### **DATASHEET - LS-S11S/RL**



Position switch, Rotary lever, Complete unit, 1 N/O, 1 NC, Snap-action contact - Yes, Screw terminal, Yellow, Insulated material, -25 - +70 °C, EN 50047 Form A



Part no.LS-S11S/RLCatalog No.106802Alternate CatalogLS-S11S-RLNo.EL-NummerEL-Nummer4315215(Norway)4315215

# **Delivery program**

Part group reference         Fast group reference         Safety position switches           Part group reference         ESIM	Denter, program		
Product range       Product range       Podary lover         Degree of Protection       Pode, P67         Reture s       Complete unit         Ambient temperature       Complete unit         Design       Complete unit         Snap-action contact       Complete unit         Not = Normally open       Ves         Not = Normally open       Ves         Notes       Notes         Contact targe = Contact lossod = Contact open       Ves         Contact targe = Contact lossod = Contact open       Ves         Positive opening (ZV)       Ves         Colour       Ves         Enclosure covers       Ves         Enclosure covers       Ves         Banseq       Ves         Housing       Ves         Rusary       Ves         Contact targe       Ves         Contact covers       Ves         Contact covers       Ves         Enclosure covers       Ves         Rusary       Ves         Rusary       Ves         Rusary       Ves         Contact targe       Ves         Postow covers       Ves         Enclosure covers       Ves         Rusa	Basic function		
Degree of Protection         PR6/ PF3           Fatures         Complete unit           Ambient tamperature         Complete unit           Design         Complete unit           Star-action contact         EN 50047 Form A           Contacts         EN 50047 Form A           Normally open         IN/O           Normally closed         IN/O           Notes         IN/O           Ontest sequence         IN/O           Contact target function, by positive opening to IEC/EN 60047-5-1           Contact sequence         In/O           Notes         In/O           Contact target function, by positive opening to IEC/EN 60047-5-1           Contact sequence         In/O           Positive opening (ZW)         In/O           Positive opening (ZW)         In/O           Enclosure covers         In/O           Enclosure covers         In/O           Masing         In/O         In/O           Reside         In/O         In/O           In/O         In/O         In/O           In/O         In/O         In/O           In/O         In/O         In/O           In/O         In/O <thin o<="" th="">           In/O</thin>	Part group reference		LS(M)
Features       Complete unit         Ambient temperature       25 - 70         Design       EN 50047 Form A         Snap-action contact       EN 50047 Form A         Contacts       1N0         Not - Normally open       1N0         Notes       1N0         Ontacts       Inc O         Notes       Inc O         Contact sequence       Inc O         Enclosure covers       Inc O         Enclosure covers       Inc O         Rusing       I	Product range		Rotary lever
Anheint temperature       25 - 70         Design       K 50007 Form A         Snap-action contact       Yes         Contacts       N/O         NO = Normally open       N/O         Notes       Notes         Contact sequence       INO         Contact sequence       Ino         Postive opening (ZW)       Ino         Postive covers       Yes         Enclosure covers       Yes         Enclosure covers       Yes         Rutos       Yes         House       Yes         Notes       Yes         Contact sequence       Ino         Positive opening (ZW)       Yes         Positive opening (ZW)       Yes         Enclosure covers       Yes         Enclosure covers       Yes         Enclosure covers       Yes         Manage       Yes         Housing       Yes         Rutost       Yes <td>Degree of Protection</td> <td></td> <td>IP66, IP67</td>	Degree of Protection		IP66, IP67
Besign         K 50047 Form A           Snap-action contact         Yes           Contacts         INC           NG - Normally open         INC           Notes         INC ®           Contact sequence         INC ®           Contact sequence         INC *           Positive opening (ZW)         Yes           Positive opening (ZW)         Yes           Enclosure covers         Yes           Enclosure covers         Yes           Enclosure covers         Yes           Notes         Yes           Notes         Yes           Notes         Yes           Colour         Yes           Enclosure covers         Yes           Enclosure covers         Yes           Notes         Yes           Antional (CM)         Yes           Enclosure covers         Yes           Inclosure covers         Yes           Notes         Yes           Inclosure covers         Yes           Inclosure covers         Yes           Notes         Yes           Inclosure covers         Yes           Notes         Yes           Inclosure covers         Yes<	Features		Complete unit
Sup-action contact       Ys         Contacts       INC         NO = Normally open       INC         Notes       INC         Notes       INC         Contact sequence       IN         Contact travell = Contact open       INC         Positive opening (ZW)       INC         Enclosure covers       INC         Enclosure covers       INC         Housing       Vertine interval         Contact travell       INC         Subsection contact covers       INC         Enclosure covers       Interval         Housing       Interval         Contact travell       Interval         Contact travell = Contact open       Interval         Interval       Interval	Ambient temperature	°C	-25 - +70
Contacts       INC         NO = Normally closed       INC         Notes       INC         Notes       INC         Contact sequence       INC         Contact travell = Contact closed = Contact open       INC         Positive opening (ZW)       INC         Enclosure covers       INC         Enclosure covers       INC         Housing       INC         Housing       INC         Contact travell       INC         Section Covers       INC         Enclosure covers       INC         Housing       INC         Rousing Covers       INC         Housing       INC         Contact travell       INC         Section Covers       INC         Enclosure covers       INC         Enclosure covers       INC         Housing       INC         Enclosure covers	Design		EN 50047 Form A
N/O = Normally logen       N/O         N/C = Normally closed       IN/O         Notes       INC I         Ontex       Image: Image	Snap-action contact		Yes
NC = Normally closed       Image: Rest of the closed of the	Contacts		
Notes       Image: Context requence       Image: Context requence         Contact sequence       Image: Context requence       Image: Context requence       Image: Context requence         Contact trave = Contact closed = Contact open       Image: Context requence       Image: Context requence       Image: Context requence         Contact trave = Contact closed = Contact open       Image: Context requence       Image: Context requence       Image: Context requence         Positive opening (ZW)       Image: Context requence       Image: Context requence       Image: Context requence       Image: Context requence         Positive opening (ZW)       Image: Context requence	N/O = Normally open		1 N/O
Contact sequence       Image: Contact open ing to IEC/EN 60947-5-1         Contact trave = Contact closed = Contact open       Image: Contact trave = Contact closed = Contact open         Contact trave = Contact closed = Contact open       Image: Contact trave = Contact closed = Contact open         Positive opening (ZW)       Image: Contact closed = Contact open         Positive opening (ZW)       Image: Contact closed = Contact open         Enclosure covers       Image: Contact closed = Contact open         Enclosure covers       Image: Contact closed = Contact open         Housing       Image: Contact closed = Contact open         Contact trave = Contact closed = Contact open       Image: Contact closed = Contact open         Rusing       Image: Contact closed = Contact closed	N/C = Normally closed		1 NC 🕀
Contact trave       = Contact closed       =	Notes		$\Theta$ = safety function, by positive opening to IEC/EN 60947-5-1
Positive opening (ZW)       yes         Colour       yes         Enclosure covers       Yellow         Enclosure covers       Yellow         Enclosure covers       Yellow         Housing       Joint Colour         Kousing       Yellow         Yellow       Yellow         Ye	Contact sequence		~+ <u>+</u> <u>7</u>
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		$\begin{array}{c} 13.14 \\ 21.22 \\ 13.14 \\ 15^{\circ} \end{array} \qquad \longleftarrow$
Enclosure covers       Yellow         Enclosure covers       Yellow         Housing       Insulated material         Connection type       Image: Terminal	Positive opening (ZW)		yes
Enclosure covers   Housing   Connection type     Insulated material   Screw terminal	Colour		
HousingInsulated materialConnection typeImage: Section type	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
	Notes The operating head can be rotated at 90° intervals to adapt to the specified a	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

<b>_</b>			
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	le	А	
AC-15			
24 V	I <sub>e</sub>	А	6
220 V 230 V 240 V	le	А	6
380 V 400 V 415 V	le	А	4
DC-13			
24 V	le	А	3
110 V	le	А	0.6
220 V	le	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
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	1.5
Notes			for angle of actuation $\alpha = 0^{\circ}$

# 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.

10.0 C Marchanical impact	Description of the sector suits because do to be such stad
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**

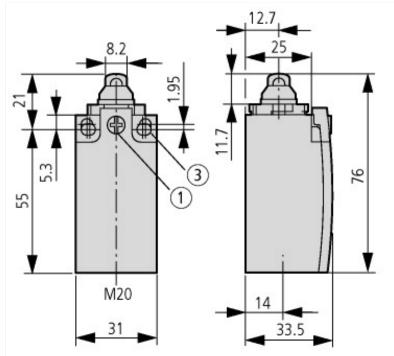
#### Sensors (EG000026) / End switch (EC000030)

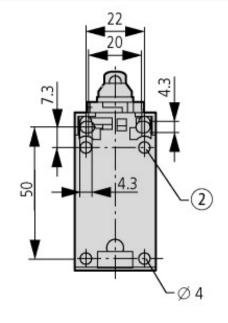
Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Position switch / Position switch (Type 1) (ecl@ss10.0.1-27-27-06-01 [AGZ382015])			
Width sensor	mm	n :	31
Diameter sensor	mm	n (	0
Height of sensor	mm	n (	61
Length of sensor	mm	n :	33.5
Rated operation current le at AC-15, 24 V	А	l	6
Rated operation current le at AC-15, 125 V	А	I	6
Rated operation current le at AC-15, 230 V	А	I	6
Rated operation current le at DC-13, 24 V	А	:	3
Rated operation current le at DC-13, 125 V	Α	I	0.8
Rated operation current le at DC-13, 230 V	А	(	0.3
Switching function		1	Quick-break 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		I	None
Type of interface for safety communication		l	None
Construction type housing			Cuboid
Material housing		I	Plastic
Coating housing			Other
Type of control element		1	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	1	25 - 70
Degree of protection (IP)		I	IP67

۸V	
4٨	

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**





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

