## **DATASHEET - MMCM-D13/1**



Miniature circuit breaker (MCB), 13 A, 1p, characteristic: D

Part no. mMCM-D13/1 Catalog No. 138892



## **Delivery program**

Basic function			Miniature circuit-breakers
Number of poles			1 pole
Tripping characteristic			D
Application			Switchgear for residential and commercial applications
Rated current	In	Α	13
Rated switching capacity according to IEC/EN 60898-1	I <sub>cn</sub>	kA	10
Product range			mMCM

### **Technical data**

#### **Electrical**

Mechanical	Operations		≧ 20000
Electrical	Operations		≧ 10000
lifespan			
Rated impulse withstand voltage	U <sub>imp</sub>	kV	4
Rated insulation voltage	Ui	V	440
Rated switching capacity according to IEC/EN 60898-1	I <sub>cn</sub>	kA	10

#### 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	13
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	1.9
Static heat dissipation, non-current-dependent	$P_{vs}$	W	0
Heat dissipation capacity	P <sub>diss</sub>	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.

observed.		
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects  10.2.4 Resistance to ultra-violet (UV) radiation  10.2.5 Lifting  Does not apply, since the entire switchgear needs to be evaluated.  10.2.6 Mechanical impact  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.  10.6 Incorporation of switching devices and components  Does not apply, since the entire switchgear needs to be evaluated.  10.7 Internal electric alcircuits and connections  Is the panel builder's responsibility.  10.8 Connections for external conductors  Is the panel builder's responsibility.  10.9.1 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's responsibility. The specifications for the switchgear must be observed.  10.11 Short-circuit rating  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	10.2.3.1 Verification of thermal stability of enclosures	Meets the product standard's requirements.
and fire due to internal electric effects  10.2.4 Resistance to ultra-violet (UV) radiation  10.2.5 Lifting  10.2.6 Mechanical impact  10.2.7 Inscriptions  10.2.7 Inscriptions  10.2.8 Mechanical impact  10.2.7 Inscriptions  10.3 Degree of protection of ASSEMBLIES  10.4 Clearances and creepage distances  10.5 Protection against electric shock  10.5 Protection against electric shock  10.6 Incorporation of switching devices and components  10.7 Internal electrical circuits and connections  10.8 Connections for external conductors  10.9 Power-frequency electric strength  10.9.2 Power-frequency electric strength  10.9.3 Impulse withstand voltage  10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.13 Mechanical function  10.13 Mechanical function  Meets the product standard's requirements.  10.6 Does not apply, since the entire switchgear needs to be evaluated.  10.7 Internal electrical circuits and connections  10.8 List the panel builder's responsibility.  10.9 Insulation properties  10.9.1 Temperature rise  10.9.2 Power-frequency electric strength  10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.13 Mechanical function  10.13 Mechanical function  10.14 Meets the product standard's requirements.  10.15 Meets the product standard's requirements.  10.16 Meets the product standard's requirements.  10.17 Internal electrical circuits and connections  10.18 List the panel builder's responsibility.  10.19 List the panel builder's responsibility.  10.10 Temperature rise  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.13 Mechanical function	10.2.3.2 Verification of resistance of insulating materials to normal heat	Meets the product standard's requirements.
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	10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
	10.13 Mechanical function	

## **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)			1
Number of protected poles			1
Rated current	A	A	13
Rated voltage	١	V	230
Rated insulation voltage Ui	١	V	440
Rated impulse withstand voltage Uimp	k	kV	4
Rated short-circuit breaking capacity Icn EN 60898 at 230 V	k	kA	10
Rated short-circuit breaking capacity Icn EN 60898 at 400 V	k	kA	10
Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V	k	kA	15
Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V	k	kA	15
Voltage type			AC
Frequency	H	Hz	50 - 60
Current limiting class			3
Suitable for flush-mounted installation			No
Concurrently switching N-neutral			No
Over voltage category			3
Pollution degree			2
Additional equipment possible			Yes
Width in number of modular spacings			1
Built-in depth	r	mm	70.5
Degree of protection (IP)			IP20
Ambient temperature during operating	o	°C	-25 - 75
Connectable conductor cross section multi-wired	r	mm²	1 - 25
Connectable conductor cross section solid-core	r	mm²	1 - 25