DATASHEET - FAZ-C12/1



Miniature circuit breaker (MCB), 12A, 1p, type C characteristic

Powering Business Worldwide*

Part no. FAZ-C12/1
Catalog No. 278558
Eaton Catalog No. FAZ-C12/1
EL-Nummer 0001691085
(Norway)

Similar to illustration

Technical data Electrical

Electrical			
Standards			IEC/EN 60947-2 IEC/EN 60898
Rated operational voltage	U _e	V	
	U _e	V AC	240/415
Rated voltage according to UL	U_{n}	V AC	277
Rated switching capacity acc. to IEC/EN 60947-2	I _{cu}	kA	15
Breaking capacity according to UL		kA	10 (UL1077)
Max operational voltage according to IEC/EN 60947-2		V AC	254
Rated switching capacity according to IEC/EN 60947-2 (max operational voltage)	I _{cu}	kA	10
Rated service short-circuit breaking capacity according to IEC/EN 60947-2 (max operational voltage)	I _{cs}		7,5 kA
Rated voltage according to IEC/EN 60898-1	Un	V AC	240
Rated switching capacity according to IEC/EN 60898-1	I _{cn}	kA	10
Rated service short-circuit breaking capacity according to IEC/EN 60898-1	I _{cs}		7,5 kA

Design verification as per IEC/EN 61439

Design verincation as per IEG/EN 01439			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	12
Heat dissipation per pole, current-dependent	P _{vid}	W	0
Equipment heat dissipation, current-dependent	P _{vid}	W	2.1
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])

Release characteristic Number of poles (total) Number of poles (total) Number of protected poles Rated current Rated current Rated vinted poles Rated insulation voltage Uim Rated insulation voltage Uim Rated short-circuit breaking capacity Ion EN 60898 at 230 V Rated short-circuit breaking capacity Ion EN 60898 at 230 V Rated short-circuit breaking capacity Ion EN 60898 at 400 V Rated short-circuit breaking ca	(ecl@ss10.0.1-2/-14-19-01 [AAB905014])		
Number of protected poles 1 Rated current A 12 Rated voltage V 20 Rated insulation voltage Ui V 44 Rated insulation 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 230 V KA 10 Rated short-circuit breaking capacity Icn EN 60894 7-2 at 230 V KA 15 Rated short-circuit breaking capacity Icu EC 60947-2 at 240 V KA 15 Rated short-circuit breaking capacity Icu EC 60947-2 at 400 V KA 15 Voltage type KA 15 16 Frequency KA 15 16 Current limiting class Y 10 10 Suitable for flush-mounted installation Y 10 10 Concurrently switching N-neutral Y 10 10 Over voltage category Y 10 10 Pollution degree Y Y 10 Width in number of modular spacings	Release characteristic		C
Rated current A 12 Rated voltage V 20 Rated insulation voltage Ui V 40 Rated insulation voltage Uimp VV 40 Rated short-circuit breaking capacity Icn EN 60898 at 230 V KA 10 Rated short-circuit breaking capacity Icn EN 60898 at 230 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 230 V KA 15 Voltage type KA 15 6 Current limiting class S 30 6 Suitable for flush-mounted installation B 12 3 3 Concurrently switching N-neutral B 10 3 3 3 3 Over voltage category B 3 3 3 3 3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4	Number of poles (total)		1
Rated voltage V 30 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 kA 15 Suitable for flush-mounted installation L 40 Concurrently switching N-neutral L No Over voltage category No No Pollution degree L 2 No Additional equipment possible Y Y No Width in number of modular spacings N Y N Built-in depth N N N N Degree of protection (IP) N N N N N N N	Number of protected poles		1
Rated insulation voltage Uin 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 20 20 Current limiting class kA 3 3 Suitable for flush-mounted installation kA No 4 Concurrently switching N-neutral kA 3 4 Ver voltage category kA 3 4 Pollution degree kA kA 4 Additional equipment possible kA kB 4 With in number of modular spacings kA yes 4 Built-in depth kB yes 4 5 Degree of protection (IP) kB yes 75 5 Almient tempe	Rated current	А	12
Rated impulse withstand voltage Uimp 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 Icn EK 60947-2 at 230 V Rated short-circuit breaking capacity Icn IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icn IEC 60947-2 at 2400 V Rated short-circuit breaking capacity Icn ICn IEC 60947-2 at 2400 V Rated short-circuit breaking capacity Icn IEC 60947-2 at 2400 V Rated short-circuit breaking capacity Icn ICn IEC 60947-2 at 2400 V Rated short-circuit breaking capacity Icn IEC 60947-2 at 2400 V Rated short-circuit breaking capacity Icn IEC 60947-2 at 2400 V Rated short-circuit breaking	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 400 V Rated short-circuit breaking capacity Icu ICC 60947-2 at 400 V Rated short-circuit breaking capacity Icu ICC 60947-2 at 400 V Rated short-circuit breaking capacity Icu ICC 60947-2 at 400 V Rated short-circuit breaking capacity Icu ICC 60947-2 at 400 V Rated short-circuit breaking capacit	Rated insulation voltage Ui	V	440
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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 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 kA 15 4 4 4 4 4 5 6 6 7 8 7 8 8 7 8 8 8 8 8 8 8	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 Frequency Hz 50 - 60 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 kA 15 AC AC AC AC AC AC AC AC AC A	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 Built-in depth Degree of protection (IP) Ambient temperature during operating Voltage category AC AC AC AC AC AC BUIL BU	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 modular spacings Built-in depth mm 70.5 Degree of protection (IP) Ambient temperature during operating connectable conductor cross section multi-wired mm² 1-25	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 2 4 7 7 8 7 7 7 7 7 7 7 7 7 7	Frequency	Hz	50 - 60
Concurrently switching N-neutral Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Width in number of modular spacings In the protection (IP) Ambient temperature during operating Connectable conductor cross section multi-wired No No 1 2 And Pollution degree Yes 1 1 Popo Pop	Current limiting class		3
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 March 1 - 25 March 2 - 20 M	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 Yes 1 1 P20 P20 -25 - 75 Connectable conductor cross section multi-wired mm² 1 - 25	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 Connectable conductor cross section multi-wired mm² 1-25	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 mm ² 1 - 25	Connectable conductor cross section multi-wired	mm²	1 - 25
	Connectable conductor cross section solid-core	mm²	1 - 25

Approvals

- Photosia	
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: -