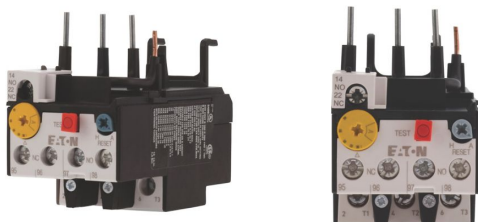


Specifications



Photo is representative



Eaton 278448

Eaton Moeller® series ZB Overload relay, ZB32, Ir= 1.6 - 2.4 A, 1 N/O, 1 N/C, Direct mounting, IP20

General specifications

PRODUCT NAME	Eaton Moeller® series ZB Thermal overload relay
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CATALOG NUMBER	278448
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MODEL CODE	ZB32-2,4
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EAN	4015082784485
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PRODUCT LENGTH/DEPTH	96 mm
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PRODUCT HEIGHT	67 mm
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PRODUCT WIDTH	45 mm
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PRODUCT WEIGHT	0.142 kg
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CERTIFICATIONS	IEC/EN 60947-4-1 CSA Class No.: 3211-03 CSA File No.: 012528 UL 60947-4-1 CSA CSA-C22.2 No. 60947-4-1-14 IEC/EN 60947 UL File No.: E29184 CE UL Category Control No.: NKCR UL VDE 0660
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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

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.

10.2.2 CORROSION RESISTANCE

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

Does not apply, since the

SWITCHING DEVICES AND COMPONENTS	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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	5.7 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	1.9 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	2.4 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0 W

Electrical rating

**CONVENTIONAL
THERMAL CURRENT ITH
OF AUXILIARY CONTACTS
(1-POLE, OPEN)**

6 A

**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) - MAX**

690 V

SAFE ISOLATION

440 V AC, Between main
circuits, According to EN
61140
440 V, Between auxiliary
contacts and main
contacts, According to EN
61140
240 V AC, Between
auxiliary contacts,
According to EN 61140

SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)

B600 at opposite polarity,
AC operated (UL/CSA)
R300, DC operated
(UL/CSA)
B300 at opposite polarity,
AC operated (UL/CSA)

Features & functions

FEATURES

Reset pushbutton
manual/auto
Phase-failure sensitivity
(according to IEC/EN
60947, VDE 0660 Part 102)
Test/off button
Trip-free release

General information

AMBIENT OPERATING TEMPERATURE - MAX	55 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	-25 °C
CLASS	CLASS 10 A / IEC 60947-4-1, 8.2.1.5.1.1. c) 4 min
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
DEGREE OF PROTECTION	IP20 IP00
FRAME SIZE	ZB32
MOUNTING METHOD	Direct attachment Direct mounting
OVERLOAD RELEASE CURRENT SETTING - MAX	2.4 A
OVERLOAD RELEASE CURRENT SETTING - MIN	1.6 A
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	- Accessories - Overload relay ZB up to 150 A
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	6000 V AC 4000 V (auxiliary and control circuits)
SHOCK RESISTANCE	10 g, Mechanical, Sinusoidal, Shock duration 10 ms
SUITABLE FOR	Branch circuits, (UL/CSA)
TEMPERATURE COMPENSATION	Continuous ≤ 0.25 %/K, residual error for T > 40°

Short-circuit rating

SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V) 3 A, Class J/CC, max. Fuse, SCCR (UL/CSA)
100 kA, Fuse, SCCR (UL/CSA)

SHORT-CIRCUIT PROTECTION RATING

Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits
25 A gG/gL, Fuse, Type "1" coordination
10 A gG/gL, Fuse, Type "2" coordination
Information on Type "1" and Type "2" coordination applies to 100 kA and 690 V

Terminal capacities

SCREW SIZE	M4, Terminal screw M3.5, Terminal screw, Control circuit cables
SCREWDRIVER SIZE	2, Terminal screw, Pozidriv screwdriver 1 x 6 mm, Terminal screw, Standard screwdriver
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	8 mm
STRIPPING LENGTH (MAIN CABLE)	10 mm
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (1 - 4) mm ² , Main cables 2 x (1 - 4) mm ² , Main cables 2 x (0.75 - 2.5) mm ² , Control circuit cables
TERMINAL CAPACITY (SOLID)	1 x (1 - 6) mm ² , Main cables 1 x (0.75 - 4) mm ² , Control circuit cables 2 x (0.75 - 4) mm ² , Control circuit cables 2 x (1 - 6) mm ² , Main cables
TERMINAL CAPACITY (SOLID/STRANDED AWG)	2 x (18 - 14), Control circuit cables 18 - 8, Main cables

Resources

CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
CHARACTERISTIC CURVE	eaton-tripping-zb-overload-relay-characteristic-curve-002.eps eaton-tripping-devices-overload-relay-zb-overload-relay-characteristic-curve-005.eps
DECLARATIONS OF CONFORMITY	eaton-thermal-overload-relay-declaration-of-conformity-eu250786en.pdf eaton-thermal-overload-relay-declaration-of-conformity-uk251269en.pdf
DRAWINGS	eaton-tripping-devices-zb-overload-relay-dimensions-002.eps eaton-tripping-devices-overload-relay-zb-overload-relay-dimensions-004.eps eaton-tripping-devices-overload-relay-zb-overload-relay-dimensions.eps eaton-tripping-devices-overload-relay-zb-overload-relay-3d-drawing-002.eps
ECAD MODEL	ETN.ZB32-2,4
INSTALLATION INSTRUCTIONS	IL03407195Z eaton-overload-relays-zb12-zb32-il03407015z.pdf
MCAD MODEL	eaton-thermal-overload-relays-mcad-drawings-zb32.dwg DA-CS-zb32
PEP ECO-PASSPORT	eaton-thermal-overload-relays-pep-eato-00458-v0101-en.pdf

WIRING DIAGRAMS

[eaton-tripping-devices-overload-relay-zb-overload-relay-wiring-diagram-003.eps](#)

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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