



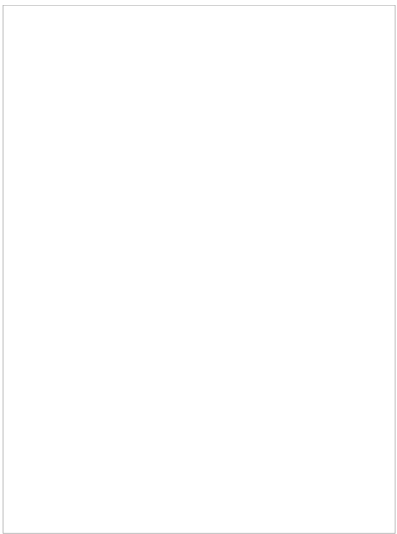
ZEB MOTOR PROTECTION RELAYS  
136493

  
Overview

  
Specifications

  
Resources

  
How to buy



136493

Eaton Moeller® series ZEB Overload relay, Direct motor  
protection: with, Ir= 9 - 45 A, 1 N/O, 1 N/C ZEB32-4

How to buy



Photo is representative

Designed to work together

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100420

Eaton Moeller® series SDAINL Star-delta  
contactor combination, 380 V 400 V: 22  
kW, 24 V DC, DC operation

100419

Eaton Moeller® series SDAINL Star-delta  
contactor combination, 380 V 400 V: 15  
kW, 24 V DC, DC operation

100421

Eaton Moeller® series SDAINL Star-delta  
contactor combination, 380 V 400 V: 30  
kW, 24 V DC, DC operation

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General specifications

>

<b>PRODUCT NAME</b>	Eaton Moeller® series ZEB Electronic overload Rel
<b>CATALOG NUMBER</b>	136493
<b>MODEL CODE</b>	ZEB32-45-GF
<b>EAN</b>	4015081332731
<b>PRODUCT LENGTH/DEPTH</b>	108 mm
<b>PRODUCT HEIGHT</b>	110 mm
<b>PRODUCT WIDTH</b>	45 mm
<b>PRODUCT WEIGHT</b>	0.27 kg
<b>CERTIFICATIONS</b>	CE UL File No.: E1230 CSA Class No.: 3211-03 VDE 0660 IEC/EN 60947 IEC/EN 60947-4-1 CSA CSA File No.: 2290956 CSA-C22.2 No. 14 UL 508 UL Category Control No.: NKCR UL
<b>CATALOG NOTES</b>	Rated operational current: Switch-on and switch-off DC-13, time constant as specified.

**PRODUCT SPECIFICATIONS**

<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	45 A
<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	2 x (0.75 - 2.5) mm², Control circuit cables
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specification must be observed.
<b>STRIPPING LENGTH (CONTROL CIRCUIT CABLE)</b>	8 mm
<b>OPERATING VOLTAGE AT AC, 50 HZ - MAX</b>	690 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	0 V
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specification must be observed.
<b>MOUNTING METHOD</b>	Direct attachment Direct mounting
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to

<b>STRIPPING LENGTH (MAIN CABLE)</b>	13 mm
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	65 °C
<b>OPERATING VOLTAGE AT DC - MAX</b>	0 V
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>RESET FUNCTION</b>	Automatic Push-button
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>	0 V
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)</b>	60 A, Class J, max. Fuse, SCCR (UL/CSA) 100 kA, Fuse, SCCR (UL/CSA)
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	0 V
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>SCREW SIZE</b>	M3.5, Terminal screw, Control circuit cables
<b>ADJUSTABLE CURRENT RANGE - MIN</b>	9 A
<b>PROTECTION</b>	Finger and back-of-hand proof, Protection against direct actuated from front (EN 50274)
<b>OPERATING VOLTAGE AT DC - MIN</b>	0 V
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	65 °C
<b>CLIMATIC PROOFING</b>	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
<b>FEATURES</b>	Phase-failure sensitivity (according to IEC/EN 60941-102)
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	0 W
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>	0 V
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>VOLTAGE RATING - MAX</b>	600 V
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be tested
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be tested
<b>EARTH FAULT PROTECTION</b>	Yes Trip at approx. > 0.5 x I <sub>r</sub> in 2 s Trip at approx. > 1.5 x I <sub>r</sub> in 1 s
	600 V AC Between main circuits According to EN 60941-102

<b>SAFE ISOLATION</b>	600 V AC, Between main contacts, According to EN 60947-2 440 V, Between auxiliary contacts and main contact 61140 240 V AC, Between auxiliary contacts, According to EN 60947-2
<b>OPERATING VOLTAGE AT AC, 50 HZ - MIN</b>	230 V
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V</b>	1.5 A
<b>CLASS</b>	Adjustable
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the instructions in the instruction leaflet (IL) is observed.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be tested.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)</b>	1
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be tested.
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	1.43 W
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V</b>	0.9 A
<b>VOLTAGE TYPE</b>	Self-powered
<b>PRODUCT CATEGORY</b>	Electronic overload relays ZEB
<b>OVERLOAD RELEASE CURRENT SETTING - MIN</b>	9 A
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	4.3 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 60 V</b>	0.75 A
<b>SUITABLE FOR</b>	Branch circuits, (UL/CSA)
<b>TERMINAL CAPACITY (SOLID)</b>	2 x (0.75 - 4) mm <sup>2</sup> , Control circuit cables 1 x (1.5 - 16) mm <sup>2</sup> , Main cables
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	1
<b>RATED FREQUENCY - MIN</b>	50 Hz
<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>RATED OPERATIONAL CURRENT (IE) AT DC-13, 220 V, 230 V</b>	0.2 A
<b>CONVENTIONAL THERMAL CURRENT I<sub>th</sub> OF</b>	5 A

<b>AUXILIARY CONTACTS (1-POLE, OPEN)</b>	
<b>OPERATING VOLTAGE AT AC, 60 HZ - MAX</b>	690 V
<b>OVERLOAD RELEASE CURRENT SETTING - MAX</b>	45 A
<b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>	2 x (18 - 12), Control circuit cables 1 x (14 - 4), Main cables
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>DEGREE OF PROTECTION</b>	IP20
<b>OVERVOLTAGE CATEGORY</b>	III
<b>RATED FREQUENCY - MAX</b>	60 Hz
<b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b>	0
<b>VOLTAGE TYPE OF OPERATING VOLTAGE</b>	AC
<b>RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX</b>	690 V
<b>POLLUTION DEGREE</b>	3
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	0 V
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	6000 V AC 6000 V (auxiliary circuits)
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature Eaton will provide heat dissipation data for the device
<b>FUNCTIONS</b>	Filament bulb (24 V)
<b>OPERATING VOLTAGE AT AC, 60 HZ - MIN</b>	230 V
<b>TIGHTENING TORQUE</b>	0.8 - 1.2 Nm, Screw terminals, Control circuit cables 7 lb-in, Screw terminals
<b>ADJUSTABLE CURRENT RANGE - MAX</b>	45 A
<b>SCREWDRIVER SIZE</b>	2, Terminal screw, Pozidriv screwdriver 1 x 6 mm, Terminal screw, Standard screwdriver
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 120 V</b>	1.5 A
<b>10.2.2 CORROSION RESISTANCE</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>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>	0 V
<b>NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)</b>	1

<b>SHORT-CIRCUIT PROTECTION RATING</b>	Max. 6 A gG/gL, fuse, Without welding, Auxiliary
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	1
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 110 V</b>	0.4 A
<b>SHOCK RESISTANCE</b>	15 g, Mechanical, According to IEC/EN 60068-2-27 ms Mechanical, According to IEC/EN 60068-2-27
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 24 V</b>	0.9 A
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b>	B600, AC operated (UL/CSA) R300, DC operated (UL/CSA)

Brochures

Characteristic curve

Declarations of conformity

Drawings

eCAD model

Installation instructions

mCAD model

Wiring diagrams

136493



Eaton is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business right, to operate sustainably and to

help our customers manage power — today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're accelerating the planet's transition to renewable energy and helping to solve the world's most urgent power management challenges.