Specifications

Eaton 136503

Catalog Number: 136503

Eaton Moeller® series ZEB Overload relay, Direct mounting, Earth-fault protection: with, Ir= 9 - 45 A, 1 N/O, 1 N/C ZEB65-45-GF



General specifications

Product Name
Eaton Moeller® series ZEB Electronic overload relay

Catalog Number
136503

EAN
4015081332830

Product Length/Depth
108 mm

Product Height
110 mm

Product Width
45 mm

Product Weight
0.295 kg

Certifications
CE
CSA Class No.: 3211-03
IEC/EN 60947-4-1
UL Category Control No.: NKCR
CSA-C22.2 No. 14
UL File No.: E1230
CSA File No.: 2290956
IEC/EN 60947
UL 508
VDE 0660
CSA
UL

Catalog Notes
Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified.

Powering Business Worldwide

Product specifications

Product Category

Electronic overload relays ZEB

Features

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

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.

Resources

Brochures

eaton-motor-starters-system-xstart-brochure-br03407001en-en-us.pdf

Electronic overload relay ZEB

Characteristic curve

eaton-tripping-devices-zeb-overload-relay-characteristic-curve.eps

Declarations of conformity

DA-DC-00004872.pdf

Drawings

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

eaton-tripping-devices-zeb-overload-relay-3d-drawing-006.eps

eCAD model

ETN.ZEB65-45-GF

Installation instructions

IL04210002E

mCAD model

zeb65-45.dwg

zeb65-45.stp

Wiring diagrams

eaton-general-release-zeb-overload-relay-wiring-diagram.eps

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

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.

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.

Pollution degree

3

Class

Adjustable

Climatic proofing

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

Rated impulse withstand voltage (Uimp)

6000 V (auxiliary circuits)
6000 V AC

Functions

Filament bulb (24 V)

Protection

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

Stripping length (control circuit cable)

8 mm

Stripping length (main cable)

13 mm

Voltage rating - max

600 V

Adjustable current range - max

45 A

Adjustable current range - min

9 A

Ambient operating temperature - max

65 °C

Ambient operating temperature - min

-25 °C

Ambient operating temperature (enclosed) - max

45 °C

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

5 A

Equipment heat dissipation, current-dependent Pvid

4.3 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

1.43 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

45 A

Overload release current setting - min

9 A

Rated control supply voltage (Us) at AC, 50 Hz - max

0 V

Rated control supply voltage (Us) at AC, 50 Hz - min

0 V

Rated control supply voltage (Us) at AC, 60 Hz - max

0 V

Electrical connection type of main circuit

Screw connection

Reset function

Automatic

Push-button

Screwdriver size

1 x 6 mm, Terminal screw, Standard screwdriver

2, Terminal screw, Pozidriv screwdriver

Voltage type

Self powered

Mounting method

Direct mounting

Direct attachment

Degree of protection

IP20

Overvoltage category

III

Rated control supply voltage (Us) at AC, 60 Hz - min

0 V

Rated control supply voltage (Us) at DC - max

0 V

Rated control supply voltage (Us) at DC - min

0 V

Rated frequency - max

60 Hz

Rated frequency - min

50 Hz

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 current for specified heat dissipation (In)

45 A

Rated operational voltage (Ue) at AC - max

690 V

Static heat dissipation, non-current-dependent Pvs

0 W

Earth fault protection

Trip at approx. > 1.5 x Ir in 1 s

Trip at approx. > 0.5 x Ir in 2 s

Yes

Safe isolation

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

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

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

Screw size

M3.5, Terminal screw, Control circuit cables

Shock resistance

Mechanical, According to IEC/EN 60068-2-27

15 g, Mechanical, According to IEC/EN 60068-2-27, Shock duration 10 ms

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

100 kA, Fuse, SCCR (UL/CSA)

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

Switching capacity (auxiliary contacts, pilot duty)

B600, AC operated (UL/CSA)

R300, DC operated (UL/CSA)

Short-circuit protection rating

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

circuits

Suitable for

Branch circuits, (UL/CSA)

Terminal capacity (flexible with ferrule)

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

Terminal capacity (solid)

1 x (4 - 16) mm², Main cables

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

Terminal capacity (solid/stranded AWG)

2 x (18 - 12), Control circuit cables

1 x (14 - 4), Main cables

Tightening torque

7 lb-in, Screw terminals

0.8 - 1.2 Nm, Screw terminals, Control circuit cables

Voltage type of operating voltage

AC

Operating voltage at AC, 50 Hz - min

230 V

Operating voltage at AC, 50 Hz - max

690 V

Operating voltage at AC, 60 Hz - min

230 V

Operating voltage at AC, 60 Hz - max

690 V

Operating voltage at DC - min

0 V

Operating voltage at DC - max

0 V



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