

Safety position switch, 1early N/O+1N/C delayed, rounded plunger, front mount



Part no.LSM-11D/FArticle no.292373Catalog No.LSM-11D-F

Delivery program

Basic function Find product range LSMM Product range LSMM Darge of Protection Set of product on switches Basic of Protection Basic divice, not expandable Ambient temperature Controls NO - Normally open Product ange NO - Normally open In C O Nore Normally open In C O Notes In C O Notes In C O Contacts sequence In C O Sector of Contact copen In C O Notes In C O Positive opening to IECEN 604475-1 In C O Contact trave = Contact copen In C O Positive opening to IECEN 604475-1 In C O Contact trave = Contact copen In C O Positive opening [CVI In C O Contact trave = Contact copen In C O Enclosure covers In C O Relicion covers In C O In Course In C O			
Product range Rounded plunger Degree of Protection IPE6, IPE7 Features Basic device, not expandable Ambient temperature °C 25 - 70 Contacts °C 25 - 70 NO = Normally open INO INO NC = Normally closed INO INO Notes INO INO Contact sequence INO INO Contact travell = Contact closed = Contact open INO INO Positive opening (ZW) INO INO Colour INO INO Enclosure covers INO INO Enclosure covers INO INO Enclosure covers INO INO Huxsing INO INO Contact nype INO INO Huxsing INO INO Contaction type INO INO Huxsing INO INO Contact nype INO INO Huxsing INO INO Contact nype INO INO Ino INO INO Ino INO INO Ino INO INO Ino INO INO <t< td=""><td>Basic function</td><td></td><td></td></t<>	Basic function		
Degree of Protection PP64, PP7 Features Basic device, not expandable Ambient temperature Contexts NO = Normally open INO NC = Normally obsed INO Notes INO Contact sequence INO Contact travelle = Contact closed_ = Contact open INO Positive opening (ZW) INO Enclosure covers INO Enclosure covers INO Enclosure covers INO Housing INO Context in type INO Housing INO Rotes INO	Part group reference		LS(M)
Features Baic device, not expandable Ambient temperature Contacts Contact Contac	Product range		Rounded plunger
Ambient temperature 25 - 70 Contacts Intermediation (Intermediation (In	Degree of Protection		IP66, IP67
Contact: Contact sequence INC INC Notes Inc Inc Contact sequence Inc Inc Contact travell = Contact closed = Contact open Inc Inc Positive opening (ZW) yes Colour Yes Enclosure covers Yes Enclosure covers Yes Noting Yes Notion type Yes Rousing Contact travell = Contact closed Kes Gage Clamp	Features		Basic device, not expandable
N0 = Normally open 1N/0 NC = Normally closed 1NC ③ Notes Image: Contact closed = Contact open Image: Contact closed = Contact open Contact trave = Contact closed = Contact open Image: Contact closed = Contact open Image: Contact closed = Contact open Positive opening (ZW) yes Contact rever = Contact closed = Contact open Image: Contact closed = Contact open Enclosure covers Yes Enclosure covers Yes Housing Metal Contact trave = Contact closed = Contact open Contact mark of Wago Kontakttechnik, 32432 Minden, Germank of Wago Kontakttechnik, 32432 Minden, Germ	Ambient temperature	°C	-25 - +70
NC = Normally closed NC (P) Notes P = Sefety function, by positive opening to IEC/EN 60947-5-1 Contact sequence Image: Contact closed = Contact open Contact travel = Contact closed = Contact open Image: Contact closed = Contact open Positive opening (ZW) Ves Colour P = Contact closed = Contact open Enclosure covers Ves Enclosure covers P = Contact closed = Contact open Housing Metal Connection type Metal Rotes Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Cage-Clamp is a registered trademark of Wago K	Contacts		
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Contact travel = Contact closed = Contact open Image: Contact travel = Contact closed = Contact open Contact travel = Contact closed = Contact open Image: Contact closed = Contact open Positive opening (ZW) yes Colour yes Enclosure covers Tellow Enclosure covers Yellow Housing Metal Connection type Gage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany. Accessries for the Cage-Clamp terminals from Wagor, owner comb, gray, Wago	Notes		Θ = safety function, by positive opening to IEC/EN 60947-5-1
Positive opening (ZW) yes Colour Yellow Enclosure covers Yellow Housing Yellow Enclosure covers Yellow Housing Yellow Yellow Ye	Contact sequence		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
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Enclosure covers Yellow Enclosure covers Image: Comparison of the comparison of	Positive opening (ZW)		yes
Enclosure covers Image: Connection type Notes Image: Connection type Notes Image: Connection type	Colour		
Housing Metal Connection type Metal Notes Gage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.	Enclosure covers		Yellow
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	Enclosure covers		
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	Housing		Metal
Germany. Accessories for the Cage-Clamp terminals from Wago:power comb, gray, Wago	Connection type		Cage Clamp
	Notes		Germany. Accessories for the Cage-Clamp terminals from Wago:power comb, gray, Wago

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

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	۱ _e	A	
AC-15			
24 V	۱ _e	Α	6
220 V 230 V 240 V	۱ _e	Α	6
380 V 400 V 415 V	I _e	А	4
DC-13			
24 V	le	А	3
110 V	I _e	A	0.6
220 V	I _e	A	0.3
Control circuit reliability			
at 24 V DC/5 mA	H _F	Fault probabili	< 10 ⁻⁷ , < 1 fault in 107 operations ty
at 5 V DC/1 mA	H _F	Fault probabili	< 10 ⁻⁶ , < 1 failure at 5 x 10 ⁶ operations ty
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
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		Ν	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

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 6.0

Sensors (EG000026) / End switch (EC000030)

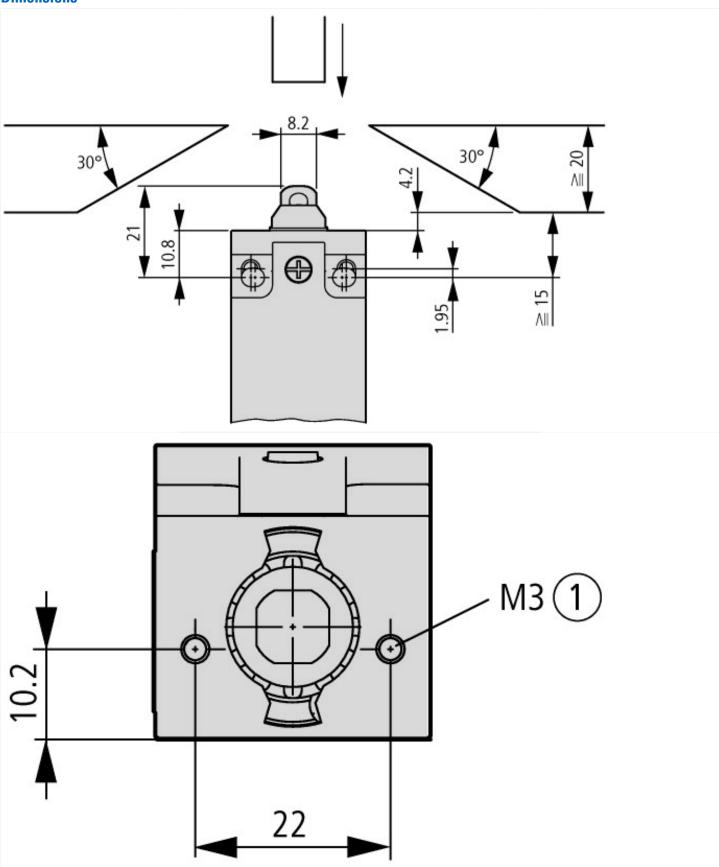
Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Position switch / Position switch (Type 1) (ecl@ss8.1-27-27-06-01 [AGZ382012])

[A02302012])		
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
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
Housing according to norm		
Construction type housing		Cuboid
Material housing		Metal
Coating housing		
Type of control element		Plunger
Alignment of the control element		•
Type of electric connection		Cable entry metrical
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

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



292373 - HPL-ED2016 V27.0 EN

Additional product information (links)

IL053001ZU LS-Titan position switch: basic device

IL053001ZU LS-Titan position switch: basic ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL053001ZU2013_08.pdf device