DATASHEET - LSM-20A



Position switch, Rounded plunger, Basic device, expandable, 2 N/O, Cage Clamp, Yellow, Metal, -25 - +70 °C, version A

Powering Business Worldwide

LSM-20A Part no. Catalog No. 100051 **Alternate Catalog** LSM-20A

No.

EL-Nummer 4315199

(Norway)

Delivery program		
Basic function		Position switches
Part group reference		LS(M)
Product range		Rounded plunger
Degree of Protection		IP66, IP67
Features		Basic device, expandable
Ambient temperature	°C	-25 - +70
Contacts		
N/O = Normally open		2 N/O
Contact sequence		$0 - \frac{13}{14} \frac{13}{24}$
Contact travel = Contact closed = Contact open		0 2.1 6.1 13-14 NO 23-24 NO
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

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)
Repetition accuracy	mm	0.15

Contacts/switching capacity

Rated impulse withstand voltage	U _{imp}	V AC	4000
Rated insulation voltage	U_{i}	V	400

Overvoltage category/pollution degree			III/3
Rated operational current	l _e	Α	
AC-15			
24 V	l _e	Α	6
220 V 230 V 240 V	l _e	Α	6
380 V 400 V 415 V	le	Α	4
DC-13			
24 V	l _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 probabilit	$< 10^{-7}, < 1$ fault in 10^7 operations ty
at 5 V DC/1 mA	H _F	Fault probabilit	$< 5 \times 10^{-6}$, < 1 failure at 5×10^{6} operations
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
Contact temperature of roller head		°C	≦ 100
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	1/0.5
Notes			for angle of actuation $\alpha=0^{\circ}/30^{\circ}$

Design verification as per IEC/EN 61439

Fechnical 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
EC/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

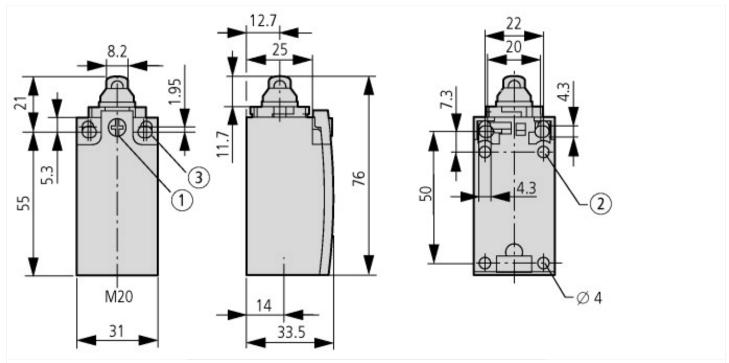
	Technical data ETIM 7.0		
Activation 1972 1974 1	Sensors (EG000026) / End switch (EC000030)		
Image Imag	Electric engineering, automation, process control engineering / Binary sensor technolog (ecl@ss10.0.1-27-27-06-01 [AGZ382015])	gy, safety-related se	nsor technology / Position switch / Position switch (Type 1)
design of sensor mm 61 ength of sensor mm 33.5 lated operation current le at AC-15, 24 V A 6 lated operation current le at AC-15, 230 V A 6 lated operation current le at DC-13, 24 V A 8 lated operation current le at DC-13, 25 V A 9 lated operation current le at DC-13, 25 V A 9 lated operation current le at DC-13, 25 V A 9 lated operation current le at DC-13, 25 V A 9 lated operation current le at DC-13, 25 V A 9 lated operation current le at DC-13, 25 V A 9 lated operation current le at DC-13, 25 V A A lated operation current le at DC-13, 25 V B A lated operation current le at DC-13, 25 V B B lated operation current le at DC-13, 25 V B B lated operation current le at DC-13, 25 V B B lated operation current le at DC-13, 25 V B B lated operation current le at DC-13, 25 V B B <t< th=""><th>Width sensor</th><th>mm</th><th>31</th></t<>	Width sensor	mm	31
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A	Height of sensor	mm	61
A 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	Length of sensor	mm	33.5
A 6	Rated operation current le at AC-15, 24 V	Α	6
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As taked operation current le at DC-13, 250 V A D D D D D D D D D D D D D D D D D D D	Rated operation current le at AC-15, 230 V	Α	6
A Slow-action switch witching function latching witching function safety awxiliary contacts witching function safety communication witching function sype of interface for safety communication witching function sype of control element witching function safety functions witching function safety functions witching function safety functions witching function safety category for dust witching function safety category for dust witching function (IP) Witching function safety category for dust witching function safety safe	Rated operation current le at DC-13, 24 V	Α	3
switching function latching switching function switching function latching switching function switching function switching function latching switching function switching function latching switching function switch	Rated operation current le at DC-13, 125 V	Α	0.8
witching function latching butput electronic orced opening butput of safety auxiliary contacts butber of safety auxiliary contacts butber of contacts as normally closed contact butber of contacts as normally closed contact butber of contacts as normally open contact butber of contacts as normally open contact butber of contacts as normally open contact butber of contacts as change-over contact butber of contacts as normally closed c	Rated operation current le at DC-13, 230 V	Α	0.3
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Aumber of contacts as change-over contact ype of interface ype of interface for safety communication ype for safety category for gas Autorial housing ype of control element ype of control element ype of electric connection ype felectric connection ype of electric ype of electr	Number of contacts as normally closed contact		0
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None Construction type housing Contruction type housing Contruction type housing Control element Control eleme	Number of contacts as change-over contact		0
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Material housing Material housing Metal Coating housing Other Plunger Unger U	Type of interface for safety communication		None
Coating housing Coating housin	Construction type housing		Cuboid
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Vith status indication No Ruitable for safety functions Ruitable for safety category for gas Ruplosion safety category for dust Ruplo	Alignment of the control element		Other
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Explosion safety category for gas None None None None Ambient temperature during operating CC 25 - 70 Degree of protection (IP) IP67	With status indication		No
Explosion safety category for dust Ambient temperature during operating C 25 - 70 Degree of protection (IP) IP67	Suitable for safety functions		No
Ambient temperature during operating °C 25 - 70 Degree of protection (IP) IP67	Explosion safety category for gas		None
Degree of protection (IP)	Explosion safety category for dust		None
	Ambient temperature during operating	°C	25 - 70
legree of protection (NEMA) 4X	Degree of protection (IP)		IP67
	Degree of protection (NEMA)		4X

Approvals

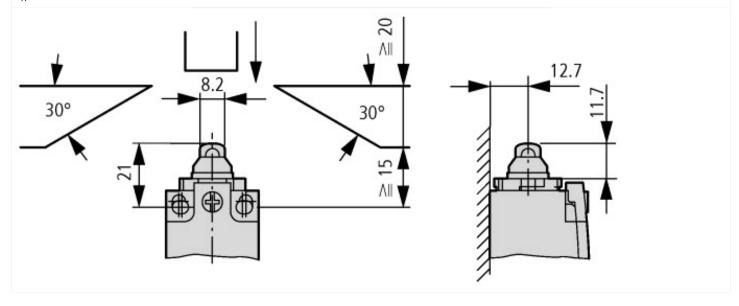
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Product Standards	IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking
UL File No.	E29184
UL Category Control No.	NKCR

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 \geqq 30 M_A = 1.5 Nm



Additional product information (links)

IL053001ZU LS-Titan position switch: basic device

IL053001ZU LS-Titan position switch: basic device

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