Specifications

# Eaton 136481

## Catalog Number: 136481

Eaton Moeller® series ZEB Overload relay, Direct mounting, Earth-fault protection: none, Ir= 1 - 5 A, 1 N/O, 1 N/C ZEB12-5



## General specifications

**Product Name**
Eaton Moeller® series ZEB Electronic overload relay

**Catalog Number**
136481

**EAN**
4015081332618

**Product Length/Depth**
108 mm

**Product Height**
110 mm

**Product Width**
45 mm

**Product Weight**
0.245 kg

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

### Amperage Rating

1-5A

### Product Category

Electronic overload relays ZEB

### Type

Electronic

### 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

## 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-00004860.pdf

DA-DC-00004872.pdf

### Drawings

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

eaton-tripping-devices-zeb-overload-relay-3d-drawing-004.eps

### eCAD model

DA-CE-ETN.ZEB12-5

### Installation instructions

IL04210002E

### mCAD model

zeb12.stp

zeb12.dwg

### Wiring diagrams

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

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

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.

### 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

5 A

Adjustable current range - min

1 A

Ambient operating temperature - max

65 °C

Ambient operating temperature - min

-25 °C

Ambient operating temperature (enclosed) - max

65 °C

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

5 A

Equipment heat dissipation, current-dependent Pvid

0.51 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

0.17 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

5 A

Overload release current setting - min

1 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

Push-button

Automatic

Screwdriver size

2, Terminal screw, Pozidriv screwdriver

1 x 6 mm, Terminal screw, Standard 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)

5 A

Rated operational voltage (Ue) at AC - max

690 V

Static heat dissipation, non-current-dependent Pvs

0 W

Earth fault protection

None

Safe isolation

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

Screw size

M3.5, Terminal screw, Control circuit cables

Shock resistance

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

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

100 kA, Fuse, SCCR (UL/CSA)
20 A, Class J, max. Fuse, SCCR (UL/CSA)

Switching capacity (auxiliary contacts, pilot duty)

R300, DC operated (UL/CSA)
B600, AC 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 (1.5 - 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




Eaton Corporation plc
Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com

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