DATASHEET - LSM-11D/L



Safety position switch, metal, 1N/O+1N/C, roller lever

Part no. LSM-11D/L Catalog No. 266150 Alternate Catalog LSM-11D/L

No.

EL-Nummer (Norway) 4356145



Delivery program

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	°C	-25 - +70
Description		Long
Contacts		
N/O = Normally open		1 N/O
N/C = Normally closed		1 NC →
Notes		= safety function, by positive opening to IEC/EN 60947-5-1
Contact sequence		0-\frac{27}{28} \frac{15}{16}
Contact travel = Contact closed = Contact open		0 4.7 9.6 15-16 NC 27-28 NO 3.3 Zw = 7.7 mm
Positive opening (ZW)		yes
Colour		
Enclosure covers		Yellow
Enclosure covers		
Housing		Metal
Connection type		Cage Clamp
Notes		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
Notes The operating head can be rotated at 90° intervals to adapt to the specified approach direction.	ection.	

Technical data

General

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	
			4 (05 05)
Solid		mm ²	1 x (0.5 - 2.5)
Flexible with ferrule		mm^2	1 x (0.5 - 1.5)
Repetition accuracy		mm	0.15
Contacts/switching capacity			
Rated impulse withstand voltage	U_{imp}	V AC	4000
Rated insulation voltage	Ui	V	400
Overvoltage category/pollution degree			III/3
Rated operational current	I _e	Α	
AC-15			
24 V	I _e	Α	6
220 V 230 V 240 V	I _e	Α	6
380 V 400 V 415 V	I _e	Α	4
DC-13			
24 V	I _e	Α	3
110 V	I _e	Α	0.6
220 V	I _e	Α	0.3
Control circuit reliability			
at 24 V DC/5 mA	H _F	Fault probabili	< 10 ⁻⁷ , < 1 fault in 10 ⁷ operations
at 5 V DC/1 mA	H _F	Fault probabili	$< 5 \times 10^{-6}$, < 1 failure at 5×10^{6} 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 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		N	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 _{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) (eci@ss10.0.1-27-27-06-01 [AG7382015])

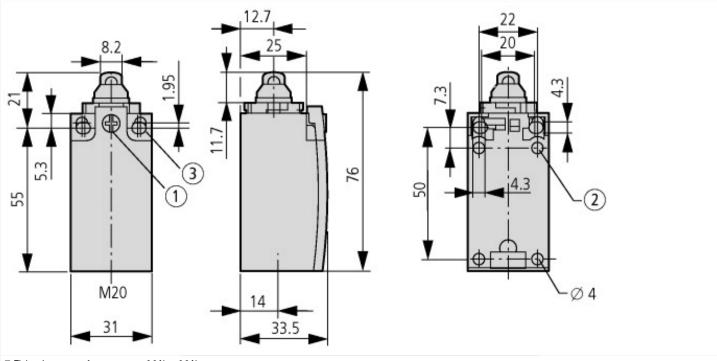
Diameter sensor mm 0 Height of sensor mm 61 Length of sensor mm 33.5 Rated operation current le at AC-15, 24 V A 6 Rated operation current le at AC-15, 25 V A 6 Rated operation current le at DC-13, 24 V A 3 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 25 V A 0.8 Number of contact sa sommally closed contact I 0.0	(ecl@ss10.0.1-27-27-06-01 [AGZ382015])	· ,		
Height of sensor mm 33.5 Length of sensor mm 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, 125 V A 6 Rated operation current le at DC-13, 125 V A 3 Rated operation current le at DC-13, 125 V A 0 Rated operation current le at DC-13, 125 V A 0 Rated operation current le at DC-13, 125 V A 0 Rated operation current le at DC-13, 125 V A 0 Rated operation current le at DC-13, 125 V A 0 Rated operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le at DC-13, 125 V A 0 Routed operation current le a	Width sensor		mm	31
Length of sensor mm 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 3 Rated operation current le at DC-13, 25 V A 0.8 Rated operation current le at DC-13, 250 V A 0.8 Rated operation current le at DC-13, 250 V A 0.8 Switching function No No Switching function latching No No Output electronic No No Forced opening Yes No Number of safety auxiliary contacts Yes No Number of contacts as normally closed contact Yes 1 Number of contacts as normally open contact Yes No Number of contacts as change-over contact Yes No Construction type housing Yes No Material housing Yes Cubula Control element Yes Cubula Control element Yes Cubula <td>Diameter sensor</td> <td></td> <td>mm</td> <td>0</td>	Diameter sensor		mm	0
Rated operation current le at AC-15, 24 V A 6 Rated operation current le at AC-15, 230 V A 6 Rated operation current le at DC-13, 230 V A 3 Rated operation current le at DC-13, 24 V A 0.8 Rated operation current le at DC-13, 125 V A 0.3 Switching function Slow-action switch No Switching function latching No No Output electronic No No Forced opening Yes No Number of contacts as normally closed contact 1 1 Number of contacts as normally open contact 1 None Type of interface None None Type of interface for safety communication None None Construction type housing None Cuboid Material housing Cuboid Material housing Coating housing Cuboid Cuboid Algement of the control element Cuboid Cuboid Algement of the control element Cuboid Cuboid Algement of the contro	Height of sensor		mm	61
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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 Switching function latching No Output electronic No No Forced opening Yes Yes Number of safety auxiliary contacts 0 1 Number of contacts as normally closed contact 1 1 Number of contacts as normally closed contact 1 1 Number of contacts as change-over contact 0 0 Vippe of interface for safety communication No None Construction type housing Under the control element Cuboid Material housing Under the control element Cuboid Alignment of the control element Under the control element Cubic element Vipe of electric connection Veble entry metrical With status indication No Cube entry metrical Suitable for safety functions Yes None	Rated operation current le at AC-15, 125 V		Α	6
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 Siow-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 None Type of interface for safety communication None Construction type housing Metal Material housing Metal Construction type founded Yes Wither Type of control element Yes Wither Type of control element Yes Cable entry metrical With status indication Yes Cable entry metrical	Rated operation current le at AC-15, 230 V		Α	6
Rated operation current le at DC-13, 230 V Switching function Switching function latching Output electronic Forced opening Number of safety auxiliary contacts Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as normally open contact Number of contacts as change-over contact Type of interface Type of interface for safety communication Construction type housing Material housing Material housing Coating housing Type of control element Alignment of the control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas None One Construction type of electric connection None Control element Type of electric connection None Cable entry metrical None Suitable for safety functions Explosion safety category for gas	Rated operation current le at DC-13, 24 V		Α	3
Switching function Slow-action switch Switching function latching No Output electronic No Forced opening Yes Number of safety auxiliary contacts 0 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 Metal Metarial housing Metal Coating housing Other Type of control element Square roller lever Alignment of the control element Other Type of electric connection Cable entry metrical With status indication No Suitable for safety functions Yes Explosion safety category for gas None	Rated operation current le at DC-13, 125 V		Α	0.8
Switching function latching Output electronic Output electronic Forced opening Number of safety auxiliary contacts Number of safety auxiliary contacts Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as normally open contact Number of contacts as change-over contact Number of contacts as normally open contact Number of contacts as normally op	Rated operation current le at DC-13, 230 V		Α	0.3
Output electronicNoForced openingYesNumber of safety auxiliary contacts0Number of contacts as normally closed contact1Number of contacts as normally open contact1Number of contacts as change-over contact0Type of interfaceNoneType of interface for safety communicationNoneConstruction type housingCuboidMaterial housingMetalCoating housingOtherType of control elementSquare roller leverAlignment of the control elementOtherType of electric connectionCable entry metricalWith status indicationNoSuitable for safety functionsYesExplosion safety category for gasNone	Switching function			Slow-action switch
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Coating housing Coating housing Other Type of control element Alignment of the control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas Other Other Cable entry metrical No No No No No No No No No N	Construction type housing			Cuboid
Type of control element Alignment of the control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas Square roller lever Other Cable entry metrical No Yes No	Material housing			Metal
Alignment of the control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas Other Cable entry metrical No	Coating housing			Other
Type of electric connection Cable entry metrical No Suitable for safety functions Explosion safety category for gas Cable entry metrical No No No Yes None	Type of control element			Square roller lever
With status indication No Suitable for safety functions Yes Explosion safety category for gas None	Alignment of the control element			Other
Suitable for safety functions Explosion safety category for gas None	Type of electric connection			Cable entry metrical
Explosion safety category for gas None	With status indication			No
	Suitable for safety functions			Yes
Explosion safety category for dust None	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

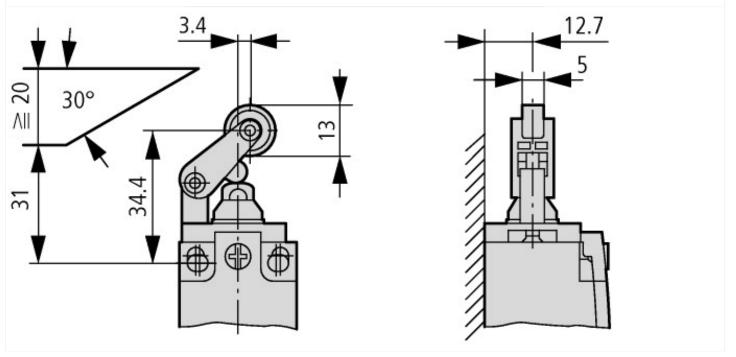
Approvals

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 \pm 0.2 Nm ② only with LS (insulated version) ③ Fixing screws 2 x M4 \ge 30 M_A = 1.5 Nm



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

 $ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL053001ZU2018_06.pdf$