DATASHEET - LS-11S-M12A



Position switch, Rounded plunger, Basic device, expandable, 1 N/O, 1 NC, Cage Clamp, Yellow, Insulated material, -25 - +70 °C, with M12 connector, EN 50047 Form B



Part no.LS-11S-M12ACatalog No.178132Alternate CatalogLS-11S-M12ANo.No.

Delivery program

Basic function Position witches Pirtgroup reference LS(M) Product rage Rounder Junger Pologree Protection Rounder Junger Basic device, sepandable HRI Rounder Loger et Protection Rounder Junger Basic device, sepandable HRI Rounder Loger et Protection HRI <th></th> <th></th>		
Product range Bounded plunger Degree of Protoction F66 Equipment supplied Basic dovice, compatable Anabient tamperature -25 - 70 Desgen F00 - 25 - 70 Statures F00 - 25 - 70 Desgen F00 - 25 - 70 Contact 5 F00 - 50 m B NO - Normally closed F00 - 100 m B NO - Normally closed F00 - 100 m B Notes F00 - 100 m B Contact sequence F00 - 100 m B Notes F00 - 100 m B Contact sequence F00 m B Contact sequence F00 m B Contact sequence F00 m B Contact sequence F13 f 21 Contact sequence F14 f 22 Contact sequence F00 m B Encloser covers F00 m B Encloser covers F00 m B Encloser covers F00 m B F00 m B F00 m B Encloser covers F00 m B Encloser covers F00 m B <t< td=""><td>Basic function</td><td></td></t<>	Basic function	
Degree of Protection P66 Equipment supplied with M12 connector Features sels divice, expandable Ambient temperature 25-70 Design EN 9009 From B Stap-action contact Yes Contacts NO NO - Normally closed NO Nortes NO Contact sequence NO Nortes NO Contact sequence NO Nortes NO Contact sequence NO Nortes Sequence Contact sequence NO Contact taxee Sequence Contact taxee Sequence Contact taxee Sequence Sective opening taW) Sective opening table Colour Sective opening table Enclosure covers Yes	Part group reference	LS(M)
Engineeric supplied Image: supplied	Product range	Rounded plunger
Features Image: second secon	Degree of Protection	IP66
Ambient temperature Control 25 - x3 Design EN 5047 Form B Snap-scion contact Fes Controls INO NO - Normally open INO NC - Normally closed INO Notes INO Contact sequence INO Contact closed Contact closed Contact rave INO Contact closed Contact closed Contact sequence INO Contact closed Contact closed Contact closed Contact closed Contact sequence INO Contact closed Contact closed Contact closed Contact closed Contact sequence INO Contact rave INO Positive opining (ZW) INO Contact closed Contact closed Enclosure clovers INO Enclosure clovers </td <td>Equipment supplied</td> <td>with M12 connector</td>	Equipment supplied	with M12 connector
Design EN DOAP Form B Snap-action contact Yes Contacts INO NO = Normally open INO NC = Normally open INO NC = Normally open INO Ntes Inc Image: I	Features	Basic device, expandable
Sup-action contact Image action contact Contacts Image action contact NO = Normally open Image action contact NC = Normally closed Image action contact Notes Image action contact Contact sequence Image action contact copen Contact travel = Contact closed = Contact open Image action contact Positive opening (ZW) Image action contact Colour Image action contact Enclosure covers Image action contact Enclosure covers Image action to perform a contact of the Cape Clomp Housing Image action to perform a contact of the Cape Clomp at the terrial contact of the Cape Clamp terrinals from Wagepower cont. gray. Wage	Ambient temperature	°C -25 - +70
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N/O = Normally open INO N/C = Normally closed INC ③ Nates INC ⑤ Contact sequence INC ⑤ Contact closed = Contact closed = Contact open INC IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Snap-action contact	Yes
NCC = Normally closed INC INCOME INC INCOME INC INCOME Notes INC INCOME INC INCOME INC INCOME INC INCOME Contact sequence INC INCOME Inc Income Inc Income Inc Income Contact closed = Contact closed = Contact open Inc Income Income Inc Income Inc Income Inc Income Inc Income Inc Income Income Inc Income Inc Income Income Income Inc Income Inco	Contacts	
Notes INC (*) Notes INC (*) Contact sequence INC (*) Contact rave = = Contact closed = Contact open INC (*) Contact trave = = Contact closed = Contact open INC (*) Positive opening (ZW) INC (*) Colour INC (*) Enclosure covers INC (*) Enclosure covers INC (*) Housing INC (*) Housing INC (*) Nets Inclosure covers (*) Housing Inclosure covers (*) Nets Inclosure covers (*) Housing Inclosure covers (*) Nets Inclosure covers (*) Housing Inclosure covers (*)	N/O = Normally open	1 N/O
Contact sequence Image: Contact sequence Image: Contact sequence Contact travel = Contact closed = Contact open Image: Contact closed = Contact open Image: Contact closed = Contact open Positive opening (ZW) Image: Contact closed = Contact open Image: Contact closed = Contact open Image: Contact closed = Contact open Positive opening (ZW) Image: Contact closed = Contact open Image: Contact closed = Contact open Image: Contact closed = Contact open Positive opening (ZW) Image: Contact closed = Contact open Image: Contact closed = Contact open Image: Contact closed = Contact open Positive opening (ZW) Image: Contact closed = Contact open Image: Contact closed = Contact closed = Contact open Image: Contact closed =	N/C = Normally closed	1 NC 🕀
Contact travel = Contact closed = Contact open Image: Contact closed = Contact open Contact travel = Contact closed = Contact open Image: 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 Enclosure covers Image: Contact closed = Contact open Housing Image: Contact closed = Contact open Housing Image: Contact closed = Contact open Nets Image: Contact closed = Contact open	Notes) = safety function, by positive opening to IEC/EN 60947-5-1
Positive opening (ZW) Yes Colour Yes Enclosure covers Yellow Enclosure covers Yellow Housing Yes Housing Insulated material Connection type Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany. Accessories for the Cage-Clamp terminals from Wago.power comb, gray, Wago		~ \ - \
Colour Image: Colour covers Yellow Enclosure covers Yellow Enclosure covers Image: Colour covers Image: Colour covers Housing Image: Colour covers Image: Colour covers Kousing Image: Colour covers Image: Colour covers Notes Cage: Clamp Cage: Clamp terminals from Wago: Kontakttechnik, 32432 Minden, Germany. Accessories for the Cage: Clamp terminals from Wago: power comb, gray, Wago	Contact travel = Contact closed = Contact open	$\begin{array}{c c} 21-22 \\ 13-14 \\ 21-22 \\ 13-14 \\ 1.6 \end{array} \longrightarrow$
Enclosure covers Yellow Enclosure covers Image: Comparison of the cage-Clamp terminals from Wago:power comb, gray, Wago Housing Cage Clamp Rotes Image: Cage-Clamp terminals from Wago:power comb, gray, Wago	Positive opening (ZW)	yes
Enclosure covers Image: Consection type Notes Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.	Colour	
Housing Insulated material Connection type Cage Clamp Notes Cage-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	Insulated material
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

Terminal capacities		mm ²	
Solid		mm ²	1 x (0.5 - 2.5)
Flexible with ferrule			1 x (0.5 - 1.5)
		mm ²	
Repetition accuracy		mm	0.15
Contacts/switching capacity Rated impulse withstand voltage		V AC	2500
	U _{imp}		
Rated insulation voltage	Ui	V	250
Overvoltage category/pollution degree			111/3
Rated operational current	le	A	
AC-15			
24 V	l _e	А	6
115 V	l _e	А	4
220 V 230 V 240 V	l _e	А	1
380 V 400 V 415 V	I _e	A	4
DC-13			
24 V	le	Α	3
110 V	I _e	A	0.8
220 V	l _e	A	0.3
Control circuit reliability			
at 24 V DC/5 mA	H _F	Fault probabili	< 10 ⁻⁷ , < 1 fault in 10 ⁷ operations ty
at 5 V DC/1 mA	H _F	Fault probabili	< 5 x 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	4
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 torque of rotary drives		Nm	0.2
Max. operating speed with DIN cam		m/s	1/0.5
Notes			for angle of actuation α = 0°/30°

Design verification as per IEC/EN 61439

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Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	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])

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Width sensor	mm	31
Diameter sensor	mm	0
Height of sensor	mm	86
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	0.6
Rated operation current le at DC-13, 230 V	А	0.3
Switching function		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		None
Type of interface for safety communication		None
Construction type housing		Cuboid
Material housing		Plastic
Coating housing		Other
Type of control element		Plunger
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)		IP65
Degree of protection (NEMA)		4X

Dimensions

