

**Overload relay, Direct mounting, Earth-fault protection: none, Ir= 1 - 5 A, 1 N/O, 1 N/C**



**Part no.** **ZEB12-5**  
**136481**  
**EL Number** **4137350**  
**(Norway)**

#### General specifications

Product name	Eaton Moeller® series ZEB Electronic overload Relay
Part no.	ZEB12-5
EAN	4015081332618
Product Length/Depth	108 millimetre
Product height	110 millimetre
Product width	45 millimetre
Product weight	0.245 kilogram
Compliances	Contact Manufacturer
Certifications	UL 508 UL File No.: E1230 UL CE VDE 0660 CSA CSA Class No.: 3211-03 IEC/EN 60947 IEC/EN 60947-4-1 CSA File No.: 2290956 CSA-C22.2 No. 14 UL Category Control No.: NKCR

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
Mounting method	Direct mounting Direct attachment
Overload release current setting - min	1 A
Overload release current setting - max	5 A
Oversupply voltage 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, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30

## Terminal capacities

Terminal capacity (flexible with ferrule)	2 x (0.75 - 2.5) mm <sup>2</sup> , Control circuit cables
Terminal capacity (solid)	1 x (1.5 - 16) mm <sup>2</sup> , Main cables 2 x (0.75 - 4) mm <sup>2</sup> , 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	2, Terminal screw, Pozidriv screwdriver 1 x 6 mm, Terminal screw, Standard screwdriver
Tightening torque	7 lb-in, Screw terminals 0.8 - 1.2 Nm, Screw terminals, Control circuit cables

## Electrical rating

Conventional thermal current ith 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	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 (high fault at 600 V)	100 kA, Fuse, SCCR (UL/CSA) 20 A, Class J, max. Fuse, SCCR (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)	R300, DC operated (UL/CSA) B600, AC 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 Pvid	0.51 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	0.17 W
Rated operational current for specified heat dissipation (In)	5 A
Static heat dissipation, non-current-dependent Pvs	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 8.0

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 (ecl@ss10.0.1-27-37-15-02 [AKF076014])

Adjustable current range	A	1 - 5
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
Rated control supply voltage Us at AC 50HZ	V	0 - 0
Rated control supply voltage Us at AC 60HZ	V	0 - 0
Rated control supply voltage Us at DC	V	0 - 0
Release class		Adjustable
Voltage type for actuating		Self powered
Reset function automatic		Yes
Reset function input		No
Reset function push-button		Yes