

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		
N/O = Normally open	2 N/O	
Colour		
Enclosure covers	Yellow	
Housing	Insulated material	
Connection type	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
Overtoltage 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	$\times 10^6$
Contact temperature of roller head		°C
Mechanical shock resistance (half-sinusoidal shock, 20 ms)		
Standard-action contact		g
Operating frequency	Operations/h	
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

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 8.0

Sensors (EG000026) / End switch (EC000030)
Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Safety-related position switch / Safety position switch (Type 1) (ecl1:ss10.0.1-27-27-26-01 [AKE640013])

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		Roller cam straight
Type of electric connection		Cable entry metrical
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)		IP66/IP67
Degree of protection (NEMA)		Other