## DATASHEET - LS-S11/P



Position switch, Roller plunger, Complete unit, 1 N/O, 1 NC, Screw terminal, Yellow, Insulated material, -25 - +70 °C, EN 50047 Form C



Part no.	LS-S11/P
Catalog No.	106788
Alternate Catalog	LS-S11-P
No.	
EL-Nummer	4315206
(Norway)	

## **Delivery program**

Basic function Position switches   Part group reference LSIM   Product range LSIM   Degree of Protection FeB. [F67   Features Complete unit   Anbient temperature Complete unit   Degree of Protection Complete unit   Robient temperature Complete unit   Degree of Protection Complete unit   Robient temperature Complete unit   Degree of Protection Complete unit   Robient temperature Complete unit   Degree of Protection EN 5047 Form C   Contracts EN 5047 Form C   NO = Normally open INC   Notes INC   Notes INC   Contact sequence Sector of Secto			
Product range     Image: Product r	Basic function		Position switches Safety position switches
Degree of Protection   P66, IP67     Features   Complete unit     Ambient tamperature   PC   25 - 70     Design   EN 50647 Form C     Contacts   INO     NO = Normally open   INO     Notes   INC •     Contact sequence   •     Contact trave   •     Positive opening (ZW)   Image: Section of the sect	Part group reference		LS(M)
Features Complete unit   Ambient temperature 25 - 70   Design EN 50047 Form C   Contacts EN 50047 Form C   NO = Normally open 1N/0   NC = Normally closed 1N/0   Notes Image: State	Product range		Roller plunger
Anbient temperature   -25 - 70     Design   EN 50047 Form C     Contacts   INO     NO = Normally open   INO     NCE = Normally closed   INO     Notes   INO     Contact sequence   INO     Contact travell = Contact closed_l = Contact open   Image: State sequence     Positive opening (ZW)   Vers     Colour Enclosure covers   Vers     Enclosure covers   Vers     Housing   Image: State sequence     Housing   Image: State sequence	Degree of Protection		IP66, IP67
Design EN 50047 Form C   Contacts INO   N/O = Normally closed INO   Notes INC Image: Select function, by positive opening to IEC/EN 60947-5-1   Contact sequence Image: Select function, by positive opening to IEC/EN 60947-5-1   Contact sequence Image: Select function, by positive opening to IEC/EN 60947-5-1   Contact sequence Image: Select function, by positive opening to IEC/EN 60947-5-1   Contact sequence Image: Select function, by positive opening to IEC/EN 60947-5-1   Contact rave Image: Contact closed Image: Select function, by positive opening to IEC/EN 60947-5-1 Image: Select function, by positive opening to IEC/EN 60947-5-1   Contact rave Image: Select function open Image: Select function, by positive opening to IEC/EN 60947-5-1 Image: Select function, by positive opening to IEC/EN 60947-5-1   Contact trave Image: Select function open Image: Select function open Image: Select function, by positive open Image: Select funct	Features		Complete unit
Contacts Image: sequence   Notes Image: sequence   Contact sequence Image: sequence   Contact travel = Contact open Image: sequence   Positive opening (ZW) Image: sequence   Colour Image: sequence   Enclosure covers Image: sequence   Enclosure covers Image: sequence   Housing Image: sequence	Ambient temperature	°C	-25 - +70
N/0 = Normally openIN/0N/c = Normally closedIN/0NotesIn CContact sequenceImage: Second Secon	Design		EN 50047 Form C
V/C = Normally closed   INC      Notes   INC      Contact sequence   Image: Seafery function, by positive opening to IEC/EN 60947-5-1     Contact sequence   Image: Seafery function, by positive opening to IEC/EN 60947-5-1     Contact travel = Contact closed = Contact open   Image: Seafery function, by positive opening to IEC/EN 60947-5-1     Contact travel = Contact closed = Contact open   Image: Seafery function, by positive opening to IEC/EN 60947-5-1     Positive opening (ZW)   Image: Seafery function, by positive opening to IEC/EN 60947-5-1     Positive opening (ZW)   Image: Seafery function, by positive opening to IEC/EN 60947-5-1     Colour   Image: Seafery function, by positive opening to IEC/EN 60947-5-1     Enclosure covers   Image: Seafery function, by positive opening to IEC/EN 60947-5-1     Enclosure covers   Image: Seafery function, by positive opening to IEC/EN 60947-5-1     Housing   Image: Seafery function, by positive opening to IEC/EN 60947-5-1     For transmit opening (ZW)   Image: Seafery function, by opening to IEC/EN 60947-5-1     For transmit opening (ZW)   Image: Seafery function, by opening to IEC/EN 60947-5-1     For transmit opening (ZW)   Image: Seafery function, by opening to IEC/EN 60947-5-1     For transmit opening (ZW)   Image: Seafery function, by opening to IEC/EN 60947-5-1	Contacts		
Notes   Inc C     Notes   Image: Second s	N/O = Normally open		1 N/O
Contact sequenceImage: Contact sequenceContact travellere Contact closedContact travellere Contact closedContact travellere Contact closedContact travellere Contact closedPositive opening (ZW)yesColouryesEnclosure coversFollowEnclosure coversFollowEnclosure coversFollowHousingImage: Contact closedHousingImage: Contact closedHous	N/C = Normally closed		1 NC 🕀
Image: Section of the section of th	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     Model and	Contact sequence		~ <del>\</del> - <del>\</del>
Colour Enclosure covers Yellow   Enclosure covers Image: Colour covers   Housing Image: Colour covers	Contact travel = Contact closed = Contact open		13-14 NO 21-22 NC 3.0
Enclosure covers Yellow   Enclosure covers Image: Comparison of the sector of the secto	Positive opening (ZW)		yes
Enclosure covers Image: Covers of the second seco	Colour		
Housing Insulated material	Enclosure covers		Yellow
	Enclosure covers		
Connection type Screw terminal	Housing		Insulated material
	Connection type		Screw terminal
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	°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	Ie	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>	А	4
DC-13			
24 V	le	Α	3
110 V	Ι <sub>e</sub>	Α	0.6
220 V	Ι <sub>e</sub>	Α	0.3
Control circuit reliability			
at 24 V DC/5 mA	H <sub>F</sub>	Fault probabilit	
at 5 V DC/1 mA	H <sub>F</sub>	Fault probabilit	< 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	1/1
Notes			for angle of actuation $\alpha = 0^{\circ}/30^{\circ}$

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	А	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.

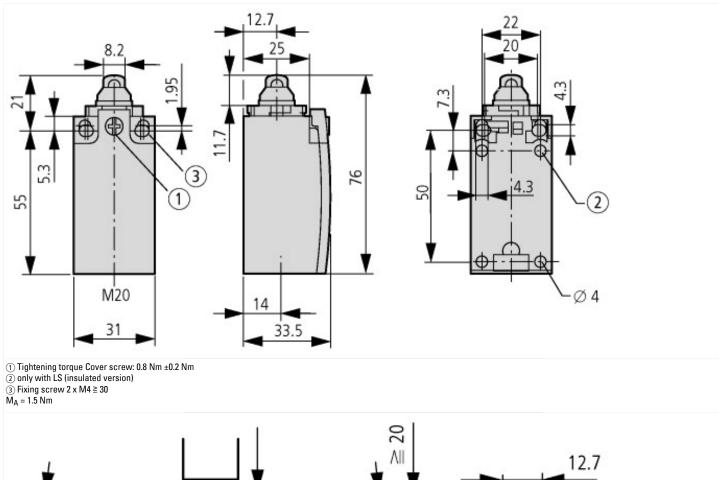
#### **Technical data ETIM 7.0**

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	mr	m	31
Diameter sensor	mr	m	0
Height of sensor	mr	m	61
Length of sensor	mr	m	33.5
Rated operation current le at AC-15, 24 V	A		6
Rated operation current le at AC-15, 125 V	A		6
Rated operation current le at AC-15, 230 V	A		6
Rated operation current le at DC-13, 24 V	A		3
Rated operation current le at DC-13, 125 V	A		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			Rotary 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	3	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**



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