



Position switch, Rounded plunger, Basic device, expandable, 2 N/O, Screw terminal, Yellow, Insulated material, -25 - +70 °C, version A

Part no. LS-S20A
Catalog No. 106810
Alternate Catalog No. LS-S20A
EL-Nummer (Norway) 4315220

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		2 N/O
N/O = Normally open		
Contact sequence		
Contact travel	<input checked="" type="checkbox"/> = Contact closed <input type="checkbox"/> = Contact open	
Colour		Yellow
Enclosure covers		
Connection type		Insulated material
		Screw terminal

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	mm²	
Solid	mm²	1 x (0.5 - 2.5)
Flexible with ferrule	mm²	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	I _e	A

AC-15				
24 V	I _e	A	6	
220 V 230 V 240 V	I _e	A	6	
380 V 400 V 415 V	I _e	A	4	
DC-13				
24 V	I _e	A	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 probability	< 10 ⁻⁷ , < 1 fault in 10 ⁷ operations	
at 5 V DC/1 mA	H _F	Fault probability	< 5 x 10 ⁻⁶ , < 1 failure at 5 x 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)		g	25	
Standard-action contact		Operations/h	≤ 6000	
Operating frequency				

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 α = 0°/30°	

Design verification as per IEC/EN 61439

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

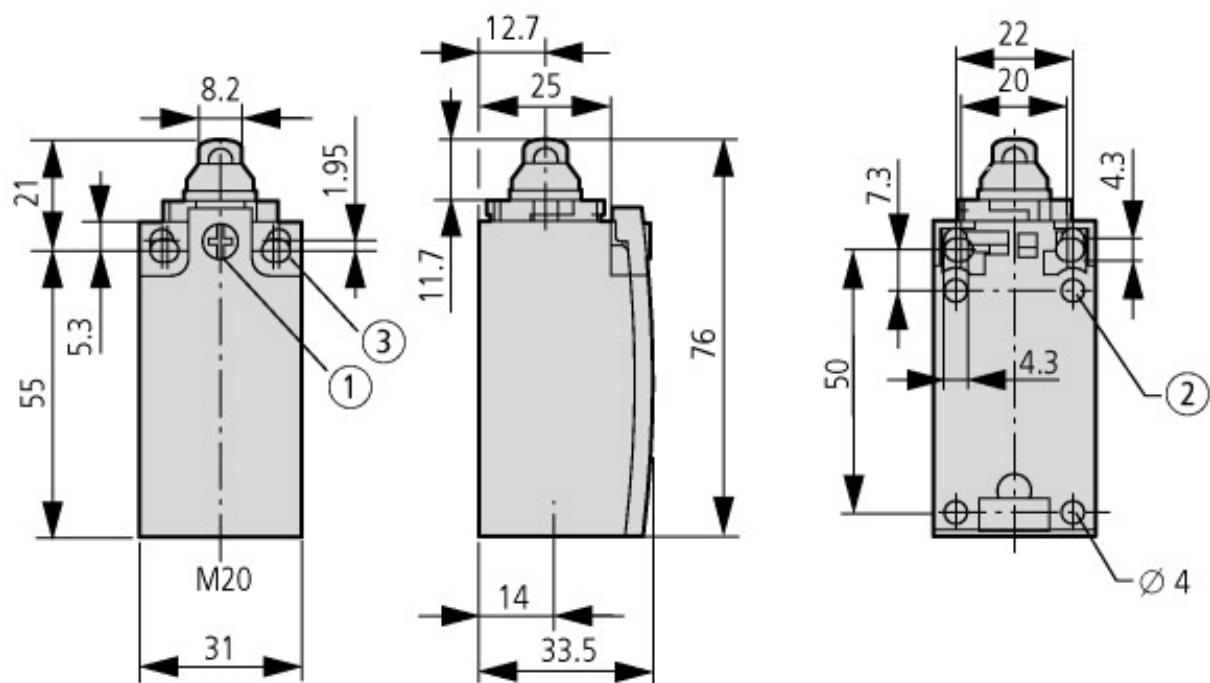
Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Position switch / Position switch (Type 1) (ecl@ss10.0.1-27-27-06-01 [AGZ382015])

Width sensor	mm	31
Diameter sensor	mm	0
Height of sensor	mm	61
Length of sensor	mm	33.5
Rated operation current Ie at AC-15, 24 V	A	6
Rated operation current Ie at AC-15, 125 V	A	6
Rated operation current Ie at AC-15, 230 V	A	6
Rated operation current Ie at DC-13, 24 V	A	3
Rated operation current Ie at DC-13, 125 V	A	0.8
Rated operation current Ie at DC-13, 230 V	A	0.3
Switching function		Slow-action switch
Switching function latching		No
Output electronic		No
Forced opening		No
Number of safety auxiliary contacts		0
Number of contacts as normally closed contact		0
Number of contacts as normally open contact		2
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		No
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

Dimensions



① Tightening torque of cover screws: 0.8 Nm ± 0.2 Nm

② only with LS (insulated version)

③ Fixing screws 2 x M4 ≥ 30

$M_A = 1.5$ Nm

