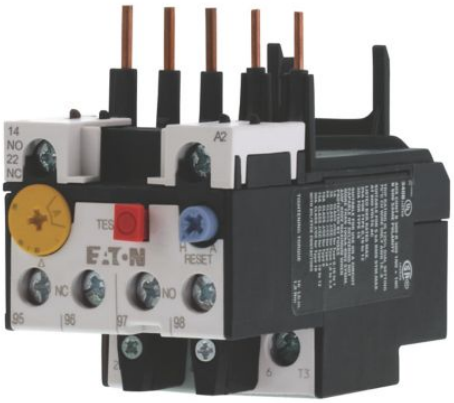
Product specifications

Eaton 278437

Catalog Number: 278437

Eaton Moeller® series ZB Overload relay, ZB12, 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

Catalog Number
278437

Model Code
ZB12-2,4

EAN
4015082784379

Product Length/Depth
88 mm

Product Height
67 mm

Product Width
45 mm

Product Weight
0.142 kg

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

Powering Business Worldwide

Product specifications

Rated operational current for specified heat dissipation (In)

2.4 A

Terminal capacity (flexible with ferrule)

1 x (1 - 4) mm², Main cables

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

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

2 x (1 - 4) mm², Main cables

10.11 Short-circuit rating

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

Stripping length (control circuit cable)

8 mm

Ambient operating temperature (enclosed) - min

25 °C

10.4 Clearances and creepage distances

Meets the product standard's requirements.

10.12 Electromagnetic compatibility

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

Mounting method

Direct mounting

Direct attachment

10.2.5 Lifting

Does not apply, since the entire switchgear needs to be evaluated.

Stripping length (main cable)

10 mm

Ambient operating temperature (enclosed) - max

40 °C

Reset function

Automatic

Push-button

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

100 kA, Fuse, SCCR (UL/CSA)

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

10.8 Connections for external conductors

Is the panel builder's responsibility.

Resources

Catalogues

Product Range Catalog Switching and protecting motors

Characteristic curve

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

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

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.ZB12-2,4

Installation instructions

IL03407195Z

IL03407015Z

mCAD model

DA-CD-zb12

DA-CS-zb12

User guides

eaton-motor-protective-relay-zb12-zb32-overload-monitoring-exe-manual-mn03407004z-de-de-en-us.pdf

Wiring diagrams

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

Screw size

M3.5, Terminal screw, Control circuit cables

M4, Terminal screw

Adjustable current range - min

1.6 A

Protection

Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)

Ambient operating temperature - max

55 °C

Climatic proofing

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

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

Features

Reset pushbutton manual/auto

Test/off button

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

Trip-free release

Static heat dissipation, non-current-dependent Pvs

0 W

Electrical connection type of main circuit

Screw connection

10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

Ambient operating temperature - min

-25 °C

10.6 Incorporation of switching devices and components

Does not apply, since the entire switchgear needs to be evaluated.

10.5 Protection against electric shock

Does not apply, since the entire switchgear needs to be evaluated.

Safe isolation

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

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

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

Rated operational current (Ie) at AC-15, 220 V, 230 V, 240 V

1.5 A

Class

CLASS 10 A

10.13 Mechanical function

The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

10.2.6 Mechanical impact

Does not apply, since the entire switchgear needs to be evaluated.

Number of contacts (normally closed contacts)

1

10.3 Degree of protection of assemblies

Does not apply, since the entire switchgear needs to be evaluated.

Rated operational current (Ie) at AC-15, 380 V, 400 V, 415 V

0.9 A

Heat dissipation per pole, current-dependent Pvid

1.9 W

Product category

Accessories

Overload relay ZB up to 150 A

Overload release current setting - min

1.6 A

Rated operational current (Ie) at DC-13, 60 V

0.75 A

Equipment heat dissipation, current-dependent Pvid

5.7 W

Heat dissipation capacity Pdiss

0 W

Suitable for

Branch circuits, (UL/CSA)

Temperature compensation

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

Continuous

Terminal capacity (solid)

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

2 x (1 - 6) mm², Main cables

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

1 x (1 - 6) mm², Main cables

Number of auxiliary contacts (normally closed contacts)

1

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.

Rated operational current (Ie) at DC-13, 220 V, 230 V

0.2 A

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

6 A

Overload release current setting - max

2.4 A

Terminal capacity (solid/stranded AWG)

18 - 8, Main cables

2 x (18 - 14), Control circuit cables

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

Degree of protection

IP20

Overvoltage category

III

Number of auxiliary contacts (change-over contacts)

0

Pollution degree

3

10.7 Internal electrical circuits and connections

Is the panel builder's responsibility.

Rated impulse withstand voltage (Uimp)

4000 V (auxiliary and control circuits)

6000 V AC

10.10 Temperature rise

The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.

Adjustable current range - max

2.4 A

Frame size

ZB12

Screwdriver size

2, Terminal screw, Pozidriv screwdriver

1 x 6 mm, Terminal screw, Standard screwdriver

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

1.5 A

10.2.2 Corrosion resistance

Meets the product standard's requirements.

10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

10.2.7 Inscriptions

Meets the product standard's requirements.

Number of contacts (normally open contacts)

1

Short-circuit protection rating

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

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

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

Number of auxiliary contacts (normally open contacts)

1

Rated operational current (Ie) at DC-13, 110 V

0.4 A

Rated operational voltage (Ue) - max

690 V

Shock resistance

10 g, Mechanical, Sinusoidal, Shock duration 10 ms

Rated operational current (Ie) at DC-13, 24 V

0.9 A

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)

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