector Switches (Lever Operator)



• Specify a color code in place of \* in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

• See B-186 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.

• Illuminated selector switches of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.

• See B-211 to B-213 for other contact arrangements.

• See B-186 for gold-plated silver contacts.

. Turn the operator to each position accurately.

• See B-186 for how to specify units without LED lamps.

 When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.
 Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

### **Contact Block Mounting Position**

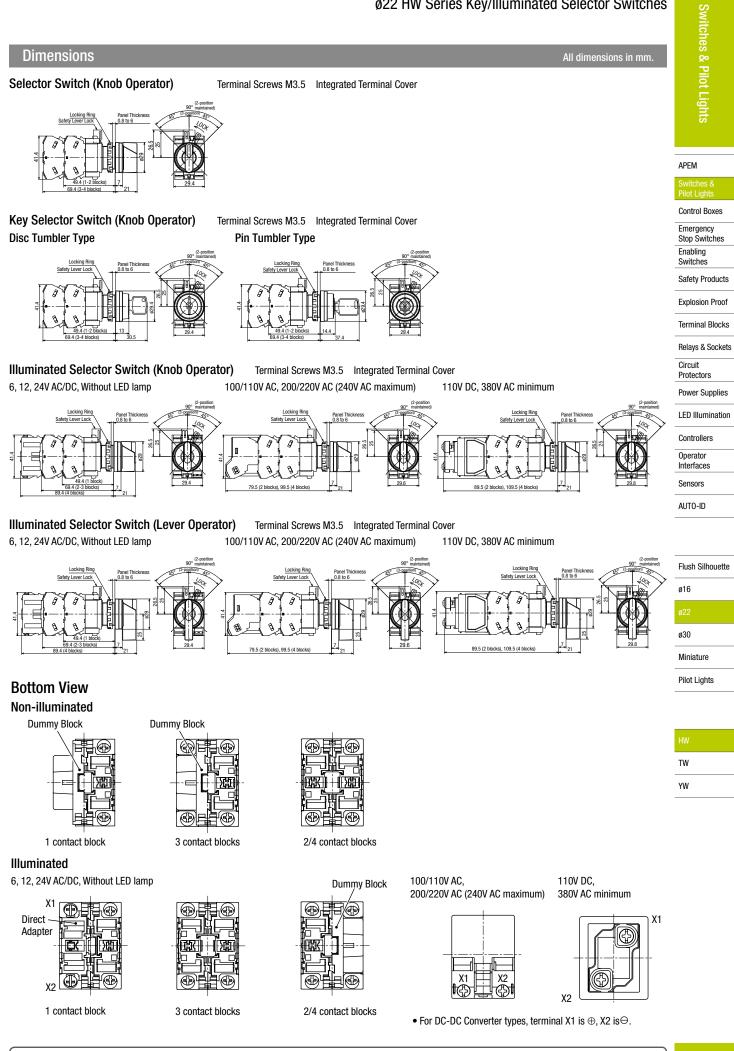


Illuminated (full voltage)

Illuminated (transformer)

ΤW

YW



# Selector Switch Contact Arrangement

90° 2-position (Spring Return 60° 2-position) < Maintained/Spring Return from Right>

| ilot Lights                |                 | (oping)    |          | Operator Operation and Circuit Availability |                 |        |                |                 |            |      |                |                |                 |                   |              |
|----------------------------|-----------------|------------|----------|---------------------------------------------|-----------------|--------|----------------|-----------------|------------|------|----------------|----------------|-----------------|-------------------|--------------|
| Ligh                       |                 |            |          |                                             | Mainta          |        |                |                 | from Right |      |                |                | Oper            | ator Availability |              |
| Its                        |                 | Contact    | Block    |                                             |                 | 2      |                | 1               | >2         |      |                |                | Open            |                   |              |
|                            | Contact         |            |          | Knob/ Key Illuminated                       |                 |        | Knob/<br>Lever | Key Illuminated |            | Cam  |                |                |                 | Illuminated       |              |
| APEM                       | Code            |            |          | Lever                                       |                 |        | Lever          |                 |            | Code | ., .,          |                |                 |                   |              |
| Switches & Pilot Lights    |                 | Mounting   | Contact  |                                             | Opera<br>Positi | on     |                | Opera<br>Positi | ion        |      | Knob/<br>Lever | Pin<br>Tumbler | Disc<br>Tumbler | 6, 12, 24V AC/DC  | 100, 200V AC |
| Control Boxes              |                 | Position   | CUIIIACI |                                             |                 | 2<br>Ø |                |                 | 2<br>Ø     |      |                |                |                 | 0, 12, 24V A0/D0  | 100, 200V AG |
| Emergency<br>Stop Switches | 1N0             | 1          | NO       |                                             | `               |        | <u> </u>       |                 |            |      |                |                |                 |                   |              |
| Enabling                   | (10)            | 2          |          | D                                           | ummy            | Block  | D              | ummy            | Block      | -    | ×              | ×              | ×               | ×                 | -            |
| Switches                   | 1NC             | 1          | NC       | •                                           |                 |        | •              |                 |            |      | ×              | ×              | ×               | ×                 |              |
| Safety Products            | (01)            | 2          |          | D                                           | ummy            |        | D              | ummy            |            |      | ~              | ~              | ~               | ~                 |              |
| Explosion Proof            | 1NO-1NC         | 1 2        | NO<br>NC | •                                           |                 | •      | •              |                 | •          |      | ×              | ×              | ×               | ×                 | ×            |
| Tamainal Dia dia           | (11)<br>2N0     | 1          | NO       | -                                           |                 | •      | •              |                 | •          |      |                |                |                 |                   |              |
| Terminal Blocks            | (20)            | 2          | NO       |                                             |                 | •      |                |                 | •          | -    | ×              | ×              | ×               | ×                 | ×            |
| Relays & Sockets           | 2NC             | 1          | NC       | •                                           |                 |        | •              |                 | 1          |      | ×              | ×              | ×               | ×                 | ×            |
| Circuit                    | (02)            | 2          | NC       | •                                           |                 |        | •              |                 |            |      |                |                | <u>^</u>        | ^                 | ^            |
| Protectors                 |                 | 1          | NO       |                                             |                 | •      | -              |                 | •          |      |                |                |                 |                   |              |
| Power Supplies             | 2NO-2NC<br>(22) | 2          | NC<br>NO | •                                           |                 | •      | •              |                 | •          |      | ×              | ×              | ×               | ×                 | ×            |
| LED Illumination           | (22)            | (4)        | NC       | •                                           |                 | •      | •              |                 | •          |      |                |                |                 |                   |              |
|                            |                 | 1          | NC       | •                                           |                 | -      | •              |                 |            |      |                |                |                 |                   |              |
| Controllers                | 3N0-1NC         | 2          | NO       |                                             |                 | •      |                |                 | •          |      | x              | ×              | ×               | ×                 | ×            |
| Operator                   | (31N1)          | 3          | NO       |                                             |                 | •      |                |                 | •          |      |                |                |                 |                   |              |
| Interfaces                 |                 | (4)<br>(1) | NO<br>NO |                                             |                 | -      |                |                 |            |      |                |                |                 |                   |              |
| Sensors                    | 4N0             | 2          | NO       |                                             |                 | •      |                |                 |            |      |                |                |                 |                   |              |
| AUTO-ID                    | (40)            | 3          | NO       |                                             |                 | •      |                |                 | •          | —    | ×              | ×              | ×               | ×                 | ×            |
|                            |                 | 4          | NO       |                                             |                 | ٠      |                |                 | •          |      |                |                |                 |                   |              |
|                            | 1NO-1NC ★       | 1          | EM       |                                             | -               |        |                |                 |            |      | ×              | ×              | ×               | ×                 | ×            |
|                            | (7S)            | 2          | LB       |                                             |                 | -      |                |                 |            |      |                |                |                 |                   |              |
| Flush Silhouette           | 2010            | 1 2        | NC<br>NC | •                                           |                 |        | •              |                 |            |      |                |                |                 |                   |              |
|                            | 3NC<br>(03)     | 3          | NC       | •                                           |                 |        | •              |                 |            | —    | ×              | ×              | ×               | ×                 | -            |
| ø16                        | (00)            | 4          |          | D                                           | ummy            | Block  | D              | ummy            | Block      |      |                |                |                 |                   |              |
| ø22                        |                 | 1          | NO       |                                             |                 | •      |                |                 | •          |      |                |                |                 |                   |              |
| ø30                        | 2NO-1NC         | 2          | NC       | •                                           |                 | _      | •              |                 | _          | _    | x              | ×              | ×               | ×                 | _            |
| 000                        | (21)            | 3<br>4     | NO       |                                             | ummir           | Plook  |                | ummy            | Plook      |      |                |                |                 |                   |              |
| Miniature                  |                 | 4          |          |                                             | ummy            | DIUCK  |                | unny            | DIUCK      |      |                |                |                 |                   |              |

Pilot Lights

TW YW

### 90° 2-position Cam Reversed (Maintained)

| ſ   |         |                      |         |            | nd Circuit Availability |   | Operator Availability |         |         |                  |              |  |  |
|-----|---------|----------------------|---------|------------|-------------------------|---|-----------------------|---------|---------|------------------|--------------|--|--|
|     |         |                      |         | Maint      | ained                   |   |                       |         |         |                  |              |  |  |
|     | Contact | Contact              | Block   | 2          | Cam                     |   |                       |         |         |                  |              |  |  |
| '   | Code    |                      |         | Knob/Key/I | Knob/Key/Illuminated    |   |                       |         |         | Illumii          | nated        |  |  |
| _   |         |                      |         | Operator   | Position                |   | Knob/                 | Pin     | Disc    |                  |              |  |  |
| _   |         | Mounting<br>Position | Contact | 2 1        |                         |   | Lever                 | Tumbler | Tumbler | 6, 12, 24V AC/DC | 100, 200V AC |  |  |
|     |         | roonton              |         |            | Ø                       |   |                       |         |         |                  |              |  |  |
| - [ | 2NC     | 1                    | NC      |            | •                       |   | ×                     | ×       | ×       | ×                | ×            |  |  |
|     | (02)    | 2                    | NC      |            | •                       | J | ^                     |         | ^       | ^                | ^            |  |  |
|     |         | 1                    | NC      |            | •                       |   |                       |         |         |                  |              |  |  |
|     | 3NC     | 2                    | NC      |            | •                       |   | ×                     | ×       | ×       | ×                |              |  |  |
|     | (03)    | 3                    | NC      |            | •                       | J |                       |         | ~       | ~                |              |  |  |
|     |         | 4                    | —       | Dumm       | y Block                 |   |                       |         |         |                  |              |  |  |

• On the contact arrangement marked with  $\star$  in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

### 45° 3-position <Maintained>

|                     |                      | itact<br>ock |     | Operato<br>Positior |     | Cir            | cuit Ava | ilability   |      |                |                | ilot Lights     |                  |              |                 |
|---------------------|----------------------|--------------|-----|---------------------|-----|----------------|----------|-------------|------|----------------|----------------|-----------------|------------------|--------------|-----------------|
| Contact<br>Code     | Manualian            |              | 1   | 0                   | 2   | Karah (        |          |             | Cam  | Karah (        | Dia            | Diag            | Illumi           | nated        | Inte            |
| Code                | Mounting<br>Position | Contact      |     |                     | Ø   | Knob/<br>Lever | Кеу      | Illuminated | Code | Knob/<br>Lever | Pin<br>Tumbler | Disc<br>Tumbler | 6, 12, 24V AC/DC | 100, 200V AC |                 |
| 1N0-1NC ★           | 1                    | NC           |     |                     |     | ×              | ×        | ×           |      | ×              | ×              | ×               | ×                | ×            | APEM            |
| (11N1) <sup>☆</sup> | 2                    | NO           |     |                     | •   |                | ~        | ~           | J    | ^              |                |                 | ~                |              |                 |
| *                   | 1                    | NC           |     |                     | •   |                |          |             |      |                |                |                 |                  |              | Switches &      |
| 4NC                 | 2                    | NC           |     |                     |     | ×              | ×        | ×           | S    | ×              | ×              | ×               | ×                | ×            | Pilot Lights    |
| (04)                | 3                    | NC           |     |                     | •   | 1 ^            | ~        | ^           | 3    | ^              |                | ^               | ~                | ^            | Control Boxes   |
|                     | 4                    | NC           |     |                     |     |                |          |             |      |                |                |                 |                  |              | Emergency       |
| 2NO-1NC             | 1                    | NO           |     |                     |     |                |          |             |      |                |                |                 |                  |              | Stop Switches   |
|                     | 2                    | NO           |     |                     | •   | ×              | ×        | ×           |      | ×              | ×              | ×               | ×                |              | Enabling        |
| (21N1)              | 3                    | NC           |     | •                   |     |                | ^        | ^           | J    | ^              |                | ^               | ^                |              | Switches        |
|                     | 4                    | —            | Dur | nmy Bl              | ock |                |          |             |      |                |                |                 |                  |              | Safety Products |

### 45° 3-position

### <Maintained/Spring Return from Right/Spring Return from Left/Spring Return Two-way>

|                   | Con<br>Blo |          |   | )perato<br>Positior |   | Cir   | cuit Ava | ilability   |      |       |         | Opera   | ator Availability |              | Relays & Sock          |
|-------------------|------------|----------|---|---------------------|---|-------|----------|-------------|------|-------|---------|---------|-------------------|--------------|------------------------|
| Contact           |            |          |   |                     |   |       |          |             | Cam  |       |         |         | Illumi            | nated        |                        |
| Code              | Mounting   | Contact  | 1 | 0                   | 2 | Knob/ | Key      | Illuminated | Code | Knob/ | Pin     | Disc    |                   |              | Power Suppli           |
|                   | Position   | oonaor   |   |                     | Ø | Lever | noy      |             |      | Lever | Tumbler | Tumbler | 6, 12, 24V AC/DC  | 100, 200V AC | LED Illuminati         |
| 1NO-1NC           | 1          | NO       | • |                     |   | ×     | ×        | ×           |      | ×     | ×       | ×       | ×                 | ×            | Controllers            |
| (11)              | 2          | NC       |   |                     |   |       | ^        | ^           | _    | ^     | ^       | ^       | ^                 | ^            | Operator<br>Interfaces |
| 1NO-1NC<br>(11N1) | 1          | NC<br>NO |   |                     |   | ×     | ×        | ×           | —    | ×     | ×       | ×       | ×                 | ×            | Sensors                |
| 2N0               | 1          | NO       | • |                     |   | ×     | ×        | ×           |      | ×     | ×       | x       | ×                 | ×            |                        |
| (20)              | 2          | NO       |   |                     | • |       | ~        | ^           |      | ^     | ^       | ^       | ~                 | ~            | AUTO-ID                |
| 2NC               | 1          | NC<br>NC |   |                     |   | ×     | ×        | ×           | _    | ×     | ×       | ×       | ×                 | ×            |                        |
| (02)              | 1          | NO       |   |                     |   |       |          |             |      |       |         |         |                   |              |                        |
| 2N0-2NC           | 2          | NO       | - |                     | • |       |          |             |      |       |         |         |                   |              | Fluck Oilleau          |
| (22N1)            | 3          | NC       |   |                     |   | ×     | ×        | ×           | —    | ×     | ×       | ×       | ×                 | ×            | Flush Silhoue          |
|                   | 4          | NC       |   |                     |   |       |          |             |      |       |         |         |                   |              | ø16                    |
|                   | 1          | NC       |   |                     |   |       |          |             |      |       |         |         |                   |              | -00                    |
| 2NO-2NC           | 2          | NO       |   |                     | • | ×     | ×        | ×           | _    | ×     | ×       | ×       | ×                 | ×            | ø22                    |
| (22N2)            | 3<br>4     | NC<br>NO |   |                     |   |       |          |             |      |       |         |         |                   |              | ø30                    |
|                   | (†)        | NO       |   |                     | - |       |          |             |      |       |         |         |                   |              | Miniature              |
| 4N0               | 2          | NO       | - |                     | • |       |          |             |      |       |         |         |                   |              | Williature             |
| (40)              | 3          | NO       | • |                     |   | ×     | ×        | ×           | _    | ×     | ×       | ×       | ×                 | ×            | Pilot Lights           |
|                   | 4          | NO       |   |                     |   |       |          |             |      |       |         |         |                   |              |                        |
|                   | 1          | NC       |   |                     | Î |       |          |             |      |       |         |         |                   |              |                        |
| 4NC               | 2          | NC       |   |                     |   | ×     | ×        | ×           |      | ×     | ×       | ×       | ×                 | ×            |                        |
| (04)              | 3          | NC       |   |                     |   |       |          |             |      |       |         |         |                   |              | HW                     |
|                   | 4          | NC       |   |                     |   |       |          |             |      |       |         |         |                   |              | HW                     |

• On the contact arrangement marked with ★ in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

 $\bullet$  For models with  $\precsim,$  contacts may overlap when the operator is changed.

YW

Explosion Proof

Terminal Blocks

## Ø22 HW Series Selector Switch Contact Arrangement Chart

Safety Explosi Terminal Blocks

AUTO-ID

Flush Silhouette

## 45° 4-position

| <u> 20</u>                 |                 |                      |         |   |          |          |   |               |             |
|----------------------------|-----------------|----------------------|---------|---|----------|----------|---|---------------|-------------|
| <u>.</u>                   |                 |                      |         |   | Operator | Position |   | Maintained    |             |
| & Pilot Lights             | Contact<br>Code | Codo                 |         | 1 | 2        | 3        | 4 |               | Cam<br>Code |
| 5                          |                 | Mounting<br>Position | Contact | 8 |          | Ø        | ۹ | Knob Operator |             |
|                            | *               | 1                    | NO      | • |          |          |   |               |             |
| APEM                       | 1N0-2NC 🛱       | 2                    | NC      |   |          |          |   | ×             | _           |
| Switches &                 | (12)            | 3                    | NC      |   |          | •        |   |               | _           |
| Pilot Lights               | . ,             | 4                    | _       |   | Dumm     | y Block  |   |               |             |
| Control Boxes              |                 | 1                    | LB      |   |          |          |   |               |             |
|                            | 1N0-3NC         | 2                    | NC      |   | •        |          |   | ×             |             |
| Emergency<br>Stop Switches | (13N6)          | 3                    | NC      |   |          |          |   | ~             | _           |
| Enabling                   |                 | 4                    | NO      |   |          |          | • |               |             |
| Switches                   | *               | 1                    | NO      |   |          |          |   |               |             |
| Safety Products            | 2N0-2NC 🛱       | 2                    | NC      |   | •        |          |   | ×             | _           |
|                            | (22N3)          | 3                    | NC      |   |          | •        |   | <u>^</u>      | _           |
| Explosion Proof            | , , ,           | 4                    | NO      |   |          |          | • |               |             |
|                            |                 |                      |         |   |          |          |   |               |             |

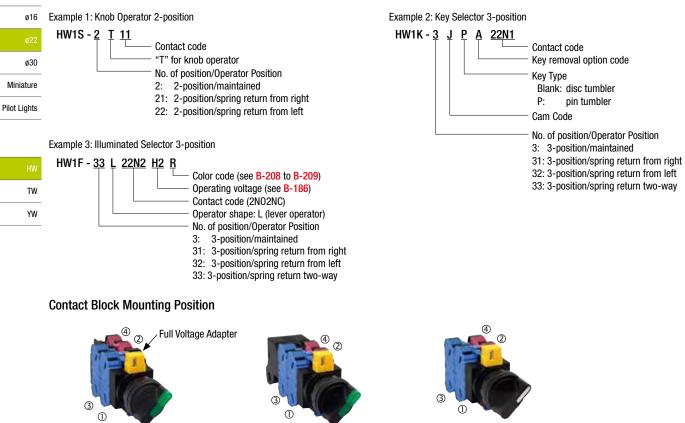
#### 30° 5-position

| Relays & Sockets      | 00 | J-position |                      |         |   |    |   |            |   |               |      |
|-----------------------|----|------------|----------------------|---------|---|----|---|------------|---|---------------|------|
|                       |    |            |                      |         |   | Ор |   | Maintained |   |               |      |
| Circuit<br>Protectors |    | Contact    | Contac               | t Block | 1 | 2  | 0 | 4          | 5 | 2 4           | Cam  |
| Power Supplies        |    | Code       |                      |         |   | ®  | 3 | 4<br>Ø     | 3 | 15            | Code |
| LED Illumination      |    |            | Mounting<br>Position | Contact | 0 |    | Ŵ | Ø          | Ø | Knob Operator |      |
| Controllers           |    | *          | 1                    | NO      |   |    |   |            |   |               |      |
| Operator              |    | 2NO-2NC ☆  | 2                    | NC      |   |    |   |            |   | ×             |      |
| Interfaces            |    | (22N3)     | 3                    | NC      |   |    |   | •          |   | ^             | _    |
| Sensors               |    | . ,        | 4                    | NO      |   |    |   |            | • |               |      |

• On the contact arrangement marked with 🖈 in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

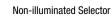
• For models with  $rac{l}{\sim}$ , contacts may overlap when the operator is changed.

## Part No. Development



Illuminated Selector (Full Voltage)

Illuminated Selector (Transformer)



**Switches & Pilot Lights** 

#### **Pushbutton Selectors** Package Quantity: 1 $\bigcirc$ Contact Block **Ring Operator** Circuit Contact Button Shape Category Code Color Code Mounting Contact Normal Depressed Normal Depressed Part No. Position 1 NO • • 1N0-1NC HW1R HW1R-2A11\* (11)2 NC • APEM 1 NO • • 2N0 HW1R-2A20\* (20) 2 NO • А 1 NO • • Control Boxes 2 NC • 2NO-2NC Emergency HW1R-2A22\* (22) 3 NO • • Stop Switches Enabling (4) NC . Switches 1 NO • 2N0 HW1R-2D20\* Safety Products (20) 2 NO 1 NO Explosion Proof D 2 NO 2N0-2NC • HW1R-2D22N1\* Terminal Blocks (22N1) 3 NC В 4 NC Relays & Sockets . G \* 1 NO R Circuit Y S Protectors 2N0-2NC 2 NO Е HW1R-2E22N1\* (22N1) 3 NC Power Supplies W 4 NC LED Illumination 1 NO • ★ ☆ 2NO-2NC 2 NO • Controllers F HW1R-2F22N1\* (22N1) 3 NC • Operator 4 • Interfaces NC 1 ★ ☆ NC . Sensors 2 2N0-2NC NO • • Ν HW1R-2N22N2\* AUTO-ID (22N2) 3 NC • 4 NO • • 1 NO • . 2NO-2NC 2 NO • • Т HW1R-2T22N1\* Blocked Flush Silhouette (22N1) 3 NC • 4 NC • ø16

• Specify a button color code in place of \* in the Part No. B (black), G (green), R (red), Y (yellow), S (blue), W (white)

• When operating the pushbutton selector, do not turn the operator ring or the lock lever while the button is depressed. Otherwise the pushbutton selector may be damaged.

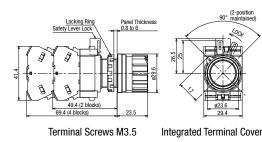
• On the contact arrangement marked page with 🖈 in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

• For models with  $\dot{m}$ , contacts may overlap when the operator is changed.

## Dimensions

#### All dimensions in mm.





• See B-210 for the bottom view.

|                      |                |        |      |        |      |                 | HW |
|----------------------|----------------|--------|------|--------|------|-----------------|----|
|                      | <sup>(4)</sup> |        |      |        |      |                 | TW |
|                      | 1              |        |      |        |      |                 | YW |
| 3                    |                | )      |      |        |      |                 |    |
| v                    |                | Le     | ft   | Rig    | ht   | ← Ring Position |    |
| Mounting<br>Position | Contact        | Normal | Push | Normal | Push | ← Button        |    |
| 1                    | NO             |        |      |        | •    |                 |    |
| 2                    | NO             |        | •    |        |      |                 |    |
| 3                    | NC             |        |      | •      |      |                 |    |
| 4                    | NC             | •      |      |        |      | ]               |    |

ø30

Miniature

Pilot Lights

Protectors Power Supplies

LED Illumination

Controllers Operator Interfaces Sensors AUTO-ID

| &<br>&               | Mono-Lever                 | Switches                                 |                                                       |                         |
|----------------------|----------------------------|------------------------------------------|-------------------------------------------------------|-------------------------|
| Pilot Lights         |                            |                                          |                                                       | Package Quantity: 1     |
| Ē                    |                            | Shape                                    | Positions                                             | Part No. (Ordering No.) |
| igh                  | HW1M                       |                                          |                                                       | HW1M-1010-20            |
| s.                   | Standard Lever             |                                          |                                                       | HW1M-2020-20            |
|                      |                            |                                          | 0 position                                            | HW1M-0101-20            |
|                      |                            |                                          | 2-position                                            | HW1M-0202-20            |
| APEM                 |                            |                                          |                                                       | HW1M-0101-40            |
| Switches &           |                            |                                          |                                                       | HW1M-0202-40            |
| Pilot Lights         |                            |                                          | 4 position                                            | HW1M-1111-22N9          |
| Control Boxes        |                            |                                          | 4-position                                            | HW1M-2222-22N9          |
| Emergency            | HW1M-L                     |                                          |                                                       | HW1M-L1010-20           |
| Stop Switches        | Interlocking Lever         |                                          |                                                       | HW1M-L2020-20           |
| Enabling<br>Switches |                            |                                          | 0 position                                            | HW1M-L0101-20           |
| Safety Products      |                            |                                          | 2-position                                            | HW1M-L0202-20           |
|                      |                            |                                          |                                                       | HW1M-L0101-40           |
| Explosion Proof      |                            |                                          |                                                       | HW1M-L0202-40           |
| Terminal Blocks      |                            |                                          | 4-position                                            | HW1M-L1111-22N9         |
|                      |                            |                                          |                                                       | HW1M-L2222-22N9         |
| Relays & Sockets     | • On all mana lawar awitab | as the roted current (lead quitching our | cont) is reduced to a half of the rated current of th | a contact block         |

• On all mono-lever switches, the rated current (load switching current) is reduced to a half of the rated current of the contact block. Circuit The rated insulation voltage and the rated thermal current remain unchanged.

## **Contact Arrangement Chart**

| 2-position (Right/Left) |                      |         |                            |        |       |  |  |  |
|-------------------------|----------------------|---------|----------------------------|--------|-------|--|--|--|
| Contact                 | Cont<br>Bloc         |         | Lever Operator<br>Position |        |       |  |  |  |
| Code                    | Mounting<br>Position | Contact | Left                       | Center | Right |  |  |  |
| 00                      | 1                    | NO      | •                          |        |       |  |  |  |
| 20                      | 2                    | NO      |                            |        | •     |  |  |  |
|                         | 1                    | NO      | ٠                          |        |       |  |  |  |
| 40                      | 2                    | NO      |                            |        | •     |  |  |  |
|                         | 3                    | NO      | •                          |        |       |  |  |  |
|                         | (4)                  | NO      |                            |        | •     |  |  |  |

#### 2-position (Up/Down)

| = peeilieli (ep. 2011.) |                      |         |                            |        |       |  |  |
|-------------------------|----------------------|---------|----------------------------|--------|-------|--|--|
| Contact                 | Cont<br>Blo          |         | Lever Operator<br>Position |        |       |  |  |
| Code                    | Mounting<br>Position | Contact | Left                       | Center | Right |  |  |
| 20                      | 1                    | NO      | •                          |        |       |  |  |
| 20                      | 2                    | NO      |                            |        | •     |  |  |
|                         | 1                    | NO      | •                          |        |       |  |  |
| 40                      | 2                    | NO      |                            |        | •     |  |  |
| 40                      | 3                    | NO      | •                          |        |       |  |  |
|                         | 4                    | NO      |                            |        | •     |  |  |

#### 4-position

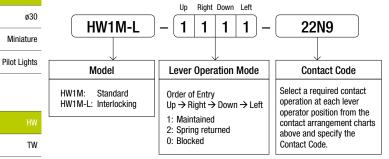
|   | Contact | Cont<br>Blo          | Lever Operator Position |      |      |        |    |       |  |
|---|---------|----------------------|-------------------------|------|------|--------|----|-------|--|
|   | Code    | Mounting<br>Position | Contact                 | Down | Left | Center | Up | Right |  |
| ſ |         | 1                    | NC                      |      |      |        |    | •     |  |
| I | 2210    | 2                    | NC                      | •    |      |        |    |       |  |
|   | 22N9    | 3                    | NO                      |      | •    |        |    |       |  |
|   |         | 4                    | NO                      |      |      |        | •  |       |  |

Flush Silhouette

ø16

YW

## Part No. Development



• The lever operator of the interlocking type HW1M-L is locked only in the center position. Pull on the interlocking lever before operating the lever up/down/right/left.

## **Contact Block Mounting Position and** Lever Operation Position

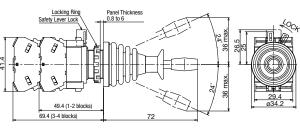


## Dimensions Standard Lever

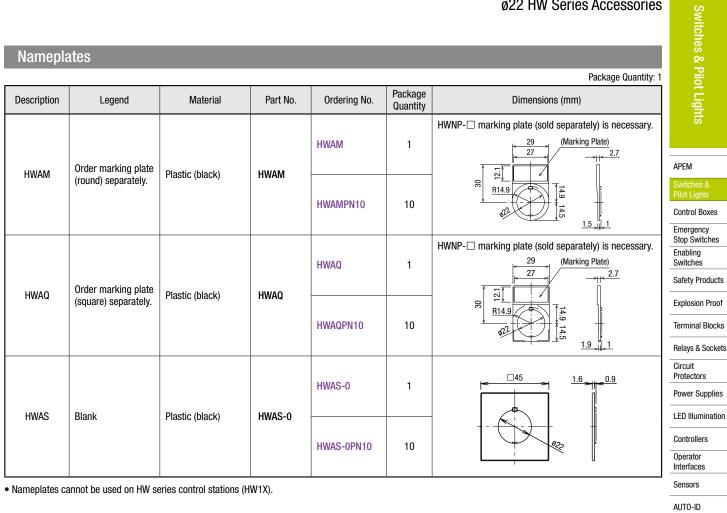
# Safe 49.4 (1-2 blocks 69.4 (3-4 blocks)

#### Interlocking Lever

All dimensions in mm.



**Terminal Screws M3.5** Integrated Terminal Cover See B-210 for the bottom view.



#### Marking Plates for HWAM/HWAQ

| Description | Material          | Part No. | Ordering No. | Package<br>Quantity | Dimensions (mm)                                             | ]                |
|-------------|-------------------|----------|--------------|---------------------|-------------------------------------------------------------|------------------|
|             |                   |          | HWNP-        | 1                   | White legend on black background.<br>Engraving area: W25×H7 | Flush Silhouette |
| HWNP        | Aluminum (black)  | HWNP-    |              |                     |                                                             | ø16              |
|             | Thickness = 1.0mm |          | HWNP-□PN10   | 10                  | 2↓                                                          | ø22              |
|             |                   |          |              |                     |                                                             | ø30              |

 $\bullet$  Specify a legend code in place of  $\Box$  in the Ordering No.

#### Legends

| Code | Legend        |
|------|---------------|
| 0    | (blank)       |
| 1    | ON            |
| 2    | OFF           |
| 3    | START         |
| 4    | STOP          |
| 31   | OFF-ON        |
| 35   | HAND-AUTO     |
| 53   | HAND-OFF-AUTO |

• See B-226 for how to install nameplates/marking plates, and how to remove marking plates.

| HW |  |
|----|--|
| TW |  |
| YW |  |

## ø22 HW Series Accessories

| nes & Pilot Lights                                                                                                | A                         | ccessories                 |                                                                                            |          |              |          | All dimensions in mm.                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------|--------------------------------------------------------------------------------------------|----------|--------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 'ilot L                                                                                                           |                           |                            | <b></b>                                                                                    | 5.11     |              | Package  | When ordering, specify the Ordering No.                                                                                                                                                                                                                                                         |
| ights                                                                                                             |                           | Shape                      | Material                                                                                   | Part No. | Ordering No. | Quantity | Dimensions (mm)                                                                                                                                                                                                                                                                                 |
| APEM<br>Switches &<br>Pilot Lights                                                                                |                           | Locking Ring Wrench        | Metal (brass)<br>(weight: approx. 150g)                                                    | MW9Z-T1  | MW9Z-T1      | 1        | Used to tighten the locking ring when installing the HW switch onto a panel.                                                                                                                                                                                                                    |
| Control Boxes<br>Emergency<br>Stop Switches<br>Enabling<br>Switches<br>Safety Products<br>Explosion Proof         | Tool                      | Lamp Holder Tool           | Nitrile rubber (black)                                                                     | 0R-55    | 0R-55        | 1        | • Used to install and remove the LED lamps.<br>See B-223 to B-224 for how to install.<br>(A) : BA9S<br>(B)                                                                                                                                                                                      |
| Terminal Blocks<br>Relays & Sockets<br>Circuit<br>Protectors<br>Power Supplies<br>LED Illumination<br>Controllers |                           | Contact Block Removal Tool | Zinc-plated metal<br>Nitril rubber                                                         | TW-KC1   | TW-KC1       | 1        | Used to remove the contact block and transformer,<br>and also to install/remove the pilot light and<br>illuminated pushbutton lens. See B-224.                                                                                                                                                  |
| Operator<br>Interfaces<br>Sensors<br>AUTO-ID                                                                      | Anti                      | -rotation Ring             | Ring: polyamide<br>Gasket: nitril rubber                                                   | HW9Z-RL  | HW9Z-RLPN10  | 10       | Used to prevent the operator from turning. Generally used when using no nameplates on selector switches and pushbutton selectors.                                                                                                                                                               |
| Flush Silhouette<br>ø16<br>ø22<br>ø30<br>Miniature                                                                | Rub                       | ber Mounting Hole Plug     | Nitril rubber (black)                                                                      | 0B-31    | 0B-31PN05    | 5        | Used to plug the unused ø22.2 mm mounting holes.<br>Degree of protection:<br>IP65 (round hole) IP40 (with anti-rotation function)                                                                                                                                                               |
| Pilot Lights HW TW YW                                                                                             | Rubber Mounting Hole Plug |                            | Plug: chrome-plated<br>zinc diecast<br>Locking ring:<br>polyamide<br>Gasket: nitril rubber | LW9Z-BM  | LW9Z-BM      | 1        | Used to plug the unused ø22.2 mm mounting holes.<br>Degree of protection:<br>IP66 (round hole) IP40 (with anti-rotation function)<br>Tightening torque: 1.2 N·m <u>Gasket</u> <u>Cocking Ring</u> <u>Cocking Ring</u> <u>Cocking Ring</u> <u>M22 P:1</u> <u>Panel Thickness</u> <u>0.8 to 6</u> |
| TVV                                                                                                               | Met                       | allic Mounting Hole Plug   | Polyamide                                                                                  | LW9Z-BP1 | LW9Z-BP1     | 1        | • Used to plug the unused ø22.2 mm mounting holes.<br>Degree of protection: IP65<br>Tightening torque: 2.0 N·m<br>Ø29.0<br>Panel Thickness<br>0.8 to 6<br>Rubber Gasket<br>Locking Ring<br>M22 P: 1                                                                                             |
|                                                                                                                   | Barr                      | rier                       | Polyamide                                                                                  | HW-VU1   | HW-VU1PN10   | 10       | Used to prevent contact<br>between adjacent lead<br>wires when units are<br>mounted closely (see<br>B-227 for details). Barriers<br>should always be used in<br>close mounting.                                                                                                                 |

## **Ø22 HW Series Accessories**



## **Maintenance Parts**

| ot Lights              | Shape                  | Material               | Part No.    | Ordering No. | Package<br>Quantity | Remarks                                                                                                 |
|------------------------|------------------------|------------------------|-------------|--------------|---------------------|---------------------------------------------------------------------------------------------------------|
| ts.                    | Contact Block          | NO contact             | HW-U10      | HW-U10       | - 1                 | Housing color: blue/Push rod color: green                                                               |
|                        | HW-U                   | NO COMACE              | HW-U10-MAU  | HW-U10-MAU   |                     | MAU has gold contacts                                                                                   |
| APEM                   |                        | NC contact             | HW-U01      | HW-U01       | 1                   | Housing color: reddish purple/Push rod color: red                                                       |
| Switches &             |                        | NG COMaci              | HW-U01-MAU  | HW-U01-MAU   | I                   | MAU has gold contacts                                                                                   |
| Pilot Lights           |                        | EM (early make)        | HW-U10R     | HW-U10R      | -                   | Housing color: blue/Push rod color: black                                                               |
| Control Boxes          |                        | contact                | HW-U10R-MAU | HW-U10R-MAU  |                     | MAU has gold contacts                                                                                   |
| Emergency              |                        | LB (late break)        | HW-U01R     | HW-U01R      | 1                   | Housing color: reddish purple/Push rod color: white                                                     |
| Stop Switches          | Weight: 11g (approx.)  | contact                | HW-U01R-MAU | HW-U01R-MAU  |                     | MAU has gold contacts                                                                                   |
| Enabling<br>Switches   | Dummy Block            |                        |             |              |                     | For HW-U contact blocks                                                                                 |
| Safety Products        |                        | Polyamide <b>HW-DB</b> |             | HW-DBPN10    | 10                  | <ul> <li>Used when the number of contact blocks and full<br/>voltage adapters is odd number.</li> </ul> |
| Explosion Proof        | Weight: 3.5g (approx.) |                        |             |              |                     |                                                                                                         |
| Terminal Blocks        | Full Voltage Adapter 🖉 |                        |             |              |                     | Applicable model:                                                                                       |
| Relays & Sockets       | for Illuminated (*1)   | Debremide              | HW-GA1N     |              | 2                   | Illuminated pushbuttons<br>Illuminated selector switches                                                |
| Circuit<br>Protectors  |                        | Polyamide              | HW-GAIN     | HW-GA1NPN02  | 2                   | Applicable load (LED lamp)     LSTD-6 (6V AC/DC)/LSTD-1 (12V AC/DC)                                     |
| Power Supplies         | Weight: 12g (approx.)  |                        |             |              |                     | LSTD-2 (24V AC/DC)                                                                                      |
| LED Illumination       | Transformer Unit (*1)  | 100/110V AC            | HW-T16      | HW-T16       | 1                   | Applicable model:     Illuminated pushbuttons                                                           |
| Controllers            |                        |                        |             |              |                     | Illuminated selector switches                                                                           |
| Operator<br>Interfaces | Weight: 12g (approx.)  | 200/220V AC            | HW-T26      | HW-T26       | 1                   | Applicable load (LED lamp)     LSTD-6 (6V AC/DC)                                                        |

Sensors \*1) Maintenance parts are used for maintenance parts only. Do not use these parts for expansion or remodeling purpose.

| AUTO-ID          |               |                                               |                                  |             |                 |                     | When ordering, specify the Ordering No.                                |
|------------------|---------------|-----------------------------------------------|----------------------------------|-------------|-----------------|---------------------|------------------------------------------------------------------------|
|                  | Sh            | ape                                           | Material/Dimensions              | Part No.    | Ordering No.    | Package<br>Quantity | Color Code *                                                           |
| Flush Silhouette | Lens          | ①Round flush                                  | Polyarylate<br>ø23.5 H4.2        | HW9Z-L11*-K | HW9Z-L11*-KPN05 | 5                   |                                                                        |
| ø16              |               | ②Square flush                                 | Polyarylate<br>ø24.6 H4          | HW9Z-L21*-K | HW9Z-L21*-KPN05 | 5                   | R (red), G (green), Y (yellow),<br>A (amber), C (clear), S (blue) (*2) |
| ø22              | 3 🥮 👍         | ③Round extended                               | Polyarylate<br>ø23.3 H10         | HW9Z-L12*-K | HW9Z-L12*-KPN05 | 5                   |                                                                        |
| ø30<br>Miniature | 5             | <b>⊕ø29 mushroom</b>                          | AS, marking type<br>ø29 H12.7    | ALW31LD-*-K | ALW31LD-*-KPN02 | 2                   | R (red), G (green),Y (yellow),<br>A (amber), S (blue), C (clear) (*2)  |
| Pilot Lights     |               |                                               |                                  |             |                 |                     |                                                                        |
|                  | 6             | ⑤ø40 mushroom                                 | AS, marking type<br>ø40 H12.7    | ALW41LD-*-K | ALW41LD-*-K     | 1                   | R (red), G (green), Y (yellow),<br>A (amber), S (blue), C (clear) (*2) |
| HW               | 0             | ©Jumbo dome                                   | Polycarbonate<br>ø66 H50         | HW1A-P5*    | HW1A-P5*        | 1                   | R (red), G (green), Y (yellow),<br>A (amber), W (white), S (blue)      |
| YW               |               | ⑦Dome for pilot light                         | AS<br>ø23.5 H15.1                | HW1A-P2*-K  | HW1A-P2*-KPN05  | 5                   | R (red), G (green), Y (yellow),<br>A (amber), W (white), S (blue) (*3) |
|                  | Button<br>① ② | ①Round flush with round or square bezel       | Polyacetal<br>ø23.6 H3           | HW1A-B1*    | HW1A-B1*PN05    | 5                   |                                                                        |
|                  |               | ②Round extended with<br>round or square bezel | Polyacetal<br>ø23.6 H9.2         | HW1A-B2*    | HW1A-B2*PN05    | 5                   |                                                                        |
|                  | 3             | ③Square flush                                 | Polyacetal<br>□24.8 H3           | HW2A-B1*    | HW2A-B1*PN05    | 5                   | Use ${\mathbb O}$ for pushbutton selectors.                            |
|                  | 5             | ④Square extended                              | Polyacetal<br>□24.5 H9.2         | HW2A-B2*    | HW2A-B2*PN05    | 5                   | B (black), G (green), R (red), Y (yellow),<br>S (blue), W (white)      |
|                  | 6             | ©ø29 mushroom                                 | Polyacetal<br>ø29 H12.7(M18P1.0) | HW1A-B3*    | HW1A-B3*PN02    | 2                   |                                                                        |
|                  |               | ©ø40 mushroom                                 | Polyacetal<br>ø40 H12.7(M18P1.0) | HW1A-B4*    | HW1A-B4*PN02    | 2                   |                                                                        |

When ordering analify the 0 I · II

All dimensions in mm. When ordering, specify the Ordering No.

## ø22 HW Series Maintenance Parts

| Maintenance Parts All dimensions in mm. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                     |             |                 | les &               |                                                                                                     |                                                            |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------------|-------------|-----------------|---------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <u>ن الم</u>                            | lamonanoo -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | arto      |                                     |             |                 |                     | When ordering, specify the Ordering No.                                                             | Pilo                                                       |
|                                         | Shape                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | Material/Dimensions                 | Part No.    | Ordering No.    | Package<br>Quantity | Remarks                                                                                             | hes & Pilot Lights                                         |
|                                         | Round<br>flush                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | Acrylic<br>ø21.5 Thickness = 1      | HW9Z-P11    | HW9Z-P11PN05    | 5                   | White     See B-225 for dimensions and     engraving area.                                          | lts                                                        |
| J Plate                                 | Round<br>extended                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           | Acrylic<br>ø21.3 Thickness = 6.5    | HW9Z-P12    | HW9Z-P12PN05    | 5                   | eliyiaviliy area.                                                                                   | APEM<br>Switches &                                         |
| Marking Plate                           | Square<br>flush                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           | Acrylic<br>22.7 Thickness = 1       | HW9Z-P21    | HW9Z-P21PN05    | 5                   | 1                                                                                                   | Pilot Lights<br>Control Boxes                              |
|                                         | ø29/40 mm<br>mushroom                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | Acrylic<br>ø15.7 H3.4               | ALW3B       | ALW3BPN05       | 5                   |                                                                                                     | Emergency<br>Stop Switches<br>Enabling<br>Switches         |
|                                         | erator Knob for Illumina                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ated      |                                     |             |                 |                     | • Specify a color code in place of *.<br>R (red), G (green), Y (yellow), A (amber),                 | Safety Products                                            |
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                     | HW9Z-FDY*-K | HW9Z-FDY*-K     | 1                   | W (white), S (blue)<br>• Use W (white) knob/lever for pure white<br>illumination.                   | Explosion Proof<br>Terminal Blocks                         |
|                                         | erator Lever for Illumin<br>ector Switch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | nated     | – AS resin                          | HW9Z-FDL*-K | HW9Z-FDL*-K     | 1                   |                                                                                                     | Relays & Socket<br>Circuit<br>Protectors<br>Power Supplies |
|                                         | are Key<br>sc Tumber Key)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | $\cap$    |                                     |             |                 |                     |                                                                                                     | LED Illumination                                           |
| (נייר                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           | Metal<br>(nickel-plated brass)      | HW9Z-SK-231 | HW9Z-SK-231PN02 | 2                   |                                                                                                     | Controllers<br>Operator                                    |
|                                         | are Key                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                     | LW9Z-SK-500 | LW9Z-SK-500PN02 |                     | Standard key number                                                                                 | Interfaces                                                 |
|                                         | n Tumber Key)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | Metal                               |             |                 | -                   | Key number                                                                                          | AUTO-ID                                                    |
|                                         | Constant of the second s | 3         | (nickel-plated brass)               | LW9Z-SK-    | LW9Z-SK- PN02   | 2                   | : 501 to 503                                                                                        |                                                            |
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                     | LW9Z-SK-    | LW9Z-SK- PN02   |                     | • Key number .: 504 to 515                                                                          | Flush Silhouet                                             |
| Lock                                    | kig Ring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | Polyamide (black)<br>ø28.4 H5 M22P1 | HW9Z-LN     | HW9Z-LNPN05     | 5                   |                                                                                                     | ø16<br>ø22<br>ø30                                          |
| Cap<br>Swit                             | o for Mono-lever                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |                                     |             |                 |                     |                                                                                                     | ø30<br>Miniature                                           |
| 0000                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Standard  | Nitryl rubber<br>ø10 L20            | HW9Z-CPM    | HW9Z-CPM        | 1                   |                                                                                                     | Pilot Lights                                               |
| Boot<br>Mon                             | ot for no-lever                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                     |             |                 |                     |                                                                                                     |                                                            |
| Swit                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Standard  | Nitryl rubber<br>ø29.2 L34.4        | HW9Z-BLM    | HW9Z-BLM        | 1                   |                                                                                                     | HW<br>TW                                                   |
| Diffu                                   | Tusing Lens                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           | Polycarbonate<br>ø22.2 H21          | HW9Z-PP5C   | HW9Z-PP5C       | 1                   | Used for LED type jumbo dome pilot<br>lights only. Do not use for incandescent<br>lamp illumination | YW                                                         |
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Ø22.2 ПZI |                                     |             |                 | lamp illumination.  |                                                                                                     |                                                            |
| Sale                                    | ety Lever Lock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           | Polyacetal (yellow)                 | HW9Z-LS     | HW9Z-LSPN10     | 10                  | • A safety lever lock is supplied with a standard HW series switch/pilot light.                     |                                                            |
| Gasł                                    | cet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | >         | Nitryl rubber (black)               | HW9Z-WM     | HW9Z-WMPN10     | 10                  | Thickness = 0.5<br>028.0 ±0.15                                                                      |                                                            |
| Cont<br>Plug                            | g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2         | Polyamide                           | HW9Z-CBPL   | HW9Z-CBPLPN10   | 10                  | Used to plug the hole in the center of contact block.                                               |                                                            |
|                                         | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                                     | ′           | <u> </u>        |                     |                                                                                                     |                                                            |



#### **Maintenance Parts**

HW Series LED Lamps (except for HW Jumbo Dome Pilot Lights)

All dimensions in mm.

#### When ordering, specify the Ordering No. Current Draw Operating Illumination Package Shape/Dimensions Part No. Ordering No. Base Voltage Color Code Quantity DC AC 7mA (R, A, W) LSTD-6\* 1 8mA (except S) LSTD-6\* 6V AC/DC 5.5mA (G, PW) 7mA (S) LSTD-6\*PN10 10 APEM 4.5mA (S) LSTD-1\* 1 10mA (except S) 11mA (except S) (20.8)12V AC/DC LSTD-1\* BA9S/13 R, G , A, W, S, PW Control Boxes 18.4 8mA (S) 9mA (S) LSTD-1\*PN10 10 Emergency Stop Switches Eyelet (X1) LSTD-2\* 1 10mA (except S) 11mA (except S) Base (X2) BA9S/13 Enabling 24V AC/DC LSTD-2\* Voltage Switches 8mA (S) 9mA (S) LSTD-2\*PN10 10 Safety Products

Explosion Proof

• Use a PW (pure white) LED lamp for Y (yellow) illumination. Terminal Blocks

## Relays & Sockets

AUTO-ID

Flush Silhouette

ø16

## HW Series LED Lamps (used for HW Jumbo Dome Pilot Lights)

• Specify a color code in place of \*. R (red), G (green), A (amber), W (white), S (blue), PW (pure white)

| Ticitaya a obciteta    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |       |              |                         |                                                             |  |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------|--------------|-------------------------|-------------------------------------------------------------|--|
| Circuit                | Shape/Operating Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Current Draw |       | Ordering No. | Illumination Color Code | Dimensions                                                  |  |
| Protectors             | Shape/Operating voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DC           | AC    |              |                         | Diffensions                                                 |  |
| Power Supplies         | 24V AC/DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |       |              |                         | Light blue: <u>Base BA9S/13</u><br>LSTDB Illumination color |  |
| LED Illumination       | and the second s | 15mA         | 15mA  | LSTDB-2*     | R, G , A, W, S, PW      |                                                             |  |
| Controllers            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | TOMA         | TJIIA | LOIDD-2*     | n, u , A, W, S, FW      |                                                             |  |
| Operator<br>Interfaces |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |       |              |                         | 20.4                                                        |  |

Sensors

• Specify a color code in place of \*. R (red), G (green), A (amber), W (white), S (blue), PW (pure white)

• Use a PW (pure white) LED lamp for Y (yellow) illumination.

## LED Lamps (LED Lamps for replacing incandescent lamps)

• Use the following replacement LED lamps to replace incandescent lamps.

· See HW series LED lamps shown above for ordering.

• LED lamps may have different brightness/color hue compared with incandescent lamps.

| Incandescent Lamp                    |          |               |              |                 |  |  |
|--------------------------------------|----------|---------------|--------------|-----------------|--|--|
| Model (dimensions in mm)             | Part No. | Rated Voltage | Lamp Ratings | Base            |  |  |
| LS                                   | LS-6     | 6V AC/DC      | 1W(6V)       |                 |  |  |
| 3                                    | LS-8     | 12V AC/DC     | 1W(18V)      | <b>D1</b> 00/40 |  |  |
|                                      | LS-2     | AC/DC18V      | 1W(24V)      | BA9S/13         |  |  |
| Glass bulb: ø11<br>Length: 23        | LS-3     | 24V AC/DC     | 1W(30V)      |                 |  |  |
| LSB<br>(For Jumbo Dome Pilot Lights) | LSB-2    | 24V AC/DC     | 28V/0.17A    | BA9S/13         |  |  |
| Glass bulb: ø10<br>Length: 27        |          |               |              |                 |  |  |

| Replacement LED Lamp |                            |               |         |  |  |
|----------------------|----------------------------|---------------|---------|--|--|
| Ordering No.         | Illumination<br>Color Code | Rated Voltage | Base    |  |  |
| LSTD-6*              |                            | 6V AC/DC      |         |  |  |
| LSTD-1*              |                            | 12V AC/DC     | BA9S/13 |  |  |
| LSTD-2*              | R, G , A, S, PW            | 24V AC/DC     | DA95/15 |  |  |
| LSTD-2*              |                            | 24V AC/DC     |         |  |  |
| LSTDB-2*             | R, G , A, S, PW            | 24V AC/DC     | BA9S/13 |  |  |

• Specify a color code in place of \*. R (red), G (green), A (amber), S (blue), PW (pure white)

• Use a PW (pure white) LED lamp for Y (yellow) illumination.

Package Quantity 1

#### Transformer

|       |                   |                         |              | Package Quantity: 1                                                              | Pilot                                 |
|-------|-------------------|-------------------------|--------------|----------------------------------------------------------------------------------|---------------------------------------|
| Shape | Operating Voltage | Operating Voltage Range | Ordering No. | Applicable Load                                                                  | Ê                                     |
| 6V    | 100/110V AC       | 100/110V AC ±10%        | TWR516       | LSTD-6* (6V AC/DC, LED lamp)                                                     | Lights                                |
|       | 200/220V AC       | 200/220V AC ±10%        | TWR526       | Specify a color code in place of * in Part No.                                   |                                       |
|       | 400/440V AC       | 400/440V AC ±10%        | TWR546       | R (red), G (green), A (amber), S (blue), PW (pure white)                         | APEM                                  |
| 24V   | 100/110V AC       | 100/110V AC ±10%        | TWR512       | LSTD-2* (24V AC/DC, LED lamp) or                                                 | Switches & Pilot Lights               |
| 1     | 200/220V AC       | 200/220V AC ±10%        | TWR522       | LSTDB-2* (24V AC/DC, LED lamp)<br>Specify a color code in place of * in Part No. | Control Boxes<br>Emergency            |
|       | 400/440V AC       | 400/440V AC ±10%        | TWR542       | R (red), G (green), A (amber), S (blue), PW (pure white)                         | Stop Switches<br>Enabling<br>Switches |

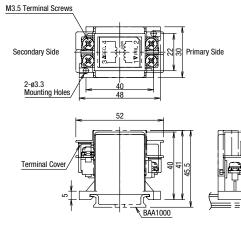
• Terminal cover (TWR-VL3) is installed on transformers as standard.

• Transformer is installed to one HW series unit.

## **Specifications**

| Part No.                 | TWR5□6                                              | TWR5□2     |  |
|--------------------------|-----------------------------------------------------|------------|--|
| Operating Voltage        | 100/110V AC, 200/220V AC<br>400/440V AC (50/60Hz)   |            |  |
| Current Draw             | 2.4VA                                               |            |  |
| Rated Insulation Voltage | 600V                                                |            |  |
| Insulation Resistance    | 100MΩ minimum (500V I                               | DC megger) |  |
| Operating Temperature    | -30 to +60°C (no freezing                           | g)         |  |
| Operating Humidity       | 35 to 85% RH (no conder                             | nsation)   |  |
| Storage Temperature      | -40 to +80°C (no freezing                           | g)         |  |
| Vibration Resistance     | Damage limits: 30Hz, am<br>Operating extremes: 5 to |            |  |
| Shock Resistance         | Damage limits: 1,000 m/s<br>Operating extremes: 100 |            |  |
| Dielectric Strength      | 2500V AC, 1 minute                                  |            |  |
| Terminal Screw           | M3.5                                                |            |  |
| Applicable Wire          | 2mm <sup>2</sup> maximum, 2 wires                   | maximum    |  |
| Weight (approx.)         | 87g                                                 |            |  |

## **Dimensions**



14/1-

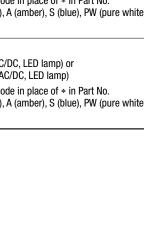
n ordoring

aifer the Ord

Accessories

| Accessories                            |                                                                       |          |              |                     | When ordering, specify the Ordering No. | ø30                      |
|----------------------------------------|-----------------------------------------------------------------------|----------|--------------|---------------------|-----------------------------------------|--------------------------|
| Shape                                  | Material                                                              | Part No. | Ordering No. | Package<br>Quantity | Dimensions (mm)                         | Miniature                |
| DIN 35 mm Rail<br>Weight: 200g approx. | Aluminum<br>Length: 1000 mm                                           | BAA1000  | BAA1000PN10  | 10                  |                                         | Pilot Lights<br>HW<br>TW |
| DIN 35 mm Rail<br>Weight: 320g approx. | Steel<br>Length: 1000 mm                                              | BAP1000  | BAP1000PN10  | 10                  |                                         | YW                       |
| End Clip<br>Weight: 15g approx.        | Metal<br>(zinc-plated steel)<br>Applicable rail:<br>AA1000<br>BAP1000 | BNL6     | BNL6PN10     | 10                  |                                         |                          |

• See H-071 for DIN rail products.



Circuit Protectors Power Supplies LED Illumination

Safety Products

Explosion Proof Terminal Blocks

Relays & Sockets

Controllers Operator

Interfaces

AUTO-ID

Flush Silhouette

All dimensions in mm. ø16

No

Sensors

APEM

Control Boxes

Explosion Proof

Terminal Blocks

Relavs & Sockets

Power Supplies

LED Illumination

Circuit

Protectors

Operator

Interfaces

Sensors

AUTO-ID

ø16

ΤW

YW

Emergency Stop Switches

Enabling Switches Safety Products

## Safety Precautions

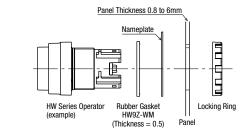
- Turn off the power to the HW series switches & pilot lights before starting installation, removal, wiring, maintenance, and starting installation, removing, wiring, maintenance, and inspection of the products. Failure to turn power off may cause electrical shocks or fire hazard.
- To avoid a burn on your hand, use the lamp holder tool when replacing lamps.
- For wiring, use wires of a proper size to meet the voltage and current requirements. Tighten the terminal screws to the recommended tightening torque (see B-228). Failure to tighten terminal screws may cause overheat and fire.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

## **Operating Instructions**

## Panel Mounting

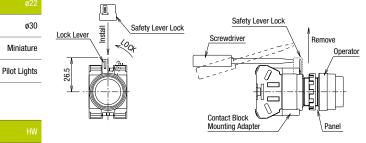
• Remove the contact block from the operator (for transformer type pilot lights, remove the transformer from the illumination unit). Remove the locking ring from the operator (for pilot lights, remove the locking ring from the illuminated unit). Insert the operator into the panel cut-out from the front. Tighten the locking ring from the back to install the contact block to the operator.



Mounting panel thickness is reduced by 1.5 mm when using a nameplate.

## Flush Silhouette Removing the Contact Block

• Remove the safety lever lock (yellow) from the lock lever by inserting a flat screwdriver into the safety lever lock and push upwards.



• Remove the operator from the contact block by turning the locking lever in the direction of the arrow shown below. Then the operator can be pulled out.





- To reinstall, place the TOP marking on the operator and the lock lever in the same direction, and insert the operator into the contact block mounting adapter. Then turn the locking lever in the opposite direction.
- Install the safety lever lock (yellow) on the lock lever. The safety lever lock cannot be installed when the lock lever is not upright.

## Safety Lever Lock

IDEC strongly recommends using the safety lever lock (HW9Z-LS, yellow) to ensure that lock lever is locked, or to prevent maintenance personnel from unlocking contacts during wiring.



#### How to install

 Mount the HW series onto the panel, lock the lever, and push in the safety lever lock.

#### **Spacing in Vertical Direction**

• HW series can be installed with a minimum of 50 mm spacing in vertical direction (mono-lever switch: 70 mm minimum). Be sure to take the space required for installing/removing the safety lever lock into consideration. When the spacing is narrower than the recommended value, install the HW series units in the order of low to high. When removing, do so in the opposite direction.

## **Notes for Panel Mounting**

Locking ring wrench recommended torque

Tighten the bezel to a tightening torque of 2.0 N·m.

#### Locking ring wrench

Locking ring wrench (MW9Z-T1) can be used to tighten the bezel. Do not use pliers. Excessive tightening will damage the locking ring.



Locking ring wrench (MW9Z-T1)

#### Panel Thickness

HW series can be mounted on a panel with thickness of 0.8 to 6.0 mm. Take the thickness of nameplate and/or switch guard into consideration.

## **Replacement of LED Lamps**

LED lamps can be replaced by using the lamp holder tool (OR-55) from the front of the panel, or by removing the contact block from the operator unit. (See B-217 for lamp holder tool.)

#### How to Remove

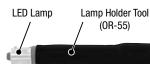
To remove, slip the lamp holder tool onto the lamp head lightly. Then push slightly, and turn the lamp holder tool counterclockwise.



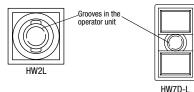
## **Operating Instructions**

#### How to Install

Insert the lamp head into the lamp holder tool.



Place the pins on the lamp base to the grooves in the lamp socket. Insert the lamp and turn it clockwise.



Installing/Removing the Buttons and Lenses

<To install>

Pushbutton Button

Flush/Extended

Push in the button to install.



Insert a flat screwdriver between the button and the bezel to remove the button.



<To remove>

#### Mushroom/Jumbo Mushroom

Button has threads. Turn clockwise to install the button.

Turn the button remove. Note: Jumbo mushroom button





## Illuminated Pushbutton Lens

• Flush/Extended Push in the lens holder into the operator unit.

Insert a flat screwdriver between the button and the bezel to remove the lens holder.



Lens has threads. Turn clockwise to install the lens.







• Round Flush/Square Flush



#### Insert a flat screwdriver between the lens and the bezel to remove.



# Control Boxes

Emergency

Switches

Stop Switches Enabling

Safety Products

Explosion Proof

Terminal Blocks

**Relavs & Sockets** 

Power Supplies

LED Illumination

Controllers

Operator Interfaces

Sensors

AUTO-ID

Circuit

Protectors

APEM

**Removing the Contact Blocks/Full Voltage Adapters** Insert a flat screwdriver (4 to 6 mm) into the snap-fit latches of the

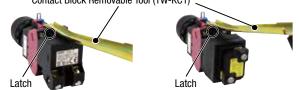
contact block or full voltage adapter and lift to remove. Latches

- Make sure to lift both latches. Contact blocks cannot be removed by lifting one latch only.
- Do not apply excessive force to the latches, otherwise damage maybe caused.

#### **Transformer Units and DC-DC Converters**

Insert the end of the contact block removal tool (TW-KC1) into the snap-fit latch of the transformer units or DC-DC converter and pull the tool forward.

The contact block removable tool cannot be used to remove the HW-U contact blocks (HW-U), full voltage adapters (HW-GA1N), or dummy blocks (HW-DB).



# Transformer Units and DC-DC Converters for Pilot Lights

Insert a flat screwdriver into the snap-fit latch on the contact block and lift to remove.



Mhen replacing parts (contact block, dummy block, full voltage adapter, transformer) for maintenance, make sure to install the parts to the original position. Otherwise proper operation cannot be guaranteed.

| Flush Silhouette |
|------------------|
| ø16              |
|                  |
| ø30              |
| Miniature        |
| Pilot Lights     |
|                  |

| HW |
|----|
| TW |
| YW |

**Pilot Light Lens** Extended/Mushroom

Lens has threads. Turn clockwise to install the lens.





Contact Block Removable Tool (TW-KC1)



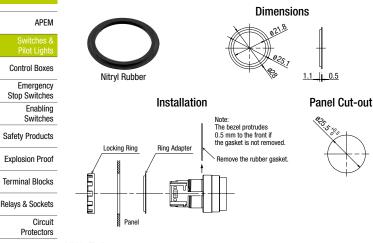


#### **Operating Instructions**

## Using a Ring Adapter

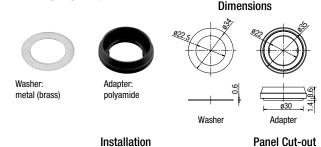
#### HW9Z-A25

Install the ring adapter between the HW series unit and panel. Make sure that the side with ridges face the panel.



#### Power Supplies HW9Z-A30

LED Illumination Controllers Controllers



Operator (example)

Washer Panel



ΤW

YW

Flush Silhouette

Operator

Interfaces

Sensors

AUTO-ID

## Replacement of Lens and Marking Plate

Adapter

#### Removing the Lens Unit

Locking Ring

Remove the lens unit (color lens, marking plate, and lens holder) by inserting a small flat screwdriver into the recess of the lens through the bezel. Knob on illuminated selector switches can be removed by tilting sideways. No tool is required.



#### **Removing the Lens**

Remove the lens by pushing the lens from the rear to disengage the latches between the lens and the lens holder, using a flat screwdriver as shown below. Marking plate can be removed after the lens is removed from the lens holder.



Note: The translucent filter in the lens holder cannot be removed because this filter is sealed to make the unit waterproof and oiltight.

Lens

Lens

Marking Plate

Marking Plate

Lens Holde

#### Installing

[For Round Lens]

#### Lens Marking Plate Lens Holder

- Place the marking plate on the lens holder with the anti-rotation projection engaged and press the lens onto the lens holder to engage the latches.
- 2. Place the marking plate in the correct orientation.

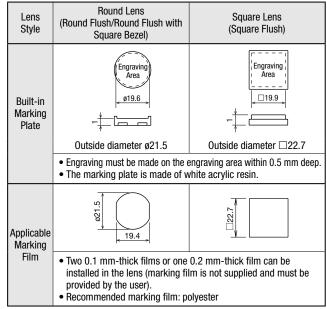
#### [For Square Lens]

#### Lens Marking Plate Lens Holder

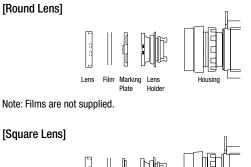
- 1. Place the marking plate on the lens holder and press the lens onto the lens holder to engage the latches.
- Place the marking plate in the correct orientation (note the directionality of marking plate).

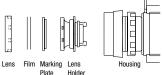
## Marking

For HW series illuminated pushbuttons and pilot lights, legends and symbols can be engraved on the built-in marking plates, or printed film can be inserted under the lens for labeling purposes. Films are not supplied with illuminated pushbuttons, and may be provided by the user.



## Insertion Order of Marking Plate and Film





Note: Films are not supplied. When inserting a film, make sure that the marking plate is installed with its uneven side facing the lens holder.

## Nameplate

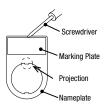
Mounting panel thickness is reduced by 1.5 mm when using a nameplate.

## Installing a Marking Plate

Insert a marking plate tin the direction of the arrow (1), and press in as shown 2.

## **Removing a Marking Plate**

Insert a flat screwdriver into the upper middle part of the marking plate and remove. When anti-rotation is not required, remove the projection from the nameplate using pliers.



Aarking Plate

Nameplate

0

#### **Replacing the Lens of Dual Pushbuttons** Removing

Remove the lens by inserting a small flat screwdriver into the recess of the lens through the bezel.



#### Installing

Install the lens in the recess between the buttons by pressing against the bezel.

## Selector Switches

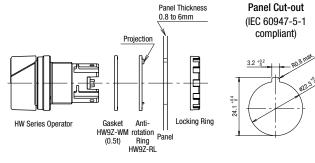
Turn the operator such as knob, lever, and key to each position accurately. Releasing halfway may cause the operator to return to the former position, or to get stuck between. On spring return two-way types, the center of operators may be misaligned slightly.

## **Kev Selector Switches**

Insert the key completely before turning. Failure to do so may cause failures.

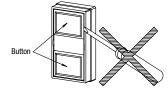
## Anti-rotation Ring and Panel Cut-out

Align the TOP marking on the operator, TOP marking on the antirotation ring with the recess in the mounting panel.



## **Dual Pushbutton Switches**

The pushbuttons cannot be removed or replaced. Do not attempt to remove using a flat screwdriver or pincers, otherwise the pushbuttons may be damaged.



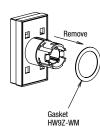
## Installing the Rubber Boot for Dual Pushbuttons

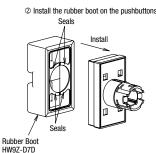
When using the HW7D pushbuttons in places where the pushbuttons are subject to water splash or an excessive amount of dust, make sure to use the HW9Z-D7D rubber boot (IP65) which is ordered separately. Recombs the rubber gasket pre-installed on the operator, and install the rubber boot from the front of buttons.

#### Notes for Installing the Rubber Boot

Remove the gasket from the operator, and install the rubber boot on the operator. Pull out the seals of the rubber boot and place them around the operator sleeve as shown. Make sure that the seals are not twisted or tucked inside and that the gasket does not remain. otherwise the normal waterproof and dustproof characteristics are not ensured.

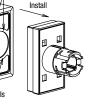
① Remove the gasket





Rubber Boot Installed









Emergency Stop Switches Enabling Switches

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Explosion Proof

Terminal Blocks

Relavs & Sockets

Protectors

Circuit

Power Supplies LED Illumination

Controllers

Operator Interfaces

Sensors

AUTO-ID

Flush Silhouette ø16 ø30 Miniature

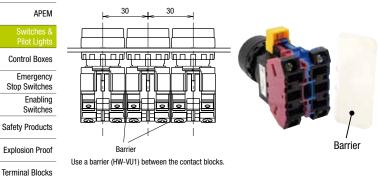
Pilot Lights

| TW |  |
|----|--|
| YW |  |

#### **Operating Instructions**

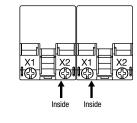
#### **Close Mounting**

When mounting the units closely in a horizontal row on 30 mm centers, use optional barriers to prevent interconnection between adjoining terminals, and to increase the creepage distance. The barriers can be attached simply by pressing them onto the sides of contact blocks.

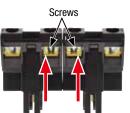


Note: Sufficient insulation distance cannot be obtained if barriers are not installed, or when other barriers such as HW-VG1 is used.

When using transformer type illuminated HW series of 240V AC maximum closely in a horizontal row on 30 mm centers, insert straight the solid wires or stranded wires into inside of the terminal screw on the transformer (see figure below) to prevent short circuit between adjoining terminals.



Enlarged View of Terminal Part



When using transformer type pilot lights closely mounted in horizontal
 and vertical rows on 30 mm centers, keep the ambient temperature
 below 40°C.



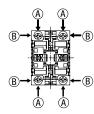
(1) Contact Block 0.3 to 3.5 mm<sup>2</sup> (solid wire Ø0.5 to 2.0 mm)

Pushbutton/illuminated pushbutton/dual pushbuttons (without pilot light), selector switch, illuminated selector switch, pushbutton selector, mono-lever switch

(A) and (B) show the wiring direction to the terminals.

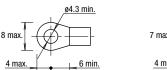
<Contact Block>

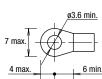
Terminal screws M3.5 (spring-up)



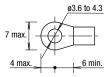
#### Applicable Crimping Terminal

Be sure to use an insulation tube or cover on the crimping part of the crimping terminal to prevent electrical shocks. Crimping terminal for (A)

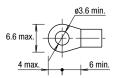




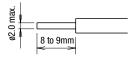
#### IP20 crimping terminal



#### Crimping terminal for (B) (IP20)



#### Solid wire



- Strip the wire insulation 8 to 9 mm from the end.
- Insert the wire until the insulation comes into contact with the terminal metal part.

#### (1)-1 IP20 Degree of Protection

The terminal of HW-U contact block has IP20 degree of protection. When IP20 is required for wiring, observe the followings. Make sure to insert the crimping terminal or wire to the terminal straight and fully.

When using a crimping terminal Use IP20 crimping terminals.

#### When using a solid wire

Strip the wire insulation 8 to 9 mm from the end and insert the wire to the terminal fully.

#### When using a stranded wire

Strip the wire insulation 8 to 9 mm from the end and insert the wire to the terminal fully. Make sure that the wires are not loosened.

Relavs & Sockets

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Flush Silhouette

ø30

ΤW

YW

Miniature Pilot Lights

8 to 9mm

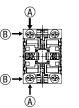
#### **Operating Instructions**

(2) Power Unit 0.3 to 2 mm<sup>2</sup> (solid wire Ø0.5 to 1.6 mm)

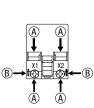
Illuminated pushbutton/illuminated selector switch (A) and (B) show the wiring direction to the terminals.

#### <Full Voltage Adapter>

Terminal screws M3.5 (spring-up)

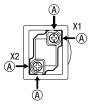


<Transformer Unit> 100/110V AC. 200/220V AC Terminal screws M3.5 (spring-up)



<DC-DC Convertor Unit/Transformer Unit>

110V DC, 380V AC minimum Terminal screws M3.5 (spring-up)



#### **Applicable Crimping Terminal**

Be sure to use an insulation tube or cover on the crimping part of the crimping terminal to prevent electrical shocks.

Crimping terminal for (A)

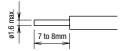
Crimping terminal for (B)



3.6 min.



## Solid wire



 Strip the wire insulation 7 to 8 mm from the end.

6 min.

 Insert the wire until the insulation comes into contact with the terminal metal part.

Terminal cover is integrated in the full voltage adapter and transformer unit. Note that the connection terminal is not IP20.

(2) Pilot Light 0.3 to 2 mm<sup>2</sup> (solid wire Ø0.5 to 1.6 mm)

(Arrows show the wiring direction)

<Full Voltage Adapter> 6, 12, 24V AC/DC

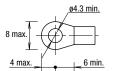
Terminal screws M3.5 (spring-up)



<Transformer, DC-DC Converter> 100/110V AC. 200/220V AC 110V DC, 380V AC minimum Terminal screws M3.5 (spring-up)

#### Applicable Crimping Terminal

Be sure to use an insulation tube or cover on the crimping part of the crimping terminal to prevent electrical shocks.



#### Solid Wire

- Strip the wire insulation 8 to 9 mm from the end.
- Inset the wire until the insulation comes into contact with the terminal metal part.
- · Terminal cover is integrated but not IP20.
- · When selecting mounting centers and crimping terminals, take sufficient insulation distance into consideration.

## Cautions for Wiring

About DC-DC Converter Unit 1. Note the polarity for wiring when connecting to the DC-DC converter.

Terminal No. Polarity X1 Positive

- X2 Negative
- 2. Incandescent lamps cannot be used in DC-DC converter unit.
- 3. DC-DC converters are equipped with an electric circuit and noise may be heard inside the unit, which does not affect the performance of DC-DC converters.

#### **Recommended Tightening Torque** Number of Wires

| Unit                        | Wire              |                                             | Number<br>of Wires | Recommended<br>Tightening Torque | Terminal<br>Screw | Flush Silhouette |
|-----------------------------|-------------------|---------------------------------------------|--------------------|----------------------------------|-------------------|------------------|
|                             |                   |                                             |                    |                                  |                   | ø16              |
| HW-U<br>Contact<br>Block    | Crimping Terminal |                                             | 2                  | 1.0 to 1.3                       |                   |                  |
|                             | Solid<br>Wire     | ø0.5 to 1.6 mm<br>(AWG14 to 22)             | 2                  | 1.0 to 1.3                       | M3.5              | ø22              |
|                             |                   | ø1.7 to 2.0 mm<br>(AWG12)                   | 1                  | 1.2 to 1.3                       |                   | ø30<br>Miniature |
|                             | Stranded<br>Wire  | 0.3 to 2.0 mm <sup>2</sup><br>(AWG14 to 22) | 2                  | 1.0 to 1.3                       |                   | Pilot Lights     |
|                             |                   | 2.1 to 3.5 mm <sup>2</sup><br>(AWG12)       | 1                  | 1.2 to 1.3                       |                   |                  |
| Illuminated<br>Unit<br>(*1) | Crimping Terminal |                                             |                    |                                  |                   |                  |
|                             | Solid<br>Wire     | ø0.5 to 1.6 mm<br>(AWG14 to 22)             | 2                  | 1.0 to 1.3                       | M3.5              | HW               |
|                             | Stranded<br>Wire  | 0.3 to 2.0 mm <sup>2</sup><br>(AWG14 to 22) |                    |                                  |                   | YW               |
| Pilot Light                 | Crimping Terminal |                                             |                    |                                  |                   |                  |
|                             | Solid<br>Wire     | ø0.5 to 1.6 mm<br>(AWG14 to 22)             | 2                  | 1.0 to 1.3 (M3.5)                | M3.5              |                  |
|                             | Stranded<br>Wire  | 0.3 to 2.0 mm <sup>2</sup><br>(AWG14 to 22) |                    |                                  |                   |                  |

\*1) Lamp terminal of illuminated pushbuttons, illuminated selector switches, dual pushbuttons with pilot lights

SEUEN01A\_B HW February 2020

APEM

Control Boxes

Emergency

Enabling

Switches

Stop Switches

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