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Powering Business Worldwide

LS-02-ZB - Safety position switch, LS(4)...ZB, Safety position switches, Complete unit, 2 NC, Insulated material, Cage Clamp, -25 - +70 °C



106817 LS-02-ZB

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106817 LS-02-ZB

Safety position switch, LS(4)...ZB, Safety position switches, Complete unit, 2 NC, Insulated material, Cage Clamp, -25 - +70 °C

Alternate Catalog No.

LS-02-ZB

EL-Nummer (Norway)

4356194

Safety position switch, Basic function: Position switches, Safety position switches, Part group reference: LS(4)...ZB, Product range: Safety position switches, Degree of Protection: IP66, Features: Complete unit, Ambient temperature: -25 - +70 °C, Description: With the actuator inserted, the N/O contact is open and the NC contact is closed., Contacts N/C = Normally closed: 2 NC, Notes: = safety function, by positive opening to IEC/EN 60947-5-1, Housing: Insulated material, Connection type: Cage Clamp, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany., Accessories for the Cage-Clamp terminals from Wago:power comb, gray, Wago Article No. 264-402, Standards: IEC/EN 60947

Delivery program

Basic function

Position switches

Safety position switches

Part group reference

LS(4)...ZB

Product range

Safety position switches

Degree of Protection

IP66

Features

Complete unit

Ambient temperature

-25 - +70 °C

Description

With the actuator inserted, the N/O contact is open and the NC contact is closed.

Approval



Contacts

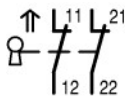
N/C = Normally closed

2 NC □

Notes

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

Contact sequence



Housing

Insulated material

Connection type

Cage Clamp

Notes

Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.

Accessories for the Cage-Clamp terminals from Wago:power comb, gray, Wago Article No. 264-402

Notes

Switch must never be used as a mechanical stop!

Actuator can be repositioned for horizontal or vertical mounting.

The operating heads can be turned manually in 90° steps 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 - +70 °C
Mounting position
As required
Degree of Protection
IP66
Terminal capacitiesSolid
1 x (0.5 - 1.5)
2 x (0.5 - 1.5) mm²
Terminal capacitiesFlexible with ferrule
1 x (0.5 - 1.5)
2 x (0.5 - 1.5) mm²
Terminal screw
PH1
Tightening torque for terminal screw
0.4 Nm
Repetition accuracy
0.15 mm
Contacts/switching capacity
Rated impulse withstand voltage [U_{imp}]
4000 V AC
Rated insulation voltage [U]
400 V
Overvoltage category/pollution degree
III/3
Rated operational current [I_e] AC-1524 V [I_e]
6 A
Rated operational current [I_e] AC-15220 V 230 V 240 V [I_e]
6 A
Rated operational current [I_e] AC-15380 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]
0.6 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]
1.5 x 10⁶
Mechanical shock resistance (half-sinusoidal shock, 20 ms) Standard-action contact
25 g
Operating frequency [Operations/h]
□ 1800
Actuation
Mechanical/Actuating force at beginning/end of stroke
10/5 (plug-in/pull-out) N

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_{vd}]
0.17 W
Equipment heat dissipation, current-dependent [P_{vd}]
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.
+70 °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

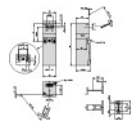
Sensors (EG000026) / End switch (EC000030)
Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Position switch / Position switch (Type 1) (ecl@ss10.0.1-27-27-06-01 [AGZ382015])
Width sensor
30 mm
Diameter sensor
0 mm
Height of sensor
96 mm
Length of sensor
33.35 mm
Rated operation current I_e at AC-15, 24 V
10 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
0
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
 Cable entry metrical
 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)
 4X

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



Switch must not be used as a mechanical stop

Terminal marking according to EN 50 013

Travel [mm]

■ = Contact closed

□ = Contact open

Zw = Positive opening sequence

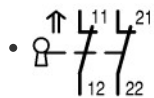
CAD data

- [Product-specific CAD data](#)
(Web)
- [3D Preview](#)
(Web)
- [DA-CD-Is_zb_mit_betaetiger](#)
CAD data
DWG files
(Web)
- [DA-CE-ETNLS-02-ZB](#)
CAD data
edz files
(Web)
- [DA-CS-Is_zb_mit_betaetiger](#)
CAD data
Step files
(Web)

3D drawing

- [131I086](#)
3D drawing
Line drawing
Small safety position switch

Wiring diagram



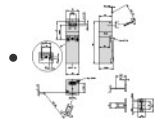
[Contact sequence](#)
Wiring diagram
Line drawing
2 break contacts

Product photo



[Photo](#)
Product photo
Photo
Position switches

Dimensions single product



[1310DIM-33](#)
Dimensions single product
Line drawing
Safety position switches

Instruction Leaflet

- [IL05208003Z](#)
Instruction Leaflet
IL05208003Z (AWA1310-2374) LS..ZB Safety position switch
(PDF, International)

Standards



[Approval](#)
Standards
Logo
Certification: DGVU ET12009

Declaration of Conformity

- [DA-DC-00003068](#)
Declaration of Conformity
(PDF)

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