

Overload relay, Direct mounting, Earth-fault protection: none, Ir= 35 - 175 A, 1 N/O, 1 N/C

Part no. ZEB225-175
164307
EL Number 4137385
(Norway)

General specifications		
Product name		Eaton Moeller® series ZEB Electronic overload Relay
Part no.		ZEB225-175
EAN		4015081608386
Product Length/Depth		157 millimetre
Product height		194 millimetre
Product width		108 millimetre
Product weight		1.9 kilogram
Certifications		CSA Class No.: 3211-03 UL File No.: E1230 UL CSA UL Category Control No.: NKCR CE VDE 0660 IEC/EN 60947-4-1 CSA-C22.2 No. 14 CSA File No.: 2290956 UL 508 IEC/EN 60947
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		None
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 IP00
Mounting method		Direct attachment Direct mounting
Overload release current setting - min		35 A
Overload release current setting - max		175 A
Overvoltage category		III
Pollution degree		3
Protection		With terminal cover, Protection against direct contact when actuated from front (EN 50274)
Rated impulse withstand voltage (Uimp)		6000 V AC 6000 V (auxiliary circuits)
Shock resistance		Mechanical, According to IEC/EN 60068-2-27 15 g, Mechanical, According to IEC/EN 60068-2-27, Shock duration 10 ms
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		45 °C
Climatic proofing		Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Terminal capacities		

Terminal capacity (copper band)		6 x 18 x 0.8 mm Number of segments x width x thickness, Main cables
Terminal capacity (flexible with ferrule)		2 x (0.75 - 2.5) mm ² , Control circuit cables
Terminal capacity (solid)		2 x (0.75 - 4) mm ² , Control circuit cables 1 x (10 - 95) mm ² , Main cables
Terminal capacity (solid/stranded AWG)		1 x (8 - 4/0), Main cables 2 x (18 - 12), Control circuit cables
Stripping length (main cable)		22 mm
Stripping length (control circuit cable)		8 mm
Screw size		M3.5, Terminal screw, Control circuit cables
Screwdriver size		2, Terminal screw, Control circuit cables, Pozidriv screwdriver 1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver
Tightening torque		7 lb-in, Screw terminals 0.8 - 1.2 Nm, Screw terminals, Control circuit cables
Electrical rating		
Conventional thermal current I_{th} of auxiliary contacts (1-pole, open)		5 A
Rated control supply voltage (Us) at AC, 50 Hz - min		0 V
Rated control supply voltage (Us) at AC, 50 Hz - max		0 V
Rated control supply voltage (Us) at AC, 60 Hz - min		0 V
Rated control supply voltage (Us) at AC, 60 Hz - max		0 V
Rated control supply voltage (Us) at DC - min		0 V
Rated control supply voltage (Us) at DC - max		0 V
Rated frequency - min		50 Hz
Rated frequency - max		60 Hz
Rated operational current (Ie) at AC-15, 120 V		1.5 A
Rated operational current (Ie) at AC-15, 220 V, 230 V, 240 V		1.5 A
Rated operational current (Ie) at AC-15, 380 V, 400 V, 415 V		0.9 A
Rated operational current (Ie) at DC-13, 110 V		0.4 A
Rated operational current (Ie) at DC-13, 220 V, 230 V		0.2 A
Rated operational current (Ie) at DC-13, 24 V		0.9 A
Rated operational current (Ie) at DC-13, 60 V		0.75 A
Rated operational voltage (Ue) at AC - max		690 V
Safe isolation		600 V AC, Between main circuits, According to EN 61140 240 V AC, Between auxiliary contacts, According to EN 61140 440 V, Between auxiliary contacts and main contacts, According to EN 61140
Short-circuit protection rating		Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits
Short-circuit current rating (high fault at 600 V)		400 A, Class J, max. Fuse, SCCR (UL/CSA) 100 kA, 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}		35.6 W
Heat dissipation capacity P _{diss}		0 W
Heat dissipation per pole, current-dependent P _{vid}		11.86 W
Rated operational current for specified heat dissipation (I _n)		175 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 (ec1@ss13-27-37-15-02 [AKF076019])		
Mounting method		Direct attachment
Type of electrical connection of main circuit		Screw connection
Adjustable current range	A	0 - 175
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	108
Height	mm	194
Depth	mm	157