DATASHEET - FAZ-D4/1



Miniature circuit breaker (MCB), 4A, 1p, D-Char, AC

Part no. FAZ-D4/1 Catalog No. 278576 Alternate Catalog FAZ-D4/1

No.

EL-Nummer 0001691164

(Norway)



Similar to illustration

Delivery program

Donvory program			
Basic function			Miniature circuit-breakers
Number of poles			1 pole
Tripping characteristic			D
Application			Switchgear for industrial and advanced commercial applications
Rated current	In	Α	4
Rated switching capacity acc. to IEC/EN 60947-2	I _{cu}	kA	15
Product range			FAZ

Technical data

_	ectrical
_	Coulcu

Lioution			
Standards			IEC/EN 60947-2 IEC/EN 60898
Rated operational voltage	U _e	V	
	U _e	V AC	240/415
Rated switching capacity acc. to IEC/EN 60947-2	I _{cu}	kA	15

Design verification as per IEC/EN 61439

Design vernication as per icu/cm 01459			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	4
Heat dissipation per pole, current-dependent	P _{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	1.4
Static heat dissipation, non-current-dependent	P_{vs}	W	0
Heat dissipation capacity	P _{diss}	W	0
Operating ambient temperature min.		°C	-40
Operating ambient temperature max.		°C	75
			linear, per +1 °C, results in a 0.5% reduction of current carrying capacity
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.

10.9 Insulation properties	
10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.
10.10 Temperature rise	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 7.0

Circuit breakers and fuses (EG000020) / Miniature circuit breaker (MCB) (EC000042)

Electric engineering, automation, process control engineering / Electrical installation, device / Miniature circuit breaker system (MCB) / Miniature circuit breaker (MCB) (ecl@ss10.0.1-27-14-19-01 [AAB905014])

Number of poles (total) 4 1 Number of protected poles 4 4 Rated current A 4 Rated insulation voltage Uin V 200 Rated insulation voltage Uin kV 4 Rated short-circuit breaking capacity Icn EN 60898 at 230 V kA 10 Rated short-circuit breaking capacity Icn EN 60898 at 400 V kA 10 Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 200 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 200 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 200 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 200 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 200 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 200 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 200 V kA 15 Curre	(eci@ss10.0.1-2/-14-19-01 [AAB905014])		
Number of protected poles 1 Rated current A 4 Rated voltage V 20 Rated insulation voltage Uin V 440 Rated short-circuit breaking capacity Icn EN 60898 at 230 V kA 10 Rated short-circuit breaking capacity Icn EN 60898 at 400 V kA 10 Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V kA 15 Voltage type Hz 50 - 60 Current limiting class No No Suitable for flush-mounted installation No No Concurrently switching N-neutral Yes No Voltage type Yes Yes Wildth in number of modular spacings	Release characteristic		D
Rated current A 4 Rated voltage V 230 Rated insulation voltage Ui V 440 Rated impulse withstand voltage Uimp kV 4 Rated short-circuit breaking capacity Icn EN 60898 at 230 V kA 10 Rated short-circuit breaking capacity Icn EN 60898 at 400 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V kA 15 Voltage type KA 15 Current limiting class 3 3 Suitable for flush-mounted installation No No Concurrently switching N-neutral No 3 Over voltage category No 3 Pollution degree Yes 2 Additional equipment possible Yes Width in number of modular spacings mm 70.5 Built-in depth mm 70.5 Ambient temperature during operating	Number of poles (total)		1
Rated voltage V 230 Rated insulation voltage Ui V 440 Rated inpulse withstand voltage Uimp kV 4 Rated short-circuit breaking capacity Icn EN 60898 at 230 V kA 10 Rated short-circuit breaking capacity Icn EN 60898 at 400 V kA 10 Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V kA 15 Voltage type kA 15 Current limiting class AC AC Suitable for flush-mounted installation Hz 3 Concurrently switching N-neutral No No Over voltage category No 3 Pollution degree Yes Yes Additional equipment possible Yes Width in number of modular spacings Image: Properties of protection (IP) Image: Properties of protection (IP) Properties of protection (IP) <td>Number of protected poles</td> <td></td> <td>1</td>	Number of protected poles		1
Rated insulation voltage Ui V 440 Rated impulse withstand voltage Uimp kV 4 Rated short-circuit breaking capacity Icn EN 60898 at 230 V kA 10 Rated short-circuit breaking capacity Icn EN 60898 at 400 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V kA 15 Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V kA 15 Voltage type kA 50-60 Current limiting class SUITABLE OF Flush-mounted installation No No Concurrently switching N-neutral No No No Over voltage category KA 3 No Pollution degree KA Yes No Additional equipment possible Yes Yes Width in number of modular spacings Yes Yes Built-in depth Yes Yes Degree of protection (IP) Yes Yes Ambient temperature during operating Yes Yes Connectable conductor cross section multi-wired Yes Yes	Rated current	Α	4
Rated impulse withstand voltage Ulimp Rated short-circuit breaking capacity Icn EN 60898 at 230 V Rated short-circuit breaking capacity Icu EC 60947-2 at 230 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 20	Rated voltage	V	230
Rated short-circuit breaking capacity Icn EN 60898 at 230 V Rated short-circuit breaking capacity Icn EN 60898 at 400 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V Voltage type Voltage type Current Imiting class Suitable for flush-mounted installation Concurrently switching N-neutral Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Built-in depth Degree of protection (IP) Ambient temperature during operating Concurcations and the stallation of the stallat	Rated insulation voltage Ui	V	440
Rated short-circuit breaking capacity Icn EN 60898 at 400 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 200 V Rated short-circuit breaking capa	Rated impulse withstand voltage Uimp	kV	4
Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V Rotlage type Ro	Rated short-circuit breaking capacity Icn EN 60898 at 230 V	kA	10
Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V Voltage type Voltage type Hz 50 - 60 Current limiting class Suitable for flush-mounted installation Concurrently switching N-neutral Over voltage category Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Built-in depth Degree of protection (IP) Ambient temperature during operating Connectable conductor cross section multi-wired kA CC AC AC AC AC AC AC AC AC	Rated short-circuit breaking capacity Icn EN 60898 at 400 V	kA	10
Voltage type Frequency Current limiting class Suitable for flush-mounted installation Concurrently switching N-neutral Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Width in number of modular spacings Built-in depth Degree of protection (IP) Ambient temperature during operating Connectable conductor cross section multi-wired AC Deal Concurrently So - 60 AC Deal Concurrently AC No AC AC Deal Concurrently AC AC No AC AC Deal Concurrently AC	Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V	kA	15
Frequency Current limiting class Suitable for flush-mounted installation Concurrently switching N-neutral Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Built-in depth Degree of protection (IP) Ambient temperature during operating Connectable conductor cross section multi-wired Hz 50-60 No 0 0 0 0 0 0 0 0 0 0 0 0 0	Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V	kA	15
Current limiting class Suitable for flush-mounted installation Concurrently switching N-neutral Over voltage category Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Width in number of modular spacings Width in number of protection (IP) Ambient temperature during operating Connectable conductor cross section multi-wired 3 No No 2 4 2 4 7 5 7 7 8 8	Voltage type		AC
Suitable for flush-mounted installation Concurrently switching N-neutral Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Built-in depth Degree of protection (IP) Ambient temperature during operating Connectable conductor cross section multi-wired No No No 1 PO 2 4 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 8	Frequency	Hz	50 - 60
Concurrently switching N-neutral Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Built-in depth Degree of protection (IP) Ambient temperature during operating Connectable conductor cross section multi-wired No No 2 4 7 8 No 1 1 1 1 1 1 1 1 1 1 1 1 1	Current limiting class		3
Over voltage category Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Width in number of modular spacings Built-in depth Degree of protection (IP) Ambient temperature during operating "C" -25 - 75 Connectable conductor cross section multi-wired "B" 3 4 Yes 1 1 1 1 1 1 1 1 1 1 1 1 1	Suitable for flush-mounted installation		No
Pollution degree 2 Additional equipment possible Yes Width in number of modular spacings 1 Built-in depth mm 70.5 Degree of protection (IP) IP20 Ambient temperature during operating °C -25 -75 Connectable conductor cross section multi-wired mm² 1 - 25	Concurrently switching N-neutral		No
Additional equipment possible Width in number of modular spacings Built-in depth Degree of protection (IP) Ambient temperature during operating Connectable conductor cross section multi-wired Meditional equipment possible mm 70.5 P20 P20 P25 - 75 P25 - 75 P26 - 25 - 75	Over voltage category		3
Width in number of modular spacings Built-in depth Degree of protection (IP) Ambient temperature during operating Connectable conductor cross section multi-wired 1 P20 -25 - 75 -25 - 75 -25 - 75 -25 - 75 -25 - 75	Pollution degree		2
Built-in depth mm 70.5 Degree of protection (IP) IP20 Ambient temperature during operating °C -25 - 75 Connectable conductor cross section multi-wired mm² 1 - 25	Additional equipment possible		Yes
Degree of protection (IP) Ambient temperature during operating °C -25 - 75 Connectable conductor cross section multi-wired mm² 1 - 25	Width in number of modular spacings		1
Ambient temperature during operating °C -25 - 75 Connectable conductor cross section multi-wired mm² 1 - 25	Built-in depth	mm	70.5
Connectable conductor cross section multi-wired mm² 1 - 25	Degree of protection (IP)		IP20
	Ambient temperature during operating	°C	-25 - 75
Connectable conductor cross section solid-core mm² 1 - 25	Connectable conductor cross section multi-wired	mm²	1 - 25
	Connectable conductor cross section solid-core	mm²	1 - 25

Approvals

- PP	
Product Standards	IEC/EN 60947-2; IEC/EN 60898; UL 1077; CSA-C22.2 No. 235; CE marking
UL File No.	E177451
UL Category Control No.	QVNU2, QVNU8
CSA File No.	204453
CSA Class No.	3215-30
North America Certification	UL recognized, CSA certified
Conditions of Acceptability	Supplementary Protector only
Suitable for	Branch Circuits; not as BCPD
Current Limiting Circuit-Breaker	No
Max. Voltage Rating	277 VAC; 48 VDC
Degree of Protection	IEC: IP20; UL/CSA Type: -