

Specifications



Photo is representative



Eaton 278472

Eaton Moeller® series ZB Overload relay, ZB150, Ir= 120 - 150 A, 1 N/O, 1 N/C, Separate mounting, IP00

General specifications

PRODUCT NAME	Eaton Moeller® series ZB Thermal overload relay
CATALOG NUMBER	278472
EAN	4015082784720
PRODUCT LENGTH/DEPTH	134 mm
PRODUCT HEIGHT	121 mm
PRODUCT WIDTH	118 mm
PRODUCT WEIGHT	1.44 kg
CERTIFICATIONS	UL File No.: E29184 CE IEC/EN 60947 IEC/EN 60947-4-1 UL VDE 0660 CSA CSA-C22.2 No. 60947-4-1-14 CSA File No.: 012528 UL 60947-4-1 UL Category Control No.: NKCR CSA Class No.: 3211-03
MODEL CODE	ZB150-150/KK

Features & Functions

FEATURES

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

General information

AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT OPERATING TEMPERATURE - MAX	55 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	25 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
CLASS	CLASS 10 A
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
DEGREE OF PROTECTION	IP00
FRAME SIZE	ZB150
MOUNTING METHOD	Separate mounting Direct attachment
OVERLOAD RELEASE CURRENT SETTING - MIN	120 A
OVERLOAD RELEASE CURRENT SETTING - MAX	150 A
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	<ul style="list-style-type: none"> • 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)	4000 V (auxiliary and control circuits) 8000 V AC
SHOCK RESISTANCE	10 g, Mechanical, Sinusoidal, Shock duration 10 ms
SUITABLE FOR	Branch circuits, (UL/CSA)
TEMPERATURE COMPENSATION	≤ 0.25 %/K, residual error for T > 40° Continuous

Terminal capacities

TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (4 - 70) mm ² , Main cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (4 - 70) mm ² , Main cables
TERMINAL CAPACITY (SOLID)	2 x (4 - 16) mm ² , Main cables 1 x (4 - 16) mm ² , Main cables 1 x (0.75 - 4) mm ² , Control circuit cables 2 x (0.75 - 4) mm ² , Control circuit cables
TERMINAL CAPACITY (SOLID/STRANDED AWG)	3/0, Main cables 2 x (18 - 14), Control circuit cables
TERMINAL CAPACITY (STRANDED)	2 x (16 - 70) mm ² , Main cables 1 x (16 - 70) mm ² , Main cables
STRIPPING LENGTH (MAIN CABLE)	24 mm
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	8 mm
SCREW SIZE	M10, Terminal screw, Main cables M3.5, Terminal screw, Control circuit cables 5 mm AF, Hexagon socket-head spanner, Terminal screw, Main cables
SCREWDRIVER SIZE	1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver 2, Terminal screw, Control circuit cables, Pozidriv screwdriver
TIGHTENING TORQUE	10 Nm, Screw terminals, Main cables 1.2 Nm, Screw terminals, Control circuit cables

Electrical rating

CONVENTIONAL THERMAL CURRENT I_{TH} 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	1000 V
SAFE ISOLATION	440 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
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)
VOLTAGE RATING - MAX	600 VAC

Short-circuit rating

SHORT-CIRCUIT CURRENT RATING (BASIC RATING)

10 kA, SCCR (UL/CSA)
300 A Class J, max. Fuse,
SCCR (UL/CSA)

SHORT-CIRCUIT PROTECTION RATING

Max. 6 A gG/gL, fuse,
Without welding, Auxiliary
and control circuits
250 A gG/gL, Fuse, Type "2"
coordination
315 A gG/gL, Fuse, Type "1"
coordination

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 25.5 W

HEAT DISSIPATION CAPACITY PDISS 0 W

HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID 8.5 W

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN) 150 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.

Resources

CATALOGUES

[eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf](#)

[Product Range Catalog](#)
[Switching and protecting motors](#)

CHARACTERISTIC CURVE

[eaton-tripping-devices-zb-overload-relay-characteristic-curve-012.eps](#)

[eaton-tripping-devices-zb-overload-relay-characteristic-curve-003.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-overload-relay-zb-overload-relay-dimensions-007.eps](#)

[eaton-tripping-devices-overload-relay-zb-overload-relay-3d-drawing-005.eps](#)

ECAD MODEL

[ETN.278472.edz](#)

INSTALLATION INSTRUCTIONS

[eaton-overload-relays-z5-zb150-il03407006z.pdf](#)

[DA-CD-zb150_kk](#)

MCAD MODEL

[DA-CS-zb150_kk](#)

WIRING DIAGRAMS

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

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.

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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