DATASHEET - MMCM-C20/1



Miniature circuit breaker (MCB), 20 A, 1p, characteristic: C

Part no. mMCM-C20/1 Catalog No. 138880



Delivery program

Zonion, program			
Basic function			Miniature circuit-breakers
Number of poles			1 pole
Tripping characteristic			С
Application			Switchgear for residential and commercial applications
Rated current	In	Α	20
Rated switching capacity according to IEC/EN 60898-1	I _{cn}	kA	10
Product range			mMCM

Technical data

Electrical

Rated switching capacity according to IEC/EN 60898-1	I _{cn}	kA	10
Rated insulation voltage	Ui	V	440
Rated impulse withstand voltage	U_{imp}	kV	4 9
lifespan			-0
Electrical	Operations	×	≧ 10000
Mechanical	Operations	3	≧ 20000
References	(20	
Auxiliary quitab for autocquant installation			7D IIV 200052

Auxiliary switch for subsequent installation		ZP-IHK 286052
Tripping signal contact for subsequent installation	111	ZP-NHK 248437
Remote control and automatic switching device		Z-FW/LP 248296
Switching interlock	CXO	Z-IS/SPE-1TE 274418

Mechanical

Standard front dimension	mm	45
Device height	mm	80
Mounting		Quick attachment with 3 latch positions for top-hat rail IEC/EN 60715
Degree of Protection		IP20
Terminals top and bottom		Open mouthed/lift terminals
Terminal protection		BGV A3, ÖVE-EN 6
Thickness of busbar material	mm	0.8 - 2

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	20
Heat dissipation per pole, current-dependent	P _{vid}	W	0
Equipment heat dissipation, current-dependent	P _{vid}	W	3.2
Static heat dissipation, non-current-dependent	P_{vs}	W	0
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
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 5.0

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@ss8-27-14-19-01 [AAB905010])

Number of poles (total) 1 Rated current A 20 Rated voltage V 230 Rated short-circuit breaking capacity EN 60898 kA 10 Rated short-circuit breaking capacity IEC 60947-2 kA 0 Voltage type AC AC Current limiting class 3 50 Frequency No No Concurrently switching N-neutral No No Over voltage category 3 2 Pollution degree 2 2 Width in number of modular spacings 1 1 Built-in depth mm 70.5 Additional equipment possible Yes Yes				
Rated current Rated voltage Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capacity IEC 60947-2 Voltage type Current limiting class Frequency Concurrently switching N-neutral Over voltage category Pollution degree Width in number of modular spacings Built-in depth Additional equipment possible V 230 AC CURRENT MAR AC V 3 AC V 5 No No No AC No No AC No No No AC No No No AC No No No No No No No No No N	Release characteristic		0	С
Rated voltage Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capacity IEC 60947-2 Voltage type Voltage type Current limiting class Frequency Concurrently switching N-neutral Over voltage category Pollution degree Width in number of modular spacings Madditional equipment possible V 2 23 24 25 26 27 27 28 28 28 28 28 28 28 28	Number of poles (total)	10)		1
Rated short-circuit breaking capacity EN 60898 Rated short-circuit breaking capacity IEC 60947-2 Voltage type Current limiting class Frequency Concurrently switching N-neutral Over voltage category Pollution degree Width in number of modular spacings Built-in depth Additional equipment possible kA 10 Concurrently eximating capacity IEC 60947-2 kA 0 CONCURRENT STATES STA	Rated current	K.	Α	20
Rated short-circuit breaking capacity IEC 60947-2 Voltage type CCUrrent limiting class Frequency Concurrently switching N-neutral Over voltage category Pollution degree Width in number of modular spacings Built-in depth Madditional equipment possible KA CC CURRENT LIMIT SA AC CONCURRENT SA AC DVC AC AC AC AC AC AC AC AC AC	Rated voltage	<i>y</i>	V	230
Voltage type Current limiting class 3 Frequency Concurrently switching N-neutral No Over voltage category 3 Pollution degree Width in number of modular spacings Built-in depth Madditional equipment possible AC	Rated short-circuit breaking capacity EN 60898		kA	10
Current limiting class Frequency Concurrently switching N-neutral Over voltage category Pollution degree Width in number of modular spacings Built-in depth Additional equipment possible 3 No 2 Wes Additional equipment possible 3 Additional equipment possible 3 Additional equipment possible 3 Additional equipment possible Additional equipment possible	Rated short-circuit breaking capacity IEC 60947-2		kA	0
Frequency Concurrently switching N-neutral Over voltage category 3 Pollution degree 2 Width in number of modular spacings In mm 70.5 Additional equipment possible Yes	Voltage type			AC
Concurrently switching N-neutral Over voltage category 3 Pollution degree 2 Width in number of modular spacings In mm 70.5 Additional equipment possible No 1 Yes	Current limiting class			3
Over voltage category Pollution degree 2 Width in number of modular spacings 1 Built-in depth mm 70.5 Additional equipment possible Yes	Frequency		Hz	50
Pollution degree 2 Width in number of modular spacings 1 Built-in depth mm 70.5 Additional equipment possible Yes	Concurrently switching N-neutral			No
Width in number of modular spacings 1 Built-in depth mm 70.5 Additional equipment possible Yes	Over voltage category			3
Built-in depth mm 70.5 Additional equipment possible Yes	Pollution degree			2
Additional equipment possible Yes	Width in number of modular spacings			1
	Built-in depth		mm	70.5
Degree of protection (IP)	Additional equipment possible			Yes
	Degree of protection (IP)			IP20