### **DATASHEET - LS-S11/LS**



Position switch, Roller lever, Complete unit, 1 N/O, 1 NC, Screw terminal, Yellow, Insulated material, -25 - +70 °C, Short



Part no.	LS-S11/LS
Catalog No.	106787
Alternate Catalog	LS-S11-LS
No. EL-Nummer (Norway)	4315205

### **Delivery program**

Product range     Roller lever       Degree of Protection     P66, IP67       Features     Complete unit       Antient temperature     Complete unit       Description     Complete unit       Contacts     Intel Complete unit       NO = Normally open     Intel Complete unit       Notes     Intel Complete unit       Contact sequence     Intel Complete unit       Contact sequence     Intel Complete unit       Postive opening (ZW)     Intel Complete unit       Colour     Intel Complete unit       Enclosure covers     Intel Complete unit       Enclosure covers     Intel Complete unit	bonnony program		
Product range         Roller lever           Degree of Protection         IP68, IP57           Features         Complete unit           Ambient temperature         Complete unit           Description         Complete unit           Description         Complete unit           No = Normally open         N/O           Notes         N/O           Notes         N/O           Contact sequence         IN/O           Notes         Info           Contact travelle = Contact closed = Contact open         Image: Solution opening to IEC/EN 00947-5-1           Contact sequence         Image: Solution opening to IEC/EN 00947-5-1           Contact sequence         Image: Solution opening to IEC/EN 00947-5-1           Contact travelle = Contact closed = Contact open         Image: Solution opening to IEC/EN 00947-5-1           Contact travelle = Contact closed = Contact open         Image: Solution opening to IEC/EN 00947-5-1           Contact travelle = Contact closed = Contact open         Image: Solution opening to IEC/EN 00947-5-1           Contact travelle = Contact closed = Contact open         Image: Solution opening to IEC/EN 00947-5-1           Colour         Image: Solution opening to IEC/EN 00947-5-1           Enclosure covers         Yellow           Enclosure covers         Yellow	Basic function		
Description         P66, P67           Features         Complete unit           Ambient temperature         25 - 70           Description         Shot           Contracts         Noto           N/O = Normally open         Noto           N/O = Normally closed         Noto           Notas         Noto           Contact sequence         INC Ownally closed           Outsit sequence         INC Ownally closed           Contact sequence         INC Ownally closed           Fectors         INC Ownally closed           Enclosure covers </td <td>Part group reference</td> <td></td> <td>LS(M)</td>	Part group reference		LS(M)
Features     Complete unit       Ambient temperature     25 - 70       Description     Short       Contacts     Short       Notes     INC **       Notes     INC **       Contact sequence     Image: Short       Contact traveller = Contact closed     E of safety function, by positive opening to IEC/EN 60947-5-1       Contact traveller = Contact closed     E of safety function, by positive opening to IEC/EN 60947-5-1       Contact traveller = Contact closed     E of safety function, by positive opening to IEC/EN 60947-5-1       Contact traveller = Contact closed     E of safety function, by positive opening to IEC/EN 60947-5-1       Contact traveller = Contact closed     E of safety function, by positive opening to IEC/EN 60947-5-1       Contact traveller = Contact closed     E of safety function, by positive opening to IEC/EN 60947-5-1       Contact traveller = Contact closed     E of safety function, by positive opening to IEC/EN 60947-5-1       Contact traveller = Contact closed     E of safety function, by positive opening to IEC/EN 60947-5-1       Colour     Image: Safety function, by positive opening to IEC/EN 60947-5-1       E of Safety function, by positive opening to IEC/EN 60947-5-1     Image: Safety function, by positive opening to IEC/EN 60947-5-1       Colour     Image: Safety function, by positive opening to IEC/EN 60947-5-1     Image: Safety function, by positive opening to IEC/EN 60947-5-1       E of Safety function, by posit	Product range		Roller lever
Anbient temperature       25 - 70         Description       Short         Contacts       1N0         NO = Normally open       NN0         Notes       Note <sup>®</sup> = safety function, by positive opening to IEC/EN 60947-5-1         Contact sequence       Image: State Stat	Degree of Protection		IP66, IP67
Description       Fortacts         N/0 = Normally open       1 N/0         N/C = Normally closed       1 N/0         Notes       In C         Notes       In C         Contact sequence       In L         Contact travel = Contact closed = Contact open       In L         Positive opening (ZW)       ys         Colour       ys         Enclosure covers       Ys         Enclosure covers       Ys         Enclosure covers       Ys         Husing       Ys         Notage       In Log In Legend In	Features		Complete unit
Contacts       Indem         N0 = hormally closed       1 N/0         Notes       Image: Contact closed = Contact clo	Ambient temperature	°C	-25 - +70
N/0 = Normally closed       N/0         Notes       INC Image: Imag	Description		Short
N/C = Normally closed       INC (INC)         Notes       INC (INC)         Contact sequence       INC (INC)         Contact trave = contact closed = contact open       INC (INC)         Positive opening (ZW)       INC (INC)         Colour       INC (INC)         Enclosure covers       INC (INC)         Housing       Incluside material         Housing       Incluside material         Connection type       Incluside material	Contacts		
Notes       INC C         Contact sequence       Image: Section (Section	N/O = Normally open		1 N/O
Contact sequence       Image: Contact closed = Contact open       Image: Contact closed = Contact open         Contact travel = Contact closed = Contact open       Image: Contact closed = Contact open       Image: Contact closed = Contact open         Positive opening (ZW)       Image: Contact closed = Contact open       Image: Contact closed = Contact open       Image: Contact closed = Contact open         Positive opening (ZW)       Image: Contact closed = Contact open       Image: Contact closed = Contact open       Image: Contact closed = Contact open         Positive opening (ZW)       Image: Contact closed = Contact open       Image: Contact closed = Contact open       Image: Contact closed = Contact open         Positive opening (ZW)       Image: Contact closed = Contact open       Image: Contact closed = Contact open       Image: Contact closed = Contact open         Positive opening (ZW)       Image: Contact closed = Contact open       Image: Contact closed = Contact open       Image: Contact closed = Contact open         Positive opening (ZW)       Image: Contact closed = Contact open       Image: Contact open       Image: Contact closed = Contact open         Image: Contact closed = Contact closed = Contact open       Image: Contact closed = Contact open       Image: Contact open         Image: Contact closed =	N/C = Normally closed		1 NC 🕲
Contact requence       Image: product closed = contact open       Image: product closed = contact open       Image: product closed = contact open         Contact travel = contact closed = contact open       Image: product closed = contact open       Image: product closed = contact open         Positive opening (ZV)       Positive opening (ZV)       Pos         Colour       Pos       Pos         Enclosure covers       Yellow       Yellow         Enclosure covers       Yellow       Image: product closed = contact open         Housing       Image: product closed = contact open       Image: product closed = contact open         Rusing       Image: product closed = contact closed =	Notes		$\Theta$ = safety function, by positive opening to IEC/EN 60947-5-1
Positive opening (ZW)       yes         Colour       Yellow         Enclosure covers       Yellow         Enclosure covers       Yellow         Housing       Image: State of the state of th	Contact sequence		~ <del>\</del> 7
Colour       Image: Colour covers       Image: Colour covers       Yellow         Enclosure covers       Image: Colour covers       Image: Colour covers       Image: Colour covers         Housing       Image: Colour covers       Image: Colour covers       Image: Colour covers         Connection type       Image: Colour covers       Image: Colour covers       Image: Colour covers	Contact travel = Contact closed = Contact open		13-14 NO 21-22 NC 3.3
Enclosure covers       Yellow         Enclosure covers       Yellow         Housing       Image: Second secon	Positive opening (ZW)		yes
Enclosure covers   Housing   Connection type     Housing   Connection type     Housing   Connection type     Housing   Connection type     Housing     Housing </td <td>Colour</td> <td></td> <td></td>	Colour		
HousingImage: Second secon	Enclosure covers		Yellow
Connection type Screw terminal	Enclosure covers		
	Housing		Insulated material
Notes The operating head can be rotated at 90° intervals to adapt to the specified approach direction.	Connection type		Screw terminal

Technical data General

delleral		
Standards		IEC/EN 60947
Climatic proofing		Damp heat, constant, to IEC 60068-2-78; damp heat, cyclical, to IEC 60068-2-30
Ambient temperature	°C	-25 - +70
Mounting position		As required
Degree of Protection		IP66, IP67
Terminal capacities	mm <sup>2</sup>	
Solid	mm <sup>2</sup>	1 x (0.5 - 2.5)

Flexible with ferrule		mm <sup>2</sup>	1 x (0.5 - 1.5)
Repetition accuracy		mm	0.15
Contacts/switching capacity			
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	4000
Rated insulation voltage	Ui	V	400
Overvoltage category/pollution degree			111/3
Rated operational current	Ι <sub>e</sub>	Α	
AC-15			
24 V	Ι <sub>e</sub>	А	6
220 V 230 V 240 V	Ι <sub>e</sub>	А	6
380 V 400 V 415 V	Ι <sub>e</sub>	Α	4
DC-13			
24 V	Ie	Α	3
110 V	Ι <sub>e</sub>	Α	0.6
220 V	Ι <sub>e</sub>	А	0.3
Control circuit reliability			
at 24 V DC/5 mA	H <sub>F</sub>	Fault probabili	< 10 <sup>-7</sup> , < 1 fault in 10 <sup>7</sup> operations ty
at 5 V DC/1 mA	H <sub>F</sub>	Fault probabili	< 5 x 10 <sup>-6</sup> , < 1 failure at 5 x 10 <sup>6</sup> operations ty
Supply frequency		Hz	max. 400
Short-circuit rating to IEC/EN 60947-5-1			
max. fuse		A gG/gL	6
Rated conditional short-circuit current		kA	1
Mechanical variables			
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	8
Mechanical shock resistance (half-sinusoidal shock, 20 ms)			
Standard-action contact		g	25
Operating frequency	Operations/h		≦ 6000
Actuation			
Mechanical			
Actuating force at beginning/end of stroke		Ν	1.0/8.0
Actuating torque of rotary drives		Nm	0.2
Max. operating speed with DIN cam		m/s	1
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	In	Α	6
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0.17
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
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.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
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.
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
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.

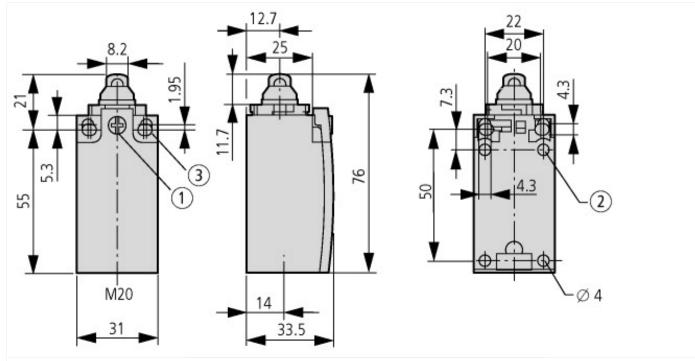
### **Technical data ETIM 7.0**

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	mm	n 31	
Diameter sensor	mm	n O	
Height of sensor	mm	n 61	
Length of sensor	mm	n 33.5	
Rated operation current le at AC-15, 24 V	А	6	
Rated operation current le at AC-15, 125 V	А	6	
Rated operation current le at AC-15, 230 V	А	6	
Rated operation current le at DC-13, 24 V	А	3	
Rated operation current le at DC-13, 125 V	А	0.8	
Rated operation current le at DC-13, 230 V	A	0.3	
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	°C	25 - 70	
Degree of protection (IP)		IP67	
Degree of protection (NEMA)		4X	

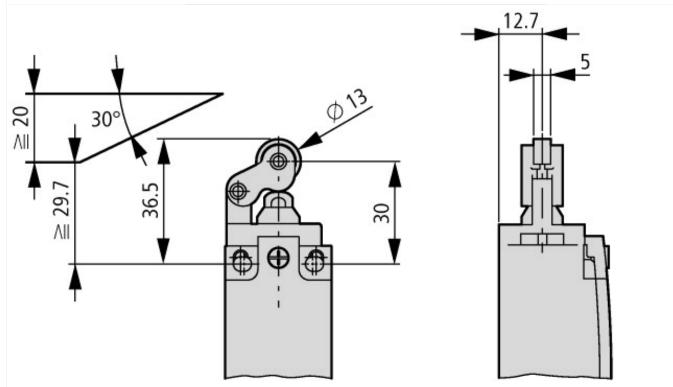
# Approvals

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



 $\begin{array}{l} (1) \mbox{ Tightening torque of cover screws: 0.8 Nm \pm 0.2 Nm } \\ (2) \mbox{ only with LS (insulated version)} \\ (3) \mbox{ Fixing screws 2 x M4 } \geq 30 \\ M_{\rm A} = 1.5 \mbox{ Nm} \end{array}$ 



## Assets (links)

Declaration of CE Conformity 00003068 Instruction Leaflets IL053001ZU2018\_06

### Additional product information (links)

#### IL053001ZU LS-Titan position switch: basic device

IL053001ZU LS-Titan position switch: basic device

ftp://ftp.moeller.net/DOCUMENTATION/AWA\_INSTRUCTIONS/IL053001ZU2018\_06.pdf