

# AF16Z-30-01-20



AF16Z-30-01-20 12-20VDC Contactor

## General Information

Extended Product Type	AF16Z-30-01-20
Product ID	1SBL176001R2001
EAN	3471523113909
Catalog Description	AF16Z-30-01-20 12-20VDC Contactor
Long Description	<p>AF16Z contactors are used for controlling power circuits up to 690 V AC and 220 V DC. They are mainly used for controlling 3-phase motors, non-inductive or slightly inductive loads. AF..Z contactors include an electronic coil interface accepting a wide control voltage <math>U_c \text{ min.} \dots U_c \text{ max.}</math> Only four coils cover control voltages between 24...250 V 50/60 Hz or 12...250 V DC. AF..Z contactors can manage large control voltage variations. One coil can be used for different control voltages used worldwide without any coil change. AF..Z contactors allow direct control by PLC-output <math>\geq 24 \text{ V DC } 500 \text{ mA}</math> and obtain a reduced holding coil consumption. AF..Z contactors withstand short voltage dips and voltage sags (SEMI F47-0706 compliance) between 24...250 V 50/60 Hz AF..Z contactors have built-in surge protection and do not require additional surge suppressors The AF... series 1-stack 3-pole contactors are of the block type design. - Main poles and auxiliary contact blocks: 3 main poles, 1 built-in auxiliary contact, front and side-mounted add-on auxiliary contact blocks. (mechanically-linked auxiliary contacts compliant with Annex L of IEC 60947-5-1. N.C. mirror contacts compliant with Annex F of IEC 60947-4-1) - Control circuit: DC operated for AF..Z-30-...-20 contactors. Only AF..Z-30-...-20 contactors need to respect the polarity on the coil terminals (A1+ and A2-). - Accessories: a wide range of accessories is available.</p>

## Classifications

Object Classification Code	Q
ETIM 4	EC000066 - Magnet contactor, AC-switching
ETIM 5	EC000066 - Magnet contactor, AC-switching
ETIM 6	EC000066 - Power contactor, AC switching
ETIM 7	EC000066 - Power contactor, AC switching
UNSPSC	39121529

## Container Information

Package Level 1 Units	box 1 piece
Package Level 1 Width	87 mm
Package Level 1 Depth / Length	79 mm
Package Level 1 Height	47 mm
Package Level 1 Gross Weight	0.31 kg
Package Level 1 EAN	3471523113909
Package Level 2 Units	27 piece
Package Level 2 Width	250 mm
Package Level 2 Depth / Length	300 mm
Package Level 2 Height	315 mm

Package Level 2 Gross Weight	8.37 kg
Package Level 3 Units	1296 piece

## Certificates and Declarations (Document Number)

ABS Certificate	ABS_15-GE1349500-PDA_90682247
BV Certificate	BV_2634H24898B0
CB Certificate	CB_SE-80871M3
CCC Certificate	CCC_2010010304445624
cUL Certificate	UL_20180227_E312527_7_1
Declaration of Conformity - CE	1SBD250000U1000
DNV Certificate	DNV-GL_TAE00001AF-3
DNV GL Certificate	DNV-GL_TAE00001AF-3
EAC Certificate	EAC_RU C-FR ME77 B03597
Environmental Information	1SBD250147E1000
GL Certificate	DNV-GL_TAE00001AF-3
GOST Certificate	GOST_POCCFR.ME77.B07175.pdf
Instructions and Manuals	1SBC101027M6801
KC Certificate	KC_HW02016-15005A
LR Certificate	LRS_1300087E1
RINA Certificate	RINA_ELE240318XG
RMRS Certificate	RMRS_1802705280
RoHS Information	1SBD250000U1000
UL Certificate	UL_20140305-E312527_7_1
UL Listing Card	E312527

## Technical UL/CSA

General Use Rating UL/CSA	(600 V AC) 30 A
Horsepower Rating UL/CSA	(220 ... 240 V AC) Three Phase 5 hp (440 ... 480 V AC) Three Phase 10 hp (550 ... 600 V AC) Three Phase 15 hp (120 V AC) Single Phase 1-1/2 hp (200 ... 208 V AC) Three Phase 5 hp (240 V AC) Single Phase 3 hp
Tightening Torque UL/CSA	Auxiliary Circuit 11 IA Control Circuit 11 IA Main Circuit 13 IA

## Environmental

Ambient Air Temperature	Close to Contactor for Storage -60 ... +80 °C Close to Contactor without Thermal O/L Relay -40 ... +70 °C Close to Contactor Fitted with Thermal O/L Relay -25 ... +60 °C
Climatic Withstand	Category B according to IEC 60947-1 Annex Q
Maximum Operating Altitude Permissible	3000 m
Resistance to Vibrations acc. to IEC 60068-2-6	5 ... 300 Hz 4 g closed position / 2 g open position
Resistance to Shock acc. to IEC 60068-2-27	Shock Direction: A 30 K40 Shock Direction: B2 15 K40 Shock Direction: C1 25 K40 Shock Direction: C2 25 K40 Closed, Shock Direction: B1 25 K40 Open, Shock Direction: B1 5 K40
RoHS Status	Following EU Directive 2011/65/EU

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**Technical**

Number of Main Contacts NO	3
Number of Main Contacts NC	0
Number of Auxiliary Contacts NO	0
Number of Auxiliary Contacts NC	1
Standards	IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1, UL 508, CSA C22.2 N°14
Rated Operational Voltage	Auxiliary Circuit 690 V Main Circuit 690 V
Rated Frequency (f)	Auxiliary Circuit 50 / 60 Hz Main Circuit 50 / 60 Hz
Conventional Free-air Thermal Current ( $I_{th}$ )	acc. to IEC 60947-5-1, $q = 40\text{ °C}$ 16 A acc. to IEC 60947-4-1, Open Contactors $q = 40\text{ °C}$ 35 A
Rated Operational Current AC-1 ( $I_e$ )	(690 V) $40\text{ °C}$ 30 A (690 V) $60\text{ °C}$ 30 A (690 V) $70\text{ °C}$ 26 A
Rated Operational Current AC-3 ( $I_e$ )	(220 / 230 / 240 V) $60\text{ °C}$ 18 A (380 / 400 V) $60\text{ °C}$ 18 A (415 V) $60\text{ °C}$ 18 A (440 V) $60\text{ °C}$ 18 A (500 V) $60\text{ °C}$ 15 A (690 V) $60\text{ °C}$ 10.5 A
Rated Operational Power AC-3 ( $P_e$ )	(220 / 230 / 240 V) 4 KWT (380 / 400 V) 7.5 KWT (415 V) 9 KWT (440 V) 9 KWT (500 V) 9 KWT (690 V) 9 KWT (400 V) 7.5 KWT
Rated Operational Current AC-15 ( $I_e$ )	(220 / 240 V) 4 A (24 / 127 V) 6 A (500 V) 2 A (690 V) 2 A (400 / 440 V) 3 A
Rated Short-time Withstand Current ( $I_{cw}$ )	at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 10 s 150 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 15 min 35 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 1 min 60 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 1 s 300 A at $40\text{ °C}$ Ambient Temp, in Free Air, from a Cold State 30 s 80 A for 0.1 s 140 A for 1 s 100 A
Maximum Breaking Capacity	$\cos\phi=0.45$ ( $\cos\phi=0.35$ for $I_e > 100\text{ A}$ ) at 440 V 250 A $\cos\phi=0.45$ ( $\cos\phi=0.35$ for $I_e > 100\text{ A}$ ) at 690 V 106 A
Maximum Electrical Switching Frequency	AC-1 600 cycles per hour AC-2 / AC-4 300 cycles per hour AC-3 1200 cycles per hour AC-15 1200 cycles per hour DC-13 900 cycles per hour
Rated Operational Current DC-13 ( $I_e$ )	(125 V) 0.55 A / 69 W (24 V) 6 A / 144 W (250 V) 0.27 A / 68 W (48 V) 2.8 A / 134 W (72 V) 1 A / 72 W (110 V) 0.55 A / 60 W (220 V) 0.27 A / 60 W (400 V) 0.15 A / 60 W (500 V) 0.13 A / 65 W (600 V) 0.1 A / 60 W
Rated Insulation Voltage ( $U_i$ )	acc. to UL/CSA 600 V acc. to IEC 60947-4-1 and VDE 0110 (Gr. C) 690 V
Rated Impulse Withstand Voltage ( $U_{imp}$ )	6 kV
Maximum Mechanical Switching Frequency	3600 cycles per hour

Rated Control Circuit Voltage (U <sub>c</sub> )	DC Operation 12 ... 20 V
Operate Time	Between Coil De-energization and NC Contact Closing 13 ... 98 ms Between Coil De-energization and NO Contact Opening 11 ... 95 ms Between Coil Energization and NC Contact Opening 38 ... 90 ms Between Coil Energization and NO Contact Closing 40 ... 95 ms
Connecting Capacity Main Circuit	Rigid 1/2x 1 ... 6 m <sup>2</sup> Flexible with Ferrule 1/2x 0.75 ... 6 m <sup>2</sup> Flexible with Insulated Ferrule 1x 0.75 ... 4 m <sup>2</sup> Flexible with Insulated Ferrule 2x 0.75 ... 2.5 m <sup>2</sup>
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 1/2x 0.75 ... 2.5 m <sup>2</sup> Flexible with Insulated Ferrule 1x 0.75 ... 2.5 Flexible with Insulated Ferrule 2x 0.75 ... 1.5 m <sup>2</sup> Rigid 1/2x 1 ... 2.5 m <sup>2</sup>
Connecting Capacity Control Circuit	Flexible with Ferrule 1/2x 0.75 ... 2.5 m <sup>2</sup> Flexible with Insulated Ferrule 1x 0.75 ... 2.5 m <sup>2</sup> Flexible with Insulated Ferrule 2x 0.75 ... 1.5 m <sup>2</sup> Rigid 1/2x 1 ... 2.5 m <sup>2</sup>
Wire Stripping Length	Auxiliary Circuit 10 mm Control Circuit 10 mm Main Circuit 10 mm
Degree of Protection	acc. to IEC 60529, IEC 60947-1, EN 60529 Auxiliary Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Coil Terminals IP20 acc. to IEC 60529, IEC 60947-1, EN 60529 Main Terminals IP20
Terminal Type	Screw Terminals

## Dimensions

Product Net Width	45 mm
Product Net Depth / Length	77 mm
Product Net Height	86 mm
Product Net Weight	0.31 kg

## Popular Downloads

Instructions and Manuals	1SBC101027M6801
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## Ordering

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

## Categories

Low Voltage Products and Systems → Control Products → Contactors → Block Contactors

