

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

Worldwide English



LS-11D/LS - Position switch, Roller lever, Complete unit, 1 NO, 1 NC (late-break), Cage Clamp, Yellow, Insulated material, -25 - +70 °C, Short



290174 LS-11D/LS

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

290174 LS-11D/LS

Position switch, Roller lever, Complete unit, 1 NO, 1 NC (late-break), Cage Clamp, Yellow, Insulated material, -25 - +70 °C, Short
 Alternate Catalog No.
 EL-Nurmer (Norway)

LS-11D-LS

4315232

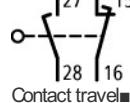
Position switch, Basic function: Position switches, Safety position switches, Part group reference: LS(M)-..., Product range: Roller lever, Degree of Protection: IP66, IP67, Features: Complete unit, Ambient temperature: -25 - +70 °C, Description: Short, Contacts NO = Normally open: 1 NO, Contacts NC = Normally closed: 1 NC, Notes: = safety function, by positive opening to IEC/EN 60947-5-1, Positive opening (ZW): yes, Colour Enclosure covers: Yellow, 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](#)
- [Technical data](#)
- [Design verification as per IEC/EN 61439](#)
- [Technical data ETIM 7.0](#)
- [Approvals](#)
- [Dimensions](#)

Delivery program

Basic function
 Position switches
 Safety position switches
 Part group reference
 LS(M)-...
 Product range
 Roller lever
 Degree of Protection
 IP66, IP67
 Features
 Complete unit
 Ambient temperature
 -25 - +70 °C
 Description
 Short
 Contacts
 NO = Normally open
 1 NO
 NC = Normally closed
 1 NC
 Notes

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



Contact travel ■ = Contact closed □ = Contact open



Positive opening (ZW)
 yes
 Colour
 Enclosure covers
 Yellow
 Enclosure covers



Housing

Insulated material

Connection type

Cage Clamp

Notes

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

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

Notes

The operating head can be rotated at 90° intervals to adapt to the specified approach direction.

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, IP67

Terminal capacities Solid

1 x (0.5 - 2.5) mm²

Terminal capacities Flexible with ferrule

1 x (0.5 - 1.5) mm²

Repetition accuracy

0.15 nm

Contacts/switching capacity

Rated impulse withstand voltage [U_{imp}]

4000 V AC

Rated insulation voltage [U_i]

400 V

Overtoltage 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

Control circuit reliability at 24 V DC/5 mA [H_r]

< 10⁻⁷, < 1 fault in 10⁷ operations Fault probability

Control circuit reliability at 5 V DC/1 mA [H_r]

< 5 x 10⁻⁶, < 1 failure at 5 x 10⁶ operations Fault probability

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]

8 x 10⁶

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

25 g

Operating frequency [Operations/h]

□ 6000

Actuation

Mechanical Actuating force at beginning/end of stroke

1.0/8.0 N

Mechanical Actuating torque of rotary drives

0.2 Nm

Mechanical Max. operating speed with DIN cam

1 m/s

Mechanical **Notes**

for angle of actuation $\alpha = 30^\circ/45^\circ$

Design verification as per IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat dissipation [I_r]

6 A

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

0.17 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.
+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

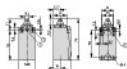
Sensors (EG000026) / End switch (EC000030)
Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Position switch / Position switch (Type 1) (ecl@ss10.0.1-27-27-06-01 [AGZ382015])
Width sensor
31 mm
Diameter sensor
0 mm
Height of sensor
61 mm
Length of sensor
33.5 mm
Rated operation current Ie at AC-15, 24 V
6 A
Rated operation current Ie at AC-15, 125 V
6 A
Rated operation current Ie at AC-15, 230 V
6 A
Rated operation current Ie at DC-13, 24 V
3 A
Rated operation current Ie at DC-13, 125 V
0.8 A
Rated operation current Ie 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
1
Number of contacts as normally closed contact
1
Number of contacts as normally open contact
1

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
Roller lever
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)
IP67
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: IP66, 67, UL/CSA Type 3R, 4X (indoor use only), 12, 13

Dimensions



- Tightening torque of cover screws: 0.8 Nm \pm 0.2 Nm
- only with LS (insulated version)
- Fixing screws 2 x M4 30

$M_A = 1.5 \text{ Nm}$



CAD data

- [Product-specific CAD data](#)
(Web)
- [3D Preview](#)
(Web)
- [DA-CD-Is_Ls](#)
CAD data
DWG files
(Web)
- [DA-CE-ETNLS-11D_LS](#)
CAD data
edz files
(Web)
- [DA-CS-Is_Ls](#)
CAD data
Step files
(Web)

Product photo



Photo

Product photo

Photo

Position switches

3D drawing

- 131012
 - 3D drawing
 - Line drawing
 - Roller lever Eform
- 131190
 - 3D drawing
 - Line drawing
 - Roller lever

Wiring diagram

- 15
27
17
28
16
Contact sequence
- Wiring diagram
- Line drawing
- 1 early-make contact, 1 late-break contact

Dimensions single product

- 1310DIM-5
 - Dimensions single product
 - Line drawing
 - Roller lever short
- 131X114
 - Dimensions single product
 - Line drawing
 - Roller lever
- 131X117
- Dimensions single product
- Line drawing
- Roller plunger
- Tightening torque of cover screws: $0.8 \text{ Nm} \pm 0.2 \text{ Nm}$
- only with LS (insulated version)
- Fixing screws 2 x M4 \square 30

Contact travel diagram

- 0 3.3 6.9
15-17 27-28 2.2
2.2 mm

Contact diagram

Contact travel diagram

Coordinate visualization

Contact travel diagram, short roller lever

Instruction Leaflet

- LS-Titan Position switches: Basic device (IL053001ZU)
 - Instruction Leaflet
 - (PDF, 06/2018, Language independent)

Symbol



Enclosure covers

Symbol

Graphic

Button plate, yellow

Declaration of Conformity

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

Download-Center

- [Download-Center \(this item\)](#)
Eaton EMEA Download-Center - download data for this item
- [Download-Center](#)
Eaton EMEA Download-Center

 [Generate data sheet in PDF format](#)

 [Generate data sheet in Excel format](#)

 [Write a comment](#)

[Imprint](#) [Privacy Policy](#) [Legal Disclaimer](#) [Terms and Conditions](#)

© 2020 by Eaton Industries GrubH