

Specifications



Photo is representative



Eaton 278459

Eaton Moeller® series ZB Overload relay, ZB65, Ir= 40 - 57 A, 1 N/O, 1 N/C, Direct mounting, IP00

General specifications

PRODUCT NAME	Eaton Moeller® series ZB Thermal overload relay
CATALOG NUMBER	278459
MODEL CODE	ZB65-57
EAN	4015082784591
UPC	782116358878
PRODUCT LENGTH/DEPTH	88 mm
PRODUCT HEIGHT	75 mm
PRODUCT WIDTH	60 mm
PRODUCT WEIGHT	0.23 kg
CERTIFICATIONS	CSA File No.: 012528 UL Category Control No.: NKCR UL 60947-4-1 UL File No.: E29184 VDE 0660 CSA-C22.2 No. 60947-4-1-14 CSA IEC/EN 60947 UL IEC/EN 60947-4-1 CE CSA Class No.: 3211-03

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.

10.2.3.1 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

Does not apply, since the

AGAINST ELECTRIC SHOCK	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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	12.9 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	4.3 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	57 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, Between auxiliary
contacts and main
contacts, According to EN
61140
440 V AC, Between main
circuits, According to EN
61140
240 V AC, Between
auxiliary contacts,
According to EN 61140

SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)

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

VOLTAGE RATING - MAX

600 VAC

Features & functions

FEATURES

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

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	IP00
FRAME SIZE	ZB65
MOUNTING METHOD	Direct mounting Direct attachment
OVERLOAD RELEASE CURRENT SETTING - MAX	57 A
OVERLOAD RELEASE CURRENT SETTING - MIN	40 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)	4000 V (auxiliary and control circuits) 6000 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

Short-circuit rating

SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	10 kA, SCCR (UL/CSA) 150 A, max. CB, SCCR (UL/CSA) 200 A, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)	100 A, Class J, max. Fuse, SCCR (UL/CSA) 75 A, max. CB, SCCR (UL/CSA) 65 kA, CB, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	100 kA, Fuse, SCCR (UL/CSA) 110 A, Class J/CC, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING	Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits 80 A gG/gL, Fuse, Type "2" coordination 160 A gG/gL, Fuse, Type "1" coordination Information on Type "1" and Type "2" coordination applies to 100 kA and 690 V

Terminal capacities

SCREW SIZE	M3.5, Terminal screw, Control circuit cables M6, Terminal screw, Main 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)	11 mm
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (1 - 25) mm ² , Main cables 1 x (1 - 25) mm ² , Main cables
TERMINAL CAPACITY (SOLID)	2 x (1 - 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 1 x (1 - 16) mm ² , Main cables
TERMINAL CAPACITY (SOLID/STRANDED AWG)	2 x (18 - 14), Control circuit cables 14 - 2, Main cables
TERMINAL CAPACITY (STRANDED)	1 x (16 - 25) mm ² , Main cables
TIGHTENING TORQUE	3.5 Nm, Screw terminals, Main cables 1.2 Nm, Screw terminals, Control circuit 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-characteristic-zb-overload-relay-characteristic-curve-005.eps
DECLARATIONS OF CONFORMITY	eaton-thermal-overload-relay-declaration-of-conformity-uk251269en.pdf eaton-thermal-overload-relay-declaration-of-conformity-eu250786en.pdf
DRAWINGS	eaton-tripping-devices-overload-relay-zb-overload-relay-dimensions-002.eps eaton-tripping-devices-overload-relay-zb-overload-relay-dimensions-005.eps eaton-tripping-devices-overload-relay-zb-overload-relay-3d-drawing-003.eps
ECAD MODEL	ETN.ZB65-57
INSTALLATION INSTRUCTIONS	eaton-overload-relay-zb65-il03407008z.pdf
MCAD MODEL	eaton-thermal-overload-relays-mcad-drawings-zb65.dwg zb65.stp
WIRING DIAGRAMS	eaton-tripping-devices-overload-relay-zb-overload-relay-wiring-diagram.eps

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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