



Position switch, Rounded plunger, Basic device, expandable, 2 N/O, Cage Clamp, Yellow, Insulated material, -25 - +70 °C, version B

**EATON**

Powering Business Worldwide™

**Part no.** LS-20B  
**Catalog No.** 116706  
**Alternate Catalog No.** LS-20B  
**EL-Nummer (Norway)** 4315229

## 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
<b>Contacts</b>		2 N/O
N/O = Normally open		
Contact sequence		
Contact travel	■ = Contact closed □ = Contact open	
<b>Colour</b>		Yellow
Enclosure covers		
Enclosure covers		
Housing		Insulated material
Connection type		Cage Clamp
<b>Notes</b>		<p>Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.</p> <p>Accessories for the Cage-Clamp terminals from Wago: power comb, gray, Wago Article No. 264-402</p>

## Technical data

<b>General</b>		
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
<b>Contacts/switching capacity</b>		
Rated impulse withstand voltage	U <sub>imp</sub>	V AC 4000

Rated insulation voltage	U <sub>i</sub>	V	400
Overvoltage category/pollution degree			III/3
Rated operational current	I <sub>e</sub>	A	
AC-15			
24 V	I <sub>e</sub>	A	6
220 V 230 V 240 V	I <sub>e</sub>	A	6
380 V 400 V 415 V	I <sub>e</sub>	A	4
DC-13			
24 V	I <sub>e</sub>	A	3
110 V	I <sub>e</sub>	A	0.6
220 V	I <sub>e</sub>	A	0.3
Control circuit reliability			
at 24 V DC/5 mA	H <sub>F</sub>	Fault probability	< 10 <sup>-7</sup> , < 1 fault in 10 <sup>7</sup> operations
at 5 V DC/1 mA	H <sub>F</sub>	Fault probability	< 5 x 10 <sup>-6</sup> , < 1 failure at 5 x 10 <sup>6</sup> 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 <sup>6</sup>	8
Contact temperature of roller head		°C	≤ 100
Mechanical shock resistance (half-sinusoidal shock, 20 ms)		g	25
Standard-action contact	Operations/h		≤ 6000

### 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 <sub>n</sub>	A	6
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0.17
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
Heat dissipation capacity	P <sub>diss</sub>	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.

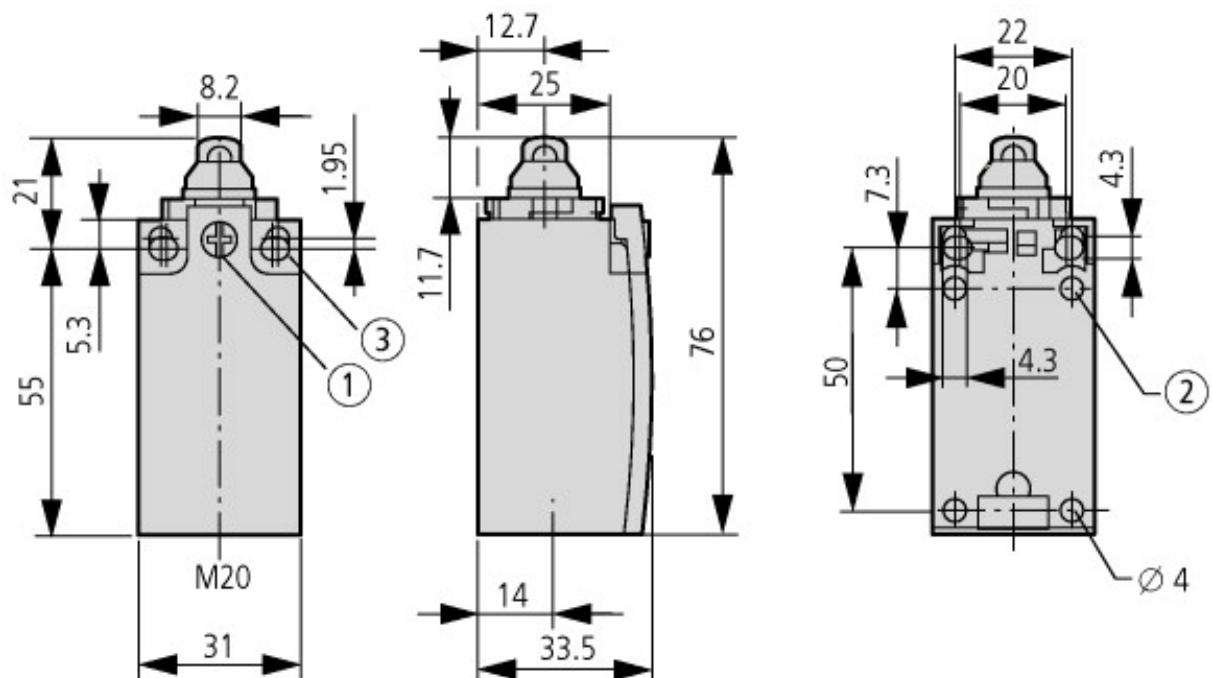
## Technical data ETIM 7.0

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 4
Rated operation current Ie at AC-15, 125 V	A 4
Rated operation current Ie at AC-15, 230 V	A 4
Rated operation current Ie at DC-13, 24 V	A 3
Rated operation current Ie at DC-13, 125 V	A 0.3
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)	IP66
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

## Dimensions



① Tightening torque of cover screws: 0.8 Nm  $\pm 0.2$  Nm

② only with LS (insulated version)

③ Fixing screws 2 x M4  $\geq 30$

$M_A = 1.5$  Nm

