DATASHEET - FAZ-D20/4-RT

Miniature circuit breaker (MCB), 20 A, 4p, characteristic: D, ring tongue

Powering Business Worldwide™

Part no. FAZ-D20/4-RT
Catalog No. 190897

Similar to illustration

Delivery program

Basic function			Miniature circuit-breakers
Number of poles			4 pole
Tripping characteristic			D
Application			Switchgear for export to North America (UL-listed)
Rated current	I_n	A	20
Rated switching capacity acc. to IEC/EN 60947-2	I_{cu}	kA	15
Product range			FAZ-RT

Technical data

Electrical

Standards			UL 489, CSA C22.2 No. 5 IEC 60947-2
Rated operational voltage	U_e	V	
	U_e	V AC	277/480 Y
		V DC	60
Rated voltage according to IEC/EN 60947-2	U_n	V AC	415
Rated voltage according to UL	U_n	V AC	480Y/277
Rated insulation voltage	U_i	V	440
Rated switching capacity acc. to IEC/EN 60947-2	I_{cu}	kA	15
Operational switching capacity		kA	7.5
Characteristic			B, C, D
Max. back-up fuse		A gL/gG	125
Selectivity Class			3
lifespan			
Electrical	Operations		≧ 1500
electrical UL	Operations		≧ 6000
Mechanical	Operations		≧ 10000
Lifespan	Operations		> 10000
Direction of incoming supply			as required

References

Auxiliary switch for subsequent installation			Z-IHK-NA 113895
Tripping signal contact for subsequent installation			Z-NHK 248434
Switching interlock			Z-IS/SPE-1TE 274418
Shunt trip release			FAZ-XAA-NA110-415V AC 102036 FAZ-XAA-NA12-110V AC 102037

Mechanical

Standard front dimension		mm	45
Enclosure height		mm	105
Mounting width per pole		mm	17.7
Mounting			IEC/EN 60715 top-hat rail
Degree of Protection			IP20, IP40 (when fitted)
Terminals top and bottom			lift terminal / ring-tongue
Terminal protection			finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacities		mm^2	
		mm^2	1 x 25
		mm^2	2 x 10

Tightening torque of fixing screws		N/m	max. 2.4 UL: #18-12 AWG: 2.4 Nm (21 lb-in) #10-8 AWG: 2.8 Nm (25 lb-in) #6 AWG: 4 Nm (36 lb-in)
Mounting position			As required
Contact position indicator			red / green
Internal resistance (at room temperature, single-pole, 50 Hz)			
single pole	R_i	mΩ	4.9
Operating ambient temperature min. (UL)		°C	-5
Operating ambient temperature max. (UL)		°C	+ 40

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	20
Heat dissipation per pole, current-dependent	P_{vid}	W	0
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.
10.11 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			D
Number of poles (total)			4
Number of protected poles			4
Rated current		A	20
Rated voltage		V	240

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	10
Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V	kA	14
Voltage type		AC
Frequency	Hz	50 - 50
Current limiting class		3
Suitable for flush-mounted installation		Yes
Concurrently switching N-neutral		No
Over voltage category		3
Pollution degree		2
Additional equipment possible		Yes
Width in number of modular spacings		70.8
Built-in depth	mm	60
Degree of protection (IP)		IP20
Ambient temperature during operating	°C	-25 - 75
Connectable conductor cross section multi-wired	mm^2	1 - 25
Connectable conductor cross section solid-core	mm^2	1 - 25

Approvals

Product Standards		IEC/EN 60947-2; EN 45545-2; IEC 61373; UL 489; CSA-C22.2 No. 5-09; CE marking
UL File No.		E235139
UL Category Control No.		DIVQ
CSA File No.		204453
CSA Class No.		1432-01
North America Certification		UL listed, CSA certified
Specially designed for North America		Yes, suitable as BCPD
Suitable for		Feeder circuits, branch circuits
Current Limiting Circuit-Breaker		Yes
Max. Voltage Rating		≤ 32 A
Degree of Protection		IEC: IP20, UL/CSA Type: -

Characteristics

Let-through energy I2t | Characteristic C (0.5 - 20 A), 277 V
Characteristic C (25 - 40 A), 240 V

Additional product information (links)

Temperature dependency, derating	https://www.eaton.com/content/dam/eaton/technicaldocumentation/technical-data-tables/Derating table FAZ-NA-RT.pdf

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