



Overload relay, ZB12, Ir= 0.16 - 0.24 A, 1 N/O, 1 N/C, Direct mounting, IP20



Part no. ZB12-0,24
278432
EL Number 4131827
(Norway)

General specifications		
Product name		Eaton Moeller® series ZB Thermal overload relay
Part no.		ZB12-0,24
EAN		4015082784324
Product Length/Depth		88 millimetre
Product height		67 millimetre
Product width		45 millimetre
Product weight		0.141 kilogram
Certifications		CSA-C22.2 No. 60947-4-1-14 UL 60947-4-1 UL VDE 0660 CSA IEC/EN 60947-4-1 IEC/EN 60947 CSA File No.: 012528 CE UL Category Control No.: NKCR UL File No.: E29184 CSA Class No.: 3211-03
Product Tradename		ZB
Product Type		Thermal overload relay
Product Sub Type		None
Catalog Notes		Ambient air temperature: Operating range to IEC/EN 60947, PTB: -5°C to +55°C Ambient operating temperature (according to IEC/EN 60947) PTB: -5 °C - +55 °C Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified.
Features & Functions		
Features		Test/off button Trip-free release Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102) Reset pushbutton manual/auto
General information		
Ambient operating temperature - min		-25 °C
Ambient operating temperature - max		55 °C
Ambient operating temperature (enclosed) - min		25 °C
Ambient operating temperature (enclosed) - max		40 °C
Class		CLASS 10 A
Climatic proofing		Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Degree of protection		IP20
Frame size		ZB12
Mounting method		Direct attachment Direct mounting
Overload release current setting - min		0.16 A
Overload release current setting - max		0.24 A
Overvoltage category		III
Pollution degree		3
Product category		Accessories Overload relay ZB up to 150 A
Protection		Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
Rated impulse withstand voltage (Uimp)		6000 V AC 4000 V (auxiliary and control circuits)
Shock resistance		10 g, Mechanical, Sinusoidal, Shock duration 10 ms
Suitable for		Branch circuits, (UL/CSA)

Temperature compensation			≤ 0.25 %/K, residual error for T > 40° Continuous
Terminal capacities			
Terminal capacity (flexible with ferrule)			1 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (1 - 4) mm ² , Main cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (1 - 4) mm ² , Main cables
Terminal capacity (solid)			2 x (0.75 - 4) mm ² , Control circuit cables 1 x (0.75 - 4) mm ² , Control circuit cables 1 x (1 - 6) mm ² , Main cables 2 x (1 - 6) mm ² , Main cables
Terminal capacity (solid/stranded AWG)			18 - 8, Main cables 2 x (18 - 14), Control circuit cables
Stripping length (main cable)			10 mm
Stripping length (control circuit cable)			8 mm
Screw size			M4, Terminal screw M3.5, Terminal screw, Control circuit cables
Screwdriver size			2, Terminal screw, Pozidriv screwdriver 1 x 6 mm, Terminal screw, Standard screwdriver
Tightening torque			1.2 Nm, Screw terminals, Control circuit cables 1.8 Nm, Screw terminals, Main cables
Electrical rating			
Conventional thermal current I _{th} of auxiliary contacts (1-pole, open)			6 A
Rated operational current (I _e) at AC-15, 120 V			1.5 A
Rated operational current (I _e) at AC-15, 220 V, 230 V, 240 V			1.5 A
Rated operational current (I _e) at AC-15, 380 V, 400 V, 415 V			0.9 A
Rated operational current (I _e) at DC-13, 110 V			0.4 A
Rated operational current (I _e) at DC-13, 220 V, 230 V			0.2 A
Rated operational current (I _e) at DC-13, 24 V			0.9 A
Rated operational current (I _e) at DC-13, 60 V			0.75 A
Rated operational voltage (U _e) - max			690 V
Safe isolation			240 V AC, Between auxiliary contacts, According to EN 61140 440 V AC, Between main circuits, According to EN 61140 440 V AC, Between auxiliary contacts and main contacts, According to EN 61140
Switching capacity (auxiliary contacts, pilot duty)			B600 at opposite polarity, AC operated (UL/CSA) R300, DC operated (UL/CSA) B300 at opposite polarity, AC operated (UL/CSA)
Voltage rating - max			600 V AC
Short-circuit rating			
Short-circuit current rating (high fault at 600 V)			1 A, Class J/CC, max. Fuse, SCCR (UL/CSA) 100 kA, Fuse, SCCR (UL/CSA)
Short-circuit protection rating			Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits 1 A gG/gL, Fuse, Type "2" coordination 25 A gG/gL, Fuse, Type "1" coordination
Contacts			
Number of auxiliary contacts (change-over contacts)			0
Number of auxiliary contacts (normally closed contacts)			1
Number of auxiliary contacts (normally open contacts)			1
Number of contacts (normally closed contacts)			1
Number of contacts (normally open contacts)			1
Design verification			
Equipment heat dissipation, current-dependent P _{vid}			5.4 W
Heat dissipation capacity P _{diss}			0 W
Heat dissipation per pole, current-dependent P _{vid}			1.8 W
Rated operational current for specified heat dissipation (I _n)			0.24 A
Static heat dissipation, non-current-dependent P _{vs}			0 W
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.9.2 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 9.0

Low-voltage industrial components (EG000017) / Thermal overload relay (EC000106)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Thermal overload relay (ecI@ss13-27-37-15-01 [AKF075019])		
Adjustable current range	A	0.16 - 0.24
Max. rated operation voltage Ue	V	690
Mounting method		Direct attachment
Type of electrical connection of main circuit		Screw connection
Number of auxiliary contacts as normally closed contact		1
Number of auxiliary contacts as normally open contact		1
Number of auxiliary contacts as change-over contact		0
Release class		CLASS 10 A
Reset function input		No
Reset function automatic		Yes
Reset function push-button		Yes