



Powering Business Worldwide



106822

LS-S02-230AMT-ZBZ/X

Overview

Specifications

Resources



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per IEC/EN 61439

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## DELIVERY PROGRAM

Basic function  
Position switches  
Safety position switches

Part group reference  
LS...ZBZ/X

Product range  
Basic devices with magnet-powered interlock  
(open-circuit principle)

Degree of Protection  
IP65

Features  
Basic device, expandable

Ambient temperature  
-25 - +40 °C

Description

With interlock monitoring  
Monitoring of door position: continuous  
Time control of the release operation possible  
using ESR5-NV3-30

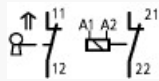
## Contacts

N/C = Normally closed  
2 NC □

### Notes

□ = safety function, by positive opening to IEC/EN  
60947-5-1

### Contact sequence



Rated control voltage for magnetic drive [ $U_s$ ]  
230 V 50/60 Hz V

Housing  
Insulated material

Connection type  
Screw terminal

### Notes

Switch must never be used as a mechanical stop!  
The operating head can be rotated manually in 90°  
steps without tools to suit the specified level of  
actuation.  
With the actuator inserted, the N/O contact is open  
and the N/C contact is closed.  
For degree of protection IP65, use V-M20  
(206910) cable glands with connecting thread of  
max. 9 mm length.

## TECHNICAL DATA

### General

Standards  
IEC/EN 60947

Climatic proofing  
Damp heat, constant, to IEC 60068-2-78; damp  
heat, cyclical, to IEC 60068-2-30

Ambient temperature  
-25 - +40 °C

Mounting position  
As required

Degree of Protection  
IP65

Terminal capacities  
Solid  
1 x (0.75 - 2.5)  
2 x (0.75 - 1.5) mm<sup>2</sup>

Terminal capacities  
Flexible with ferrule  
1 x (0.5 - 1.5)  
2 x (0.5 - 1.5) mm<sup>2</sup>

Repetition accuracy  
0.02 mm

### Contacts/switching capacity

Rated impulse withstand voltage [ $U_{imp}$ ]  
4000 V AC

Rated insulation voltage [ $U_i$ ]  
400 V

Overvoltage category/pollution degree  
III/3

Rated operational current [ $I_e$ ]  
AC-15  
24 V [ $I_e$ ]  
6 A

Rated operational current [ $I_e$ ]  
AC-15  
220 V 230 V 240 V [ $I_e$ ]  
6 A

Rated operational current [ $I_e$ ]  
AC-15  
380 V 400 V 415 V [ $I_e$ ]  
4 A

Rated operational current [ $I_e$ ]  
DC-13  
24 V [ $I_e$ ]  
3 A

Rated operational current [ $I_e$ ]  
DC-13  
110 V [ $I_e$ ]  
0.8 A

Rated operational current [ $I_e$ ]  
DC-13  
220 V [ $I_e$ ]  
0.3 A

Supply frequency  
max. 400 Hz

Short-circuit rating to IEC/EN 60947-5-1  
max. fuse  
6 A gG/gL

Rated conditional short-circuit current  
1 kA

## Mechanical variables

Lifespan, mechanical [Operations]  
 $1 \times 10^6$

Mechanical shock resistance (half-sinusoidal  
shock, 20 ms)  
Standard-action contact  
10 g

Operating frequency [Operations/h]  
☐ 800

## Actuation

Mechanical  
Actuating force at beginning/end of stroke  
25/15 (plug-in/pull-out) N

Mechanical  
Mechanical holding force acc. to GS-ET-19  
(04/2004)  
XG, XW, XNG  
1700 N

Mechanical  
Mechanical holding force acc. to GS-ET-19  
(04/2004)  
XWA, XFG, XF  
1600 N

Mechanical  
Mechanical holding force acc. to GS-ET-19  
(04/2004)  
XNW  
1200 N

Electromechanical  
For magnet  
Power consumption  
at 120 V AC  
8 VA

Electromechanical  
For magnet  
Power consumption  
at 230 V AC  
11 VA

Electromechanical  
For magnet  
Power consumption  
at 24 V DC  
8 W

Electromechanical  
Pick-up and drop-out values  
 $0.85 - 1.1 \times U_s$

Electromechanical  
Magnet duty factor  
100 % ED

# DESIGN VERIFICATION AS PER IEC/EN 61439

## Technical data for design verification

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

Heat dissipation per pole, current-dependent [ $P_{vid}$ ]  
0.13 W

Equipment heat dissipation, current-dependent [ $P_{vid}$ ]  
0 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.  
+40 °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

Sensors (EG000026) / End switch (EC000030)

Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Position switch / Position switch (Type 1) (ecl@ss10.0.1-27-27-06-01 [AGZ382015])

Width sensor  
60 mm

Diameter sensor  
0 mm

Height of sensor  
173 mm



Length of sensor  
39 mm

Rated operation current  $I_e$  at AC-15, 24 V  
6 A

Rated operation current  $I_e$  at AC-15, 125 V  
6 A

Rated operation current  $I_e$  at AC-15, 230 V  
6 A

Rated operation current  $I_e$  at DC-13, 24 V  
3 A

Rated operation current  $I_e$  at DC-13, 125 V  
0.8 A

Rated operation current  $I_e$  at DC-13, 230 V  
0.3 A

Switching function  
Slow-action switch

Switching function latching  
No

Output electronic  
No

Forced opening  
Yes

Number of safety auxiliary contacts  
2

Number of contacts as normally closed contact  
2

Number of contacts as normally open contact  
0

Number of contacts as change-over contact  
0

Type of interface  
None

Type of interface for safety communication  
None

Construction type housing  
Cuboid

Material housing  
Plastic

Coating housing  
Other

Type of control element  
Other

Alignment of the control element  
Other

Type of electric connection  
Other

With status indication  
No

Suitable for safety functions  
Yes

Explosion safety category for gas  
None

Explosion safety category for dust  
None

Ambient temperature during operating  
25 - 70 °C

Degree of protection (IP)

IP65

Degree of protection (NEMA)  
13

## APPROVALS

Product Standards  
IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE  
marking

UL File No.  
E29184

UL Category Control No.  
NKCR

CSA File No.  
12528

CSA Class No.  
3211-03

North America Certification  
UL listed, CSA certified

Degree of Protection  
IEC: IP65, UL/CSA Type 3R, 4X (indoor use only),  
12, 13

## DIMENSIONS

