

# Eaton 136481

Eaton Moeller® series ZEB Overload relay,  
Direct mounting, Earth-fault protection:  
none, Ir= 1 - 5 A, 1 N/O, 1 N/C ZEB12-5

<b>PRODUCT NAME</b>	Eaton Moeller® series ZEB Electronic overload relay
<b>CATALOG NUMBER</b>	136481
<b>PRODUCT LENGTH/DEPTH</b>	108 mm
<b>PRODUCT HEIGHT</b>	110 mm
<b>PRODUCT WIDTH</b>	45 mm
<b>PRODUCT WEIGHT</b>	0.245 kg
<b>CERTIFICATIONS</b>	IEC/EN 60947 UL File No.: E1230 CSA File No.: 2290956 UL 508 CE UL Category Control No.: NKCR CSA Class No.: 3211-03 CSA-C22.2 No. 14 VDE 0660 CSA IEC/EN 60947-4-1 UL
<b>CATALOG NOTES</b>	Rated operational current: Switch-on and switch-off conditions based on DC- 13, time constant as specified.

<b>AMPERAGE RATING</b>	1-5A
<b>PRODUCT CATEGORY</b>	Electronic overload relays ZEB
<b>TYPE</b>	Electronic
<b>FEATURES</b>	Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102)
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL</b>	Does not apply, since the

<b>MCAD MODEL</b>	<a href="#">zeb12.dwg</a> <a href="#">zeb12.stp</a>
	<a href="#">Electronic overload relay ZEB</a>
	<a href="#">eaton-tripping-devices-zeb-overload-relay-dimensions.eps</a>
	<a href="#">eaton-tripping-devices-zeb-overload-relay-3d-drawing-004.eps</a>

<b>IMPACT</b>	entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>POLLUTION DEGREE</b>	3
<b>CLASS</b>	Adjustable
<b>CLIMATIC PROOFING</b>	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	6000 V (auxiliary circuits) 6000 V AC
<b>FUNCTIONS</b>	Filament bulb (24 V)
<b>PROTECTION</b>	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
<b>STRIPPING LENGTH (CONTROL CIRCUIT CABLE)</b>	8 mm
<b>STRIPPING LENGTH (MAIN CABLE)</b>	13 mm
<b>VOLTAGE RATING - MAX</b>	600 V

<b>ADJUSTABLE CURRENT RANGE - MAX</b>	5 A
<b>ADJUSTABLE CURRENT RANGE - MIN</b>	1 A
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	65 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	65 °C
<b>CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)</b>	5 A
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	0.51 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	0.17 W
<b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	1
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	1
<b>NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)</b>	1
<b>NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)</b>	1
<b>OVERLOAD RELEASE CURRENT SETTING - MAX</b>	5 A
<b>OVERLOAD RELEASE CURRENT SETTING - MIN</b>	1 A
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	0 V
<b>RATED CONTROL SUPPLY</b>	0 V

<b>VOLTAGE (US) AT AC, 60 HZ - MAX</b>	
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection
<b>RESET FUNCTION</b>	Push-button Automatic
<b>SCREWDRIVER SIZE</b>	2, Terminal screw, Pozidriv screwdriver 1 x 6 mm, Terminal screw, Standard screwdriver
<b>VOLTAGE TYPE</b>	Self powered
<b>MOUNTING METHOD</b>	Direct mounting Direct attachment
<b>DEGREE OF PROTECTION</b>	IP20
<b>OVERVOLTAGE CATEGORY</b>	III
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>	0 V
<b>RATED FREQUENCY - MAX</b>	60 Hz
<b>RATED FREQUENCY - MIN</b>	50 Hz
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 120 V</b>	1.5 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V</b>	1.5 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V</b>	0.9 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 110 V</b>	0.4 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 220 V, 230 V</b>	0.2 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 24 V</b>	0.9 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13,</b>	0.75 A

<b>60 V</b>	
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	5 A
<b>RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX</b>	690 V
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	0 W
<b>EARTH FAULT PROTECTION</b>	None
<b>SAFE ISOLATION</b>	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
<b>SCREW SIZE</b>	M3.5, Terminal screw, Control circuit cables
<b>SHOCK RESISTANCE</b>	15 g, Mechanical, According to IEC/EN 60068-2-27, Shock duration 10 ms Mechanical, According to IEC/EN 60068-2-27
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)</b>	100 kA, Fuse, SCCR (UL/CSA) 20 A, Class J, max. Fuse, SCCR (UL/CSA)
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b>	R300, DC operated (UL/CSA) B600, AC operated (UL/CSA)
<b>SHORT-CIRCUIT PROTECTION RATING</b>	Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits
<b>SUITABLE FOR</b>	Branch circuits, (UL/CSA)
<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	2 x (0.75 - 2.5) mm <sup>2</sup> , Control circuit cables
<b>TERMINAL CAPACITY (SOLID)</b>	1 x (1.5 - 16) mm <sup>2</sup> , Main cables 2 x (0.75 - 4) mm <sup>2</sup> , Control circuit cables
<b>TERMINAL CAPACITY</b>	2 x (18 - 12), Control circuit

<b>(SOLID/STRANDED AWG)</b>	cables 1 x (14 - 4), Main cables
<b>TIGHTENING TORQUE</b>	7 lb-in, Screw terminals 0.8 - 1.2 Nm, Screw terminals, Control circuit cables
<b>VOLTAGE TYPE OF OPERATING VOLTAGE</b>	AC
<b>OPERATING VOLTAGE AT AC, 50 HZ - MIN</b>	230 V
<b>OPERATING VOLTAGE AT AC, 50 HZ - MAX</b>	690 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MIN</b>	230 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MAX</b>	690 V
<b>OPERATING VOLTAGE AT DC - MIN</b>	0 V
<b>OPERATING VOLTAGE AT DC - MAX</b>	0 V

<b>PROJECT NAME:</b>
<b>PROJECT NUMBER:</b>
<b>PREPARED BY:</b>
:



Eaton House  
30 Pembroke Road  
Dublin 4,  
Eaton.com

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