

136506  
ZEB150-100

Overview

Specifications

Resources



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

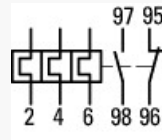
Earth-fault protection  
none

### Setting range

Overload releases  [ ]

20 - 100 A

Contact sequence



## Auxiliary contacts

NO = Normally open  
1 NO

NC = Normally closed  
1 NC

For use with

DILM80  
DILM95  
DILM115  
DILM150  
DILUM80  
DILUM95  
DILUM115  
DILUM150  
SDAINLM140  
SDAINLM165  
SDAINLM200  
SDAINLM260

## 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 temperature  
Open  
-25 - +65 °C

Ambient temperature  
Ambient temperature open max.  
65 °C

Ambient temperature  
Enclosed  
Ambient temperature enclosed max.  
45 °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 [ $U_e$ ]  
690 V AC

Rated frequency [f]  
50/60 Hz

Safe isolation to EN61140  
Between auxiliary contacts and main contacts  
600 V AC

Safe isolation to EN61140  
Between main circuits  
600 V AC

Terminal capacities  
Solid  
1 x 16 - 50 mm<sup>2</sup>

Terminal capacities  
Solid or stranded  
1 x 6 - 1 AWG

Stripping length  
14 mm

### Auxiliary and control circuits

Rated impulse withstand voltage [ $U_{imp}$ ]  
6000 V

Overvoltage category/pollution degree  
III/3

Terminal capacities  
Solid  
2 x (0.75 - 4) mm<sup>2</sup>

Terminal capacities  
Flexible with ferrule  
2 x (0.75 - 2.5) mm<sup>2</sup>

Terminal capacities  
Solid 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

Tools  
Pozidriv screwdriver  
2 Size

Tools  
Standard screwdriver  
1 x 6 mm

Rated insulation voltage [ $U_i$ ]  
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  $\square$  15 ms  
Switch-on and switch-off conditions based on  
DC-13, time constant as specified.

Rated operational current [ $I_e$ ]  
DC L/R  $\square$  15 ms  
24 V [ $I_e$ ]  
0.9 A

Rated operational current [ $I_e$ ]  
DC L/R  $\square$  15 ms  
60 V [ $I_e$ ]  
0.75 A

Rated operational current [ $I_e$ ]  
DC L/R  $\square$  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  
600 V High Fault  
SCCR (fuse)  
100 kA

Short Circuit Current Rating  
600 V High Fault  
max. Fuse  
200 Class J A

## DESIGN VERIFICATION AS PER IEC/EN 61439

### Technical data for design verification

Rated operational current for specified heat  
dissipation [ $I_n$ ]  
100 A

Heat dissipation per pole, current-dependent [ $P_{id}$ ]  
8.47 W

Equipment heat dissipation, current-dependent  
[ $P_{id}$ ]  
25.4 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  
20 - 100 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  $U_s$  at AC 50-HZ  
0 - 0 V

Rated control supply voltage  $U_s$  at AC 60HZ  
0 - 0 V

Rated control supply voltage  $U_s$  at DC  
0 - 0 V

Release class  
Adjustable

Voltage type for actuating  
Self powered

Reset function automatic  
Yes

Reset function input  
No

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  
No

Suitable for  
Branch circuits

Max. Voltage Rating  
600 V AC

Degree of Protection  
IEC: IP20, UL/CSA Type: -

## CHARACTERISTICS

### Characteristic curve



## DIMENSIONS

