DATASHEET - MMCM-B4/3



Miniature circuit breaker (MCB), 4 A, 3p, characteristic: B

Part no. mMCM-B4/3 Catalog No. 139101



Delivery program

Basic function			Miniature circuit-breakers
Number of poles			3 pole
Tripping characteristic			В
Application			Switchgear for residential and commercial applications
Rated current	In	Α	4
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
lifespan			
Electrical	Operations		≧ 10000
Mechanical	Operations		≧ 20000
References			

Auxiliary switch for subsequent installation	ZP-IHK 286052
Tripping signal contact for subsequent installation	ZP-NHK 248437
Remote control and automatic switching device	Z-FW/LP 248296
Switching interlock	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	4
Heat dissipation per pole, current-dependent	P _{vid}	W	0
Equipment heat dissipation, current-dependent	P _{vid}	W	4.4
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 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) 3 Number of protected poles 3 Rated current A 4 Rated insulation voltage Uimp V 400 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 Icn EN 60898 at 400 V KA 15 Rated short-circuit breaking capacity Icu EC 60947-2 at 230 V KA 15 Rated short-circuit breaking capacity Icu EC 60947-2 at 400 V KA 15 Rated short-circuit breaking capacity Icu EC 60947-2 at 400 V KA 15 Voltage type AC C Frequency No No Current limiting class No No Suitable for flush-mounted installation No No Concurrently switching N-neutral No No Over voltage category No No Pollution degree No No Additional equipment possible Yes No Width in number of modular spacings <t< th=""><th>***************************************</th><th></th><th></th></t<>	***************************************		
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Rated current A 4 Rated voltage V 400 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 AC 3 Current limiting class So -60 Suitable for flush-mounted installation No No Concurrently switching N-neutral No 3 Over voltage category So -3 3 Pollution degree Yes 2 Additional equipment possible Yes Width in number of modular spacings mm 70.5 Built-in depth pm 70.5 Ambient temperature during operating 2-2-7.5 Connectable conductor cross section multi-wired pm² 1-25	Number of poles (total)		3
Rated voltage V 400 Rated insulation voltage Ui V 440 Rated inpulse withstand voltage Uimp kV 4 Rated short-circuit breaking capacity Icn EN 6098 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 400 V kA 15 Voltage type kA 15 Frequency kB 3 3 Current limiting class 3 3 Suitable for flush-mounted installation KB No Concurrently switching N-neutral No 3 Over voltage category KB 2 2 Pollution degree KB 2 2 Additional equipment possible Yes Yes Width in number of modular spacings MB 70.5 Built-in depth MB 70.5 Degree of protection (IP) IP20 25-75 Ambient temperature during operating MB 70.5 Connectable conductor cros	Number of protected poles		3
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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 KA	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 AC 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 AC AC AC AC AC AC AC AC AC A	Rated short-circuit breaking capacity Icn EN 60898 at 400 V	kA	10
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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 3 4 7 7 8 Pollution Pes Pes Yes 3 Built-in depth mm 7 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 Built-in depth Degree of protection (IP) Ambient temperature during operating "C" -25-75 Connectable conductor cross section multi-wired "S" 3 Pollution degree Yes Yes 70.5 Poly Pol	Suitable for flush-mounted installation		No
Pollution degree 2 Additional equipment possible Yes Width in number of modular spacings 3 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 3 Pub 70.5 Pub P20 -25 - 75 Connectable conductor cross section multi-wired mm² 1 - 25	Over voltage category		3
Width in number of modular spacings 3 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	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		3
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 mm ² 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