

Overload relay, Direct mounting, Earth-fault protection: with, Ir= 0.33 - 1.65 A, 1 N/O, 1 N/C

Part no. ZEB12-1,65-GF
136483
EL Number 4137352
(Norway)

General specifications		
Product name		Eaton Moeller® series ZEB Electronic overload Relay
Part no.		ZEB12-1,65-GF
EAN		4015081332632
Product Length/Depth		108 millimetre
Product height		110 millimetre
Product width		45 millimetre
Product weight		0.235 kilogram
Certifications		CSA File No.: 2290956 UL CSA IEC/EN 60947 CE UL File No.: E1230 UL 508 VDE 0660 UL Category Control No.: NKCR CSA Class No.: 3211-03 IEC/EN 60947-4-1 CSA-C22.2 No. 14
Product Tradename		ZEB
Product Type		Electronic overload Relay
Product Sub Type		None
Catalog Notes		Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified.
Features & Functions		
Earth fault protection		Trip at approx. > 0.5 x Ir in 2 s Trip at approx. > 1.5 x Ir in 1 s Yes
Features		Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102)
Functions		Filament bulb (24 V)
General information		
Class		Adjustable
Degree of protection		IP20
Mounting method		Direct mounting Direct attachment
Overload release current setting - min		0.33 A
Overload release current setting - max		1.65 A
Overvoltage category		III
Pollution degree		3
Protection		Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
Rated impulse withstand voltage (Uimp)		6000 V (auxiliary circuits) 6000 V AC
Shock resistance		15 g, Mechanical, According to IEC/EN 60068-2-27, Shock duration 10 ms Mechanical, According to IEC/EN 60068-2-27
Suitable for		Branch circuits, (UL/CSA)
Voltage type		Self powered
Climatic environmental conditions		
Ambient operating temperature - min		-25 °C
Ambient operating temperature - max		65 °C
Ambient operating temperature (enclosed) - max		65 °C
Climatic proofing		Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78

Terminal capacities		
Terminal capacity (flexible with ferrule)		2 x (0.75 - 2.5) mm ² , Control circuit cables
Terminal capacity (solid)		1 x (1.5 - 16) mm ² , Main cables 2 x (0.75 - 4) mm ² , Control circuit cables
Terminal capacity (solid/stranded AWG)		2 x (18 - 12), Control circuit cables 1 x (14 - 4), Main cables
Stripping length (main cable)		13 mm
Stripping length (control circuit cable)		8 mm
Screw size		M3.5, Terminal screw, Control circuit cables
Screwdriver size		1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
Tightening torque		7 lb-in, Screw terminals 0.8 - 1.2 Nm, Screw terminals, Control circuit cables
Electrical rating		
Conventional thermal current <i>I</i> _{th} of auxiliary contacts (1-pole, open)		5 A
Rated control supply voltage (U _s) at AC, 50 Hz - min		0 V
Rated control supply voltage (U _s) at AC, 50 Hz - max		0 V
Rated control supply voltage (U _s) at AC, 60 Hz - min		0 V
Rated control supply voltage (U _s) at AC, 60 Hz - max		0 V
Rated control supply voltage (U _s) at DC - min		0 V
Rated control supply voltage (U _s) at DC - max		0 V
Rated frequency - min		50 Hz
Rated frequency - max		60 Hz
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) at AC - max		690 V
Safe isolation		440 V, Between auxiliary contacts and main contacts, According to EN 61140 240 V AC, Between auxiliary contacts, According to EN 61140 600 V AC, Between main circuits, According to EN 61140
Short-circuit protection rating		Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits
Short-circuit current rating (basic rating)		1 kA, SCCR (UL/CSA) 6 A RK5, max. Fuse, SCCR (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)		B600, AC operated (UL/CSA) R300, DC operated (UL/CSA)
Voltage rating - max		600 V
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}		0.51 W
Heat dissipation capacity P _{diss}		0 W
Heat dissipation per pole, current-dependent P _{vid}		0.17 W
Rated operational current for specified heat dissipation (I _n)		1.65 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) / Electronic overload relay (EC001080)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Electronic overload relay (ecI@ss13-27-37-15-02 [AKF076019])			
Mounting method			Direct attachment
Type of electrical connection of main circuit			Screw connection
Adjustable current range		A	0.33 - 1.65
External power supply required			No
Rated control supply voltage AC 50 Hz		V	0 - 0
Rated control supply voltage AC 60 Hz		V	0 - 0
Rated control supply voltage DC		V	0 - 0
Voltage type for actuating			
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
Voltage type (operating voltage)			AC
Operating voltage AC 50 Hz		V	230 - 690
Operating voltage AC 60 Hz		V	230 - 690
Operating voltage DC		V	0 - 0
Rated switch current		A	
Release class			Adjustable
Reset function automatic			Yes
Reset function input			No
Reset function push-button			Yes
Width		mm	45
Height		mm	110
Depth		mm	108