



- German
- English
- Spanish
- French
- Dutch
- Italian
- Polish
- Czech
- Russian
- Norwegian Bokmål

Worldwide English

ZEB12-1,65 - Overload relay, Direct mounting, Earth-fault protection: none, $I_r = 0.33 - 1.65$ A, 1 NO, 1 NC

136480 ZEB12-1,65

[Overview](#) [Specifications](#) [Resources](#)

136480 ZEB12-1,65

136480 ZEB12-1,65

Overload relay, Direct mounting, Earth-fault protection: none, $I_r = 0.33 - 1.65$ A, 1 NO, 1 NC

Alternate Catalog No.

XTOE1P6BCS

EL-Nummer (Norway)

4137412

Overload relay, Product range: Electronic overload relays ZEB, Phase-failure sensitivity: IEC/EN 60947, VDE 0660 Part 102, Description: Test/off button, Reset pushbutton, Manual/auto reset selectable, Protection with heavy starting duty (Class 10A-30), Mounting type: Direct mounting, Auxiliary contacts NO = Normally open: 1 NO, Auxiliary contacts NC = Normally closed: 1 NC, For use with: DILM7, DILM9, DILM12, DILM15, DIULM7, DIULM9, DIULM12, SDAINLM12, SDAINLM16, SDAINLM22, Standards: IEC/EN 60947, VDE 0660, UL, CSA, Degree of Protection: IP20



- Delivery program
- Technical data
- Design verification as per IEC/EN 61439
- Technical data ETIM 7.0
- Approvals
- Characteristics
- Dimensions

Delivery program

Product range

Electronic overload relays ZEB

Phase-failure sensitivity

IEC/EN 60947, VDE 0660 Part 102

Description

Test/off button

Reset pushbutton

Manual/auto reset selectable

Protection with heavy starting duty (Class 10A-30)

Mounting type

Direct mounting

Earth-fault protection

Earth-fault protection

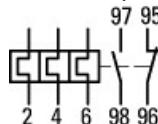
none

Setting range

Overload releases [I_r]

0.33 - 1.65 A

Contact sequence



Auxiliary contacts

N/O = Normally open
1 N/O
N/C = Normally closed
1 NC
For use with
DILM7
DILM9
DILM12
DILM15
DIULM7
DIULM9
DIULM12
SDAINLM12
SDAINLM16
SDAINLM22
Conformity, Approval
Explosion protection (according to ATEX 94/9/EC)
II(2)GD [Ex d] [Ex e] [Ex tb]
EC-prototype test certification
SIRA 13 ATEX 9348X

Technical data

General
Standards
IEC/EN 60947, VDE 0660, UL, CSA
Climatic proofing
Damp heat, constant, to IEC 60068-2-78
Damp heat, cyclic, to IEC 60068-2-30
Ambient temperatureOpen
-25 - +65 °C
Ambient temperatureAmbient temperature open max.
65 °C
Ambient temperatureEnclosedAmbient temperature enclosed max.
65 °C
Mechanical shock resistance
15
Shock duration 10 ms
according to IEC 60068-2-27 g
Degree of Protection
IP20
Protection against direct contact when actuated from front (EN 50274)
Finger and back-of-hand proof
Altitude
Max. 2000 m
Main conducting paths
Rated impulse withstand voltage [U_{imp}]
6000 V AC
Overvoltage category/pollution degree
III/3
Rated insulation voltage [U_i]
690 V AC
Rated operational voltage [U_o]
690 V AC
Rated frequency [f]
50/60 Hz
Safe isolation to EN 61140 Between auxiliary contacts and main contacts
600 V AC
Safe isolation to EN 61140 Between main circuits
600 V AC
Terminal capacitiesSolid
1 x 1.5 - 16 mm²
Terminal capacitiesSolid or stranded
1 x 14 - 4 AWG
Stripping length
13 mm
Auxiliary and control circuits
Rated impulse withstand voltage [U_{imp}]
6000 V

Overvoltage category/pollution degree
 III/3
 Terminal capacitiesSolid
 2 x (0.75 - 4) mm²
 Terminal capacitiesFlexible with ferrule
 2 x (0.75 - 2.5) mm²
 Terminal capacitiesSolid or stranded
 2 x (18 - 12) AWG
 Terminal screw
 M3.5
 Tightening torque
 0.8 - 1.2 Nm
 Tightening torque
 7 lb-in
 Stripping length
 8 mm
 ToolsPozidriv screw driver
 2 Size
 ToolsStandard screw driver
 1 x 6 mm
 Rated insulation voltage [U₀]
 500 V AC
 Rated operational voltage [U_e]
 500 V AC
 Safe isolation to EN 61140 between the auxiliary contacts
 240 V AC
 Conventional thermal current [I_{th}]
 5 A
 Rated operational current [I_e] AC-15 Make contact 120 V [I_e]
 1.5 A
 Rated operational current [I_e] AC-15 Make contact 220 V 230 V 240 V [I_e]
 1.5 A
 Rated operational current [I_e] AC-15 Make contact 380 V 400 V 415 V [I_e]
 0.5 A
 Rated operational current [I_e] AC-15 Make contact 500 V [I_e]
 0.5 A
 Rated operational current [I_e] AC-15 Break contact 120 V [I_e]
 1.5 A
 Rated operational current [I_e] AC-15 Break contact 220 V 230 V 240 V [I_e]
 1.5 A
 Rated operational current [I_e] AC-15 Break contact 380 V 400 V 415 V [I_e]
 0.9 A
 Rated operational current [I_e] AC-15 Break contact 500 V [I_e]
 0.8 A
 Rated operational current [I_e] DC L/R □ 15 ms
 Switch-on and switch-off conditions based on DC-13, time constant as specified.
 Rated operational current [I_e] DC L/R □ 15 ms 24 V [I_e]
 0.9 A
 Rated operational current [I_e] DC L/R □ 15 ms 60 V [I_e]
 0.75 A
 Rated operational current [I_e] DC L/R □ 15 ms 110 V [I_e]
 0.4 A
 Rated operational current [I_e] DC L/R □ 15 ms 220 V [I_e]
 0.2 A
 Short-circuit rating without welding max. fuse
 6 A gG/gL
 Rating data for approved types
 Auxiliary contacts Pilot Duty AC operated
 B600
 Auxiliary contacts Pilot Duty DC operated
 R300
 Short Circuit Current Rating Basic Rating SOCR
 1 kA
 Short Circuit Current Rating Basic Rating max. Fuse
 6, RK5 A

Design verification as per IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat dissipation [I_h]
 1.65 A
 Heat dissipation per pole, current-dependent [P_{vid}]
 0.17 W
 Equipment heat dissipation, current-dependent [P_{vd}]
 0.51 W
 Static heat dissipation, non-current-dependent [P_{vs}]
 0 W
 Heat dissipation capacity [P_{diss}]
 0 W
 Operating ambient temperature min.
 -25 °C
 Operating ambient temperature max.
 +65 °C
 IEC/EN 61439 design verification
 10.2 Strength of materials and parts 10.2.2 Corrosion resistance
 Meets the product standard's requirements.
 10.2 Strength of materials and parts 10.2.3.1 Verification of thermal stability of enclosures
 Meets the product standard's requirements.
 10.2 Strength of materials and parts 10.2.3.2 Verification of resistance of insulating materials to normal heat
 Meets the product standard's requirements.
 10.2 Strength of materials and parts 10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects
 Meets the product standard's requirements.
 10.2 Strength of materials and parts 10.2.4 Resistance to ultra-violet (UV) radiation
 Meets the product standard's requirements.
 10.2 Strength of materials and parts 10.2.5 Lifting
 Does not apply, since the entire switchgear needs to be evaluated.
 10.2 Strength of materials and parts 10.2.6 Mechanical impact
 Does not apply, since the entire switchgear needs to be evaluated.
 10.2 Strength of materials and parts 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 Insulation properties 10.9.2 Power-frequency electric strength
 Is the panel builder's responsibility.
 10.9 Insulation properties 10.9.3 Impulse withstand voltage
 Is the panel builder's responsibility.
 10.9 Insulation properties 10.9.4 Testing of enclosures made of insulating material
 Is the panel builder's responsibility.
 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.

Technical data ETIM 7.0

Low-voltage industrial components (EG000017) / Electronic overload relay (EC001080)
 Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Electronic overload relay (ecl@ss10.0.1-27-37-15-02 [AKF076014])
 Adjustable current range
 0.33 - 1.65 A
 Mounting method
 Direct attachment

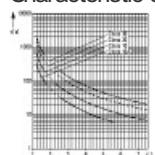
Type of electrical connection of main circuit
Screw connection
Number of auxiliary contacts as normally closed contact
1
Number of auxiliary contacts as normally open contact
1
Number of auxiliary contacts as change-over contact
0
Rated control supply voltage Us at AC 50HZ
0 - 0 V
Rated control supply voltage Us at AC 60HZ
0 - 0 V
Rated control supply voltage Us at DC
0 - 0 V
Release class
Adjustable
Voltage type for actuating
Self powered
Reset function automatic
Yes
Reset function input
Nb
Reset function push-button
Yes

Approvals

Product Standards
UL 508; CSA-C22.2 No. 14; IEC/EN 60947-4-1; CE marking
UL File No.
E1230
UL Category Control No.
NKCR
CSA File No.
2290956
CSA Class No.
3211-03
North America Certification
UL listed, CSA certified
Specially designed for North America
Nb
Suitable for
Branch circuits
Max. Voltage Rating
600 V AC
Degree of Protection
IEC: IP20, UL/CSA Type: -

Characteristics

Characteristic curve



Dimensions



CAD data

- Product-specific CAD data
(Web)

- [3D Preview](#)
(Web)

DWG files

- [DA-CD-zeb12](#)
File
(Web, Language independent)
- [DA-CD-zeb12_10_9565](#)
File
(Web)

edz files

- [DA-CE-ETNZEB12-1,65](#)
File
(Web)

Step files

- [DA-CS-zeb12_10_9565](#)
File
(Web)

3D drawing

- [2327DRW-4](#)
Line drawing

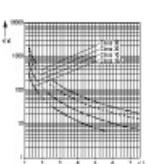
Product photo

- 
[2327PC-16](#)
Photo

Dimensions single product

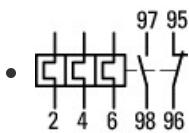
- 
[2327DIM-1](#)
Line drawing

Characteristic curve

- 
[2327DIA-5](#)
Coordinate visualization

Wiring diagram

- [000S015](#)
Line drawing
Overload release symbol



230S002

Line drawing

Overload relay circuit symbol

Instruction Leaflet

- Solid-state motor protection relay (IL04210002E)
Asset
(PDF, multilingual)

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