



**Position switches, 2N/O, rounded plunger, 1, 3 mm, Cold Climate -40°C**

**Part no.** LS-20B-CC  
**Article no.** 176888  
**Catalog No.** LS-20B-CC

**Delivery program**



Basic function			Position switches
Part group reference			LS(M)-...
Product range			Rounded plunger
Degree of Protection			IP65
Features			Basic device, expandable
Ambient temperature		°C	-40 - +70
<b>Contacts</b>			
N/O = Normally open			2 N/O
Contact sequence			
Contact travel <input checked="" type="checkbox"/> = Contact closed <input type="checkbox"/> = Contact open			
<b>Colour</b>			
Enclosure covers			Yellow
Enclosure covers			
Housing			Insulated material
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 Article No. 264-402

**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	-40 - +70
Mounting position			As required
Degree of Protection			IP65
Terminal capacities		mm <sup>2</sup>	
Solid		mm <sup>2</sup>	1 x (0.5 - 2.5)
Flexible with ferrule		mm <sup>2</sup>	1 x (0.5 - 1.5)
<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	$I_e$	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 107 operations
at 5 V DC/1 mA	$H_F$	Fault probability	$< 10^{-6}$ , < 1 failure at $5 \times 10^6$ operations
Supply frequency		Hz	max. 400
Short-circuit rating to IEC/EN 60947-5-1			
max. fuse		A gG/gL	6
Repetition accuracy		mm	0.15
Rated conditional short-circuit current		kA	1

### Mechanical variables

Lifespan, mechanical	Operations	$\times 10^6$	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 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
<b>Notes</b>			for angle of actuation $\alpha = 0^\circ/30^\circ$

### Design verification as per IEC/EN 61439

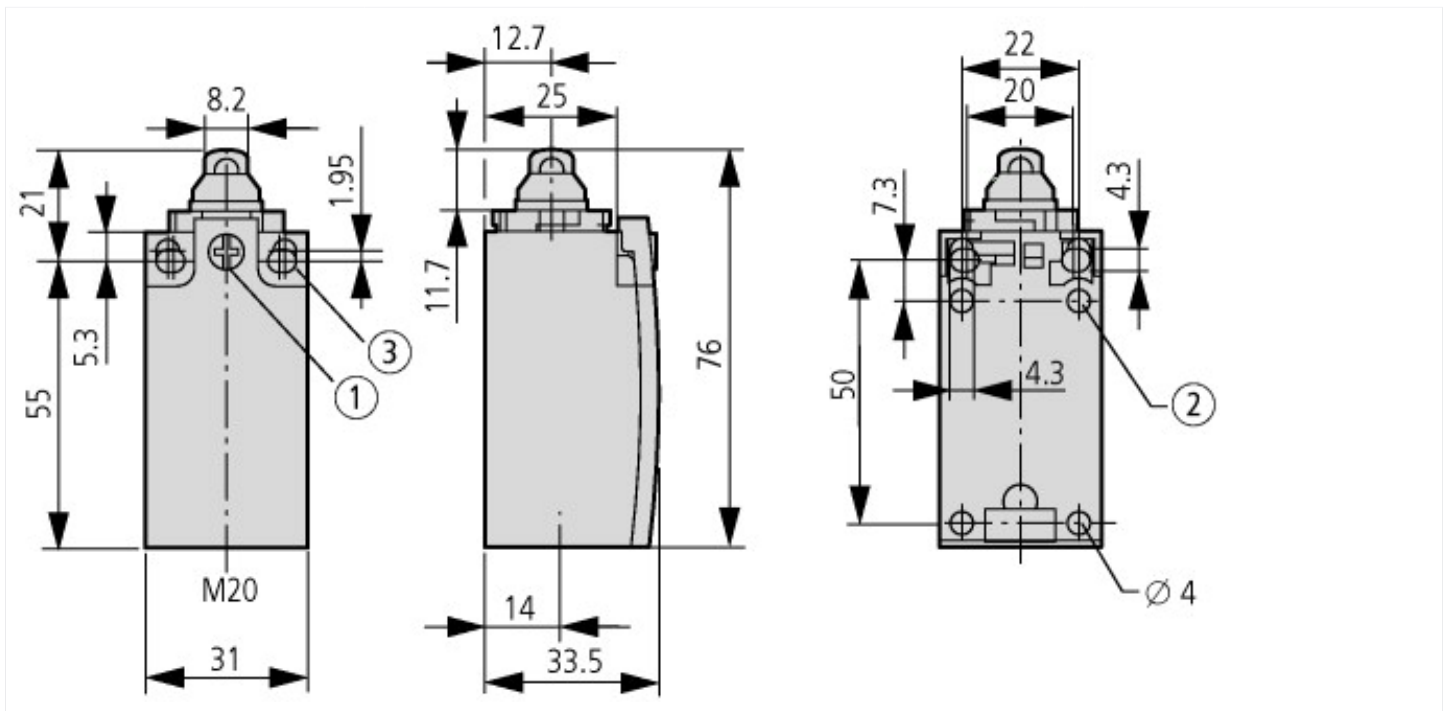
Technical data for design verification			
Operating ambient temperature min.		°C	-40
Operating ambient temperature max.		°C	70

### Technical data ETIM 6.0

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@ss8.1-27-27-06-01 [AGZ382012])			
Width sensor		mm	31
Diameter sensor		mm	0
Height of sensor		mm	61
Length of sensor		mm	33.5
Rated operation current $I_e$ at AC-15, 24 V		A	6
Rated operation current $I_e$ at AC-15, 125 V		A	6
Rated operation current $I_e$ at AC-15, 230 V		A	6
Rated operation current $I_e$ at DC-13, 24 V		A	3
Rated operation current $I_e$ at DC-13, 125 V		A	0.8
Rated operation current $I_e$ at DC-13, 230 V		A	0.3
Switching function			Slow-action switch
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
Housing according to norm		DIN EN 50047
Construction type housing		Cuboid
Material housing		Plastic
Coating housing		-
Type of control element		Plunger
Alignment of the control element		-
Type of electric connection		-
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	-40 - 70
Degree of protection (IP)		IP65

## Dimensions



- ① Tightening torque Cover screw: 0.8 Nm ±0.2 Nm
- ② only with LS (insulated version)
- ③ Fixing screw 2 x M4  $\cong$  30  
M<sub>A</sub> = 1.5 Nm

## Additional product information (links)

### IL053001ZU LS-Titan position switch: basic device

IL053001ZU LS-Titan position switch: basic device

[ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL053001ZU2013\\_08.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL053001ZU2013_08.pdf)