DATASHEET - LS-11S



Position switch, Rounded plunger, Basic device, expandable, 1 N/0, 1 NC, Cage Clamp, Yellow, Insulated material, -25 - +70 °C, EN 50047 Form B



LS-11S Part no. Catalog No. 266105 **Alternate Catalog LS-11S**

No.

EL-Nummer 4356032

(Norway)

Delivery program

	Position switches Safety position switches
	LS(M)
	Rounded plunger
	IP66, IP67
	Basic device, expandable
°C	-25 - +70
	EN 50047 Form B
	Yes
	1 N/O
	1 NC →
	= safety function, by positive opening to IEC/EN 60947-5-1
	$0 - \frac{13}{14} \frac{1}{22}$
	0 3.0 6.1 21-22 13-14 → 21-22 13-14 I.6 Zw = 5.5 mm
	yes
	Yellow
	Insulated material
	Cage Clamp
	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
	°C

Technical data

G	e	ne	ra	al

delleral		
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

Solid				
Repetition accuracy	Terminal capacities		mm ²	
Name	Solid		mm^2	1 x (0.5 - 2.5)
Contacts/switching capacity Ummy V AC 4000 Rated insulation voltage U ₁ V 400 Overvoltage category/pollution degree III/3 AC Rated operational current I ₀ A E AC-15 V V E 24 V I ₀ A E 230 V 220 V 240 V I ₀ A E 380 V 400 V 45 V I ₀ A E 110 V I ₀ A B 24 V I ₀ A B 110 V I ₀ A B 24 V I ₀ A B 24 V I ₀ A B 24 V I ₀ A B 25 V DC/1 mA Fault I ₀ I ₀ I I sult in 10 ⁷ operations at 5 V DC/1 mA Fault I ₀ I I sult in 10 ⁷ operations Short-circuit rating to IEC/EN 6947-5-1 I ₀ I I I I I I I I I I I I I I I I I I I	Flexible with ferrule		mm^2	1 x (0.5 - 1.5)
Rated impulse withstand voltage Ump V AC 400 Coveroltage category/pollution degree In V 400 Rated parational current Ig AC AC-15 In AC 24 V Ig AC 220 V 230 V 240 V Ig AC 300 V 400 V 415 V Ig AC 42 V Ig AC 24 V Ig AC 300 V 400 V 415 V Ig AC 42 V Ig AC 110 V Ig AC 220 V Ig AC 385 V DCJ mA Ig Ig AC 380 V F, Ig Ig Ig Ig AC 380 V G, Ig Ig Ig Ig AC<	Repetition accuracy		mm	0.15
Rated insulation voltage U _i V 400 Overvoltage category/pollution degree I _i AC-15 I _i AC-14 I _i AC-14 I _i AC-14 I _i AC-14 I _i I _i AC-14 I _i I _i I _i I _i I _i AC-12 I _i	Contacts/switching capacity			
New Post Paragraphy New Post New Pos	Rated impulse withstand voltage	U_{imp}	V AC	4000
Return Graph Final Part	Rated insulation voltage	U_{i}	V	400
AC-15 24 V	Overvoltage category/pollution degree			III/3
24 V 1e A 6 220 V 230 V 240 V 1e A 6 380 V 400 V 415 V 1e A 4 DC-13 24 V 1e A 3 110 V 1e A 0.6 220 V 1e A 0.6 220 V 1e A 0.5 220 V 200 V 1e A 0.5 220 V 1e A 0.5 0.5 200 V 1e Fall by probability 1e ² < 1 faultin 10 ² operations 1e ² < 1 faultin 10 ² operations 200 V/1 mA HE HE HE Mex. 400 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0<	Rated operational current	l _e	Α	
220 V 230 V 240 V 19	AC-15			
Be A 4 4 DC-13	24 V	I _e	Α	6
DC-13	220 V 230 V 240 V	I _e	Α	6
DC-13	380 V 400 V 415 V	ام	Α	4
10 V		Ü		
110 V 220 V 1e A 0.6 Control circuit reliability at 24 V DC/5 mA 4FF Fault probability at 5 V DC/1 mA 4FF Fault probability 5 Supply frequency Short-circuit rating to IEC/EN 60947-5-1 max. fuse A 6 G/g L 8		l _a	Α	3
200 V Control circuit reliability at 24 V DC/5 mA ### Fault probability at 5 V DC/1 mA ###################################				
Control circuit reliability at 24 V DC/5 mA #F Fault probability at 5 V DC/1 mA #F Fault probability #R #F Fault probability #R #F Fault probability #R #F Fault probability #R				
at 24 V DC/5 mA #F Fault probability 10 -7, < 1 fault in 107 operations at 5 V DC/1 mA #F Fault probability 2		l _e	А	0.3
supply frequency Short-circuit rating to IEC/EN 60947-5-1 max. fuse Rated conditional short-circuit current Mechanical variables Lifespan, mechanical Standard-action contact Operating frequency Actuating force at beginning/end of stroke Actuating to rouse in Standard short directions and suppose the suppose of the supp				
Supply frequency Hz max. 400 Short-circuit rating to IEC/EN 60947-5-1 Imax. fuse A gG/gL 6 Rated conditional short-circuit current kA 1 Mechanical variables Lifespan, mechanical Operations x 106 x 1	at 24 V DC/5 mA	HF	Fault probabili	< 10 ⁻⁷ , < 1 fault in 10 ⁷ operations ty
Short-circuit rating to IEC/EN 60947-5-1 max. fuse Rated conditional short-circuit current Mechanical variables Lifespan, mechanical Contact temperature of roller head Mechanical shock resistance (half-sinusoidal shock, 20 ms) Standard-action contact Operations/ Standard-action contact Operations/ Actuating force at beginning/end of stroke Actuating torque of rotary drives A g 6/gL	at 5 V DC/1 mA	H _F	Fault probabili	$< 5 \times 10^{-6}$, < 1 failure at 5×10^{6} operations ty
max. fuse A gG/gL Rated conditional short-circuit current kA gG/gL Rated Conditional s	Supply frequency		Hz	max. 400
Rated conditional short-circuit current kA 1 Mechanical variables Verations x 106 8 Contact temperature of roller head °C ≤ 100 Mechanical shock resistance (half-sinusoidal shock, 20 ms) g 25 Standard-action contact Operations/h ≤ 6000 Operating frequency Operations/h ≤ 6000 Actuation N 1.0/8.0 Actuating force at beginning/end of stroke N 1.0/8.0 Actuating torque of rotary drives Nm 0.2	Short-circuit rating to IEC/EN 60947-5-1			
Mechanical variables Lifespan, mechanical Contact temperature of roller head Mechanical shock resistance (half-sinusoidal shock, 20 ms) Standard-action contact Operations/h Standard-action contact Operations/h Actuation Mechanical Actuating force at beginning/end of stroke Actuating torque of rotary drives Operations N 1.0/8.0 Nm 0.2	max. fuse		A gG/gL	6
Lifespan, mechanical Contact temperature of roller head Standard-action contact Goperations/h Standar	Rated conditional short-circuit current		kA	1
Contact temperature of roller head Contact temperature of roller	Mechanical variables			
Mechanical shock resistance (half-sinusoidal shock, 20 ms) Standard-action contact Operating frequency Operations/h Actuation Mechanical Actuating force at beginning/end of stroke Actuating torque of rotary drives	Lifespan, mechanical	Operations	x 10 ⁶	8
Standard-action contact Querating frequency Querations/h ≤ 6000 Actuation Mechanical Actuating force at beginning/end of stroke Actuating torque of rotary drives Querations/h Actuating torque of rotary drives Querations/h 1.0/8.0 Nm Querations/h Nm Querations/h Nm Querations/h Nm Querations/h Actuating torque of rotary drives	Contact temperature of roller head		°C	≦ 100
Operating frequency Operations/h ≤ 6000 Actuation Mechanical N 1.0/8.0 Actuating force at beginning/end of stroke N 1.0/8.0 Actuating torque of rotary drives Nm 0.2	Mechanical shock resistance (half-sinusoidal shock, 20 ms)			
Actuation Mechanical Actuating force at beginning/end of stroke Actuating torque of rotary drives Nm 0.2	Standard-action contact		g	25
Mechanical Actuating force at beginning/end of stroke Actuating torque of rotary drives Nm 0.2	Operating frequency	Operations/h		≦ 6000
Actuating force at beginning/end of stroke N 1.0/8.0 Actuating torque of rotary drives Nm 0.2	Actuation			
Actuating torque of rotary drives Nm 0.2	Mechanical			
	Actuating force at beginning/end of stroke		N	1.0/8.0
Max. operating speed with DIN cam m/s 1/0.5	Actuating torque of rotary drives		Nm	0.2
	Max. operating speed with DIN cam		m/s	1/0.5

Design verification as per IEC/EN 61439

Notes

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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.

for angle of actuation α = 0°/30°

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)

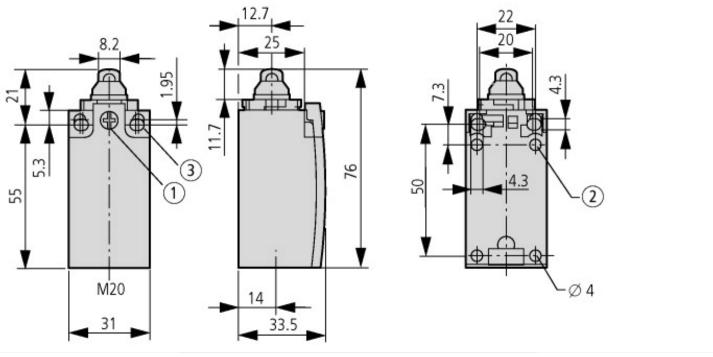
(ecl@ss10.0.1-27-27-06-01 [AGZ382015])	ology, outcry Tolutou c	onsol commongy, rounder owner, rounder owner (1990-17
Width sensor	mm	31
Diameter sensor	mm	0
Height of sensor	mm	61
Length of sensor	mm	33.5
Rated operation current le at AC-15, 24 V	Α	6
Rated operation current le at AC-15, 125 V	Α	6
Rated operation current le at AC-15, 230 V	Α	6
Rated operation current le at DC-13, 24 V	Α	3
Rated operation current le at DC-13, 125 V	Α	0.8
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)		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 $2 \times M4 \ge 30$ $M_A = 1.5$ Nm

