Specifications

Eaton 278431



Catalog Number: 278431

Eaton Moeller® series ZB Overload relay, ZB12, Ir= 0.1 - 0.16 A, 1 N/O, 1 N/C, Direct mounting, IP20

General specifications

Product Name
Eaton Moeller® series ZB Thermal overload relay

Catalog Number
278431

EAN
4015082784317

Product Length/Depth
88 mm

Product Height
67 mm

Product Width
45 mm

Product Weight
0.141 kg

Certifications
IEC/EN 60947
VDE 0660
CSA
UL
UL Category Control No.: NKCR
UL File No.: E29184
IEC/EN 60947-4-1
UL 60947-4-1
CE
CSA Class No.: 3211-03
CSA-C22.2 No. 60947-4-1-14
CSA File No.: 012528

Powering Business Worldwide

Product specifications

Features

Test/off button

Trip-free release

Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102)

Reset pushbutton manual/auto

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

Resources

Catalogs

eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf

Product Range Catalog Switching and protecting motors

Characteristic curve

eaton-tripping-zb-overload-relay-characteristic-curve-002.eps

eaton-tripping-devices-zb-overload-relay-characteristic-curve-005.eps

Declarations of conformity

DA-DC-00005033.pdf

DA-DC-00005030.pdf

Drawings

eaton-tripping-devices-overload-relay-zb-overload-relay-dimensions-003.eps

eaton-tripping-devices-overload-relay-zb-overload-relay-3d-drawing.eps

eCAD model

ETN.ZB12-0,16

Installation instructions

eaton-overload-relays-zb12-zb32-il03407015z.pdf

IL03407195Z

mCAD model

DA-CD-zb12

DA-CS-zb12

Sales notes

eaton-dol-3phase-ac-motor-starter-ms-16a-flyer-fl034009en-en-us.pdf

Wiring diagrams

eaton-tripping-devices-overload-relay-zb-overload-relay-wiring-diagram-002.eps

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.

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.

Pollution degree

3

Class

CLASS 10 A

Climatic proofing

Damp heat, cyclic, to IEC 60068-2-30
Damp heat, constant, to IEC 60068-2-78

Rated impulse withstand voltage (Uimp)

6000 V AC
4000 V (auxiliary and control circuits)

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 current for specified heat dissipation (In)

0.16 A

Static heat dissipation, non-current-dependent Pvs

0 W

Stripping length (control circuit cable)

8 mm

Stripping length (main cable)

10 mm

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)

Frame size

ZB12

Adjustable current range - max

0.16 A

Adjustable current range - min

0.1 A

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

Conventional thermal current ith of auxiliary contacts (1-pole, open)

6 A

Equipment heat dissipation, current-dependent Pvid

5.4 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

1.8 W

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

Overload release current setting - max

0.16 A

Overload release current setting - min

0.1 A

Rated operational voltage (Ue) - max

690 V

Rated operational current (Ie) at AC-15, 120 V

1.5 A

Electrical connection type of main circuit

Screw connection

Reset function

Push-button

Automatic

Screwdriver size

2, Terminal screw, Pozidriv screwdriver

1 x 6 mm, Terminal screw, Standard screwdriver

Mounting method

Direct mounting

Direct attachment

Degree of protection

IP20

Overvoltage category

III

Safe isolation

240 V AC, Between auxiliary contacts, According to EN 61140

440 V AC, Between main circuits, According to EN 61140

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

Screw size

M4, Terminal screw

M3.5, Terminal screw, Control circuit cables

Shock resistance

10 g, Mechanical, Sinusoidal, Shock duration 10 ms

Short-circuit current rating (high fault at 600 V)

100 kA, Fuse, SCCR (UL/CSA)

1 A, Class J/CC, max. Fuse, SCCR (UL/CSA)

Switching capacity (auxiliary contacts, pilot duty)

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

R300, DC operated (UL/CSA)

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

Short-circuit protection rating

Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits

0.5 A gG/gL, Fuse, Type “2” coordination

25 A gG/gL, Fuse, Type “1” coordination

Suitable for

Branch circuits, (UL/CSA)

Temperature compensation

≤ 0.25 %/K, residual error for T > 40°

Continuous

Terminal capacity (flexible with ferrule)

2 x (0.75 - 2.5) mm², Control circuit cables

2 x (1 - 4) mm², Main cables

1 x (1 - 4) mm², Main cables

1 x (0.75 - 2.5) mm², Control circuit cables

Terminal capacity (solid)

1 x (0.75 - 4) mm², Control circuit cables

2 x (1 - 6) mm², Main cables

2 x (0.75 - 4) mm², Control circuit cables

1 x (1 - 6) mm², Main cables

Terminal capacity (solid/stranded AWG)

18 - 8, Main cables

2 x (18 - 14), Control circuit cables



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