DATASHEET - LS-S02/L



Position switch, 2 N/C, roller lever

Eaton Catalog No. LS-S02-L EL-Nummer 000431520

LS-S02/L

0004315201

106781

Part no.

Catalog No.

(Norway)



Delivery program

Basic function Self on switches Part group reference LSM Product range LSM Degree of Protection Feb. P87 Features Complete unit Ambient tamperature Complete unit Description Long Contacts ZNC ® Notos ZNC ® Rotat closed = Contact open Self or Lange state Pastive opening GX/P Yea Enclosure covers Yeal Enclosure covers Yeal Enclosure covers Yeal Housing Kaliel Contact Housing Kaliel Contact			
Product range Period Features Complete unit Ambitant tamperature Complete unit Complete unit Complete unit Roter S Complete Unit Complete Unit Complete Unit N/C = Normally closed Complete Unit Complete Unit Complete Unit N/C = Normally closed Complete Unit Complete Unit Complete Unit N/C = Normally closed Complete Unit Complete Unit Complete Unit N/C = Normally closed Complete Unit Complete Unit Complete Unit Complete Unit N/C = Normally closed Complete Unit Compl	Basic function		Position switches Safety position switches
Degree of Protection PR6, PR7 Features Complete unit Ambient temperature 25 - 70 Description Long Contacts 2 NC ® N/C = Normally closed 2 NC ® Notes Set	Part group reference		LS(M)
Features Image: Complex unit Ambient temperature 62 52 + 70 Description Image: Complex Unit Image: Complex Unit Notes Image: Complex Unit Image: Complex Unit Notes Image: Complex Unit Image: Complex Unit Contact sequence Image: Complex Unit Image: Complex Unit Contact traveller = Contact open Image: Complex Unit Image: Complex Unit Positive opening (ZW) Image: Complex Unit Image: Complex Unit Colour Image: Complex Unit Image: Complex Unit Enclosure covers Image: Complex Unit Image: Complex Unit Motes Image: Complex Unit Image: Complex Unit Motes Image: Complex Unit Image: Complex Unit Contact traveller = Contact open Image: Complex Unit Image: Complex Unit Positive opening (ZW) Image: Complex Unit Image: Complex Unit Enclosure covers Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit Image: Complex Unit	Product range		Roller lever
Ambient temperature *** 25-70 Description Long Contacts 2 NC - Notes 2 NC - Notes Image: Second Seco	Degree of Protection		IP66, IP67
Description Ing Contacts Ing NC = Normally closed Ing Notes Ing Notes Ing Contact sequence Ing Interver = Contact closed = Contact open Ing Positive opening (ZW) Ing Colour Ing Inclosure covers Ing Inclosure covers Ing Housing Interver Housing Inclosure covers Inclosure covers<	Features		Complete unit
Contacts Image: Contact sequence Image: Contact sequence Image: Contact sequence Image: Contact closed = Contact open Image: Contact closed = Contact closed = Contact open Image: Contact closed = Con	Ambient temperature	°C	-25 - +70
NC = Normally closed 2NC Image: Sequence Contact sequence Image: Sequence Contact travel = Contact closed = Contact open Image: Sequence Positive opening (ZW) Image: Sequence Colour Image: Sequence Enclosure covers Image: Sequence Enclosure covers Image: Sequence Housig Image: Sequence Housig Image: Sequence Secuence Image: Secuence Secuen	Description		Long
Notes Image: Contact Sequence Image: Contact Sequence Image: Contact	Contacts		
Contact sequence Image: sequence <td< td=""><td>N/C = Normally closed</td><td></td><td>2 NC 🕀</td></td<>	N/C = Normally closed		2 NC 🕀
Forsitive opening (ZW) yes Colour yes Enclosure covers Yellow Enclosure covers Yellow Housing Isulated material	Notes		Θ = safety function, by positive opening to IEC/EN 60947-5-1
Positive opening (ZW) yes Colour Yellow Enclosure covers Yellow Enclosure covers Yellow Housing Insulated material	Contact sequence		o7-7
Colour Enclosure covers Yellow Enclosure covers Vellow Housing Insulated material	Contact travel = Contact closed = Contact open		11-12 NC 21-22 NC 4.4
Enclosure covers Yellow Enclosure covers Image: Comparison of the sector of	Positive opening (ZW)		yes
Enclosure covers Image: Covers of the second seco	Colour		
Housing I I I I I I I I I I I I I I I I I I I	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 ²	
Solid	mm ²	1 x (0.5 - 2.5)

Flexible with ferrule		mm ²	1 x (0.5 - 1.5)
Contacts/switching capacity			
Rated impulse withstand voltage	U _{imp}	V AC	4000
Rated insulation voltage	Ui	V	400
Overvoltage category/pollution degree			111/3
Rated operational current	le	А	
AC-15			
24 V	le	А	6
220 V 230 V 240 V	le	А	6
380 V 400 V 415 V	l _e	А	4
DC-13			
24 V	l _e	А	3
110 V	le	А	0.6
220 V	l _e	А	0.3
Control circuit reliability			
at 24 V DC/5 mA	H _F	Fault probabilit	< 10 ⁻⁷ , < 1 fault in 107 operations ty
at 5 V DC/1 mA	H _F	Fault probabilit	< 10 ⁻⁶ , < 1 failure at 5 x 10 ⁶ operations ly
Supply frequency		Hz	max. 400
Short-circuit rating to IEC/EN 60947-5-1			
max. fuse		A gG/gL	6
Repetition accuracy		mm	0.15
Rated conditional short-circuit current		kA	1
Mechanical variables			
Lifespan, mechanical	Operations	x 10 ⁶	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

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	6
Heat dissipation per pole, current-dependent	P _{vid}	W	0.17
Equipment heat dissipation, current-dependent	P _{vid}	W	0
Static heat dissipation, non-current-dependent	P _{vs}	W	0
Heat dissipation capacity	P _{diss}	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.

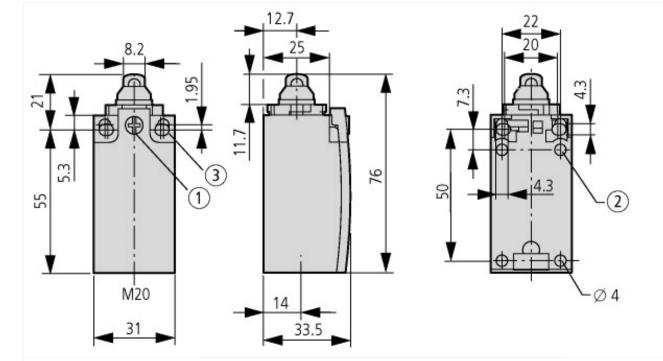
Technical data ETIM 7.0

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	31
Diameter sensor		mm	0
Height of sensor		mm	61
Length of sensor		mm	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		А	0.3
Switching function			Slow-action switch
Switching function latching			No
Output electronic			No
Forced opening			Yes
Number of safety auxiliary contacts			2
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			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

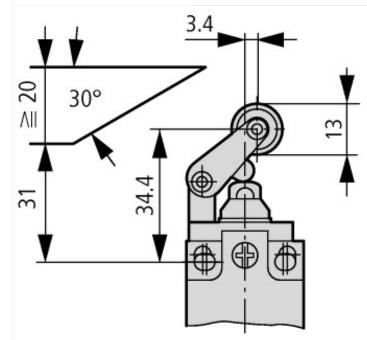
Approvals

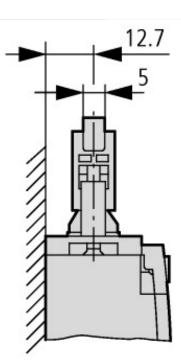
Product Standards	IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking
UL File No.	E29184
UL Category Control No.	NKCR
CSA File No.	12528
CSA Class No.	3211-03
North America Certification	UL listed, CSA certified
Degree of Protection	IEC: IP66, 67, UL/CSA Type 3R, 4X (indoor use only), 12, 13

Dimensions



(1) Tightening torque of cover screws: 0.8 Nm ±0.2 Nm (2) only with LS (insulated version) (3) Fixing screws 2 x M4 ≧ 30 M_A = 1.5 Nm





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