




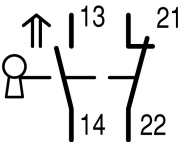
## DATASHEET - LS-11S-ZB



**Safety position switch, 1N/O+1N/C, insulated material, +actuator ZB, spring clamp connection**

**Part no.** LS-11S-ZB  
**Catalog No.** 106870  
**Alternate Catalog No.** LS-11S-ZB  
**EL-Nummer (Norway)** 4356198

## Delivery program

Basic function			Position switches Safety position switches
Part group reference			LS(4)...ZB
Product range			Safety position switches
Degree of Protection			IP66
Features			Complete unit
Ambient temperature		°C	-25 - +70
Snap-action contact			Yes
Description			With the actuator inserted, the N/O contact is open and the NC contact is closed.
Approval			
<b>Contacts</b>			
N/O = Normally open			1 N/O
N/C = Normally closed			1 NC 
Notes			 = safety function, by positive opening to IEC/EN 60947-5-1
Contact sequence			
Housing			Insulated material
Connection type			Cage Clamp
<b>Notes</b>			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
<p><b>Notes</b> Switch must never be used as a mechanical stop!          Actuator can be repositioned for horizontal or vertical mounting.          The operating heads can be turned manually in 90° steps to suit the specified level of actuation.          With the actuator inserted, the N/O contact is open and the N/C contact is closed.          For degree of protection IP65, use V-M20 (206910) cable glands with connecting thread of max. 9 mm length.</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

Terminal capacities		mm <sup>2</sup>	
Solid		mm <sup>2</sup>	1 x (0.5 - 1.5) 2 x (0.5 - 1.5)
Flexible with ferrule		mm <sup>2</sup>	1 x (0.5 - 1.5) 2 x (0.5 - 1.5)
Terminal screw			PH1
Tightening torque for terminal screw		Nm	0.4
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
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	$\times 10^6$	1.5
Mechanical shock resistance (half-sinusoidal shock, 20 ms)			
Standard-action contact		g	25
Operating frequency	Operations/h		$\leq 1800$

### Actuation

Mechanical			
Actuating force at beginning/end of stroke		N	10/5 (plug-in/pull-out)

## 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])

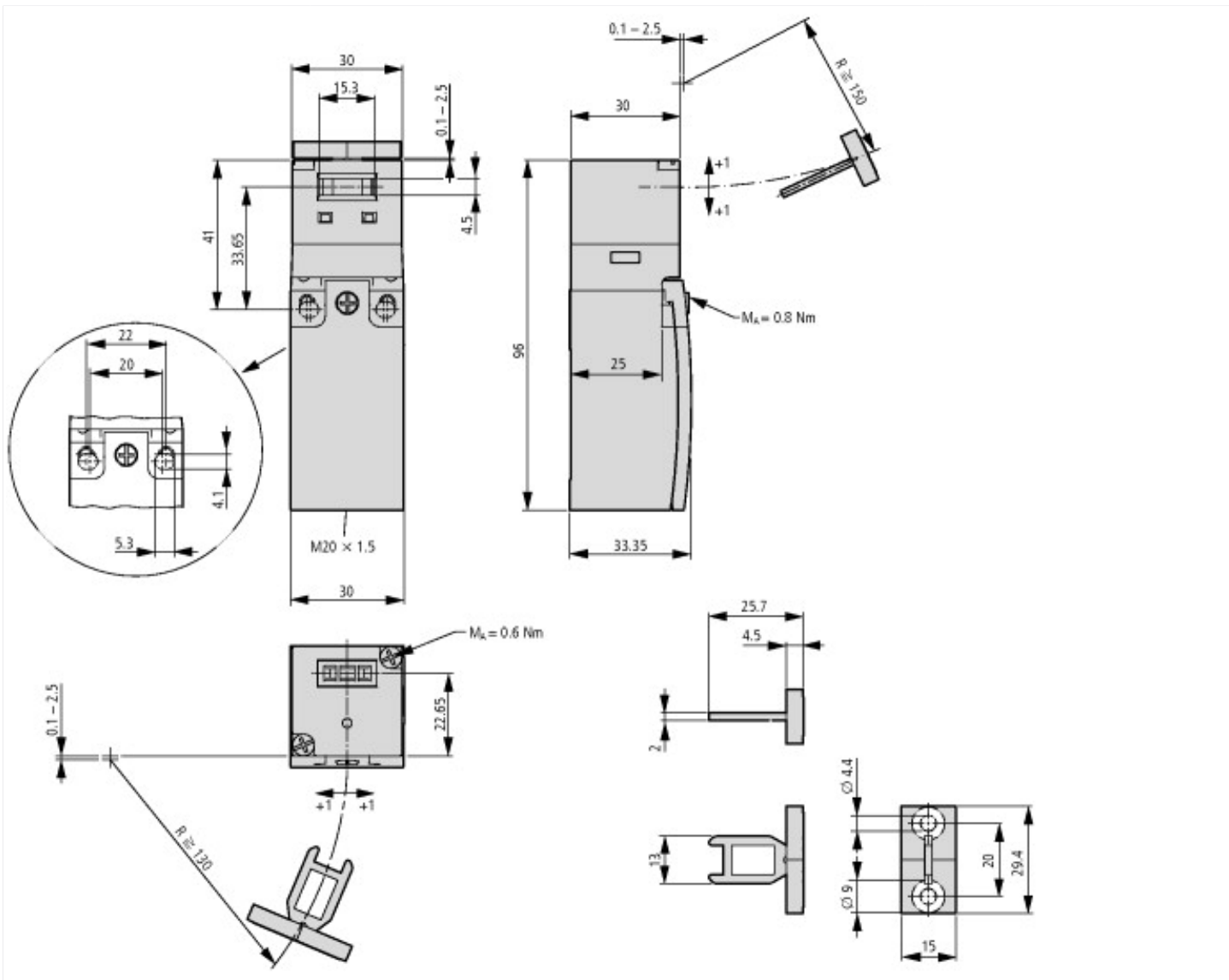
Width sensor	mm	30
Diameter sensor	mm	0
Height of sensor	mm	96
Length of sensor	mm	33.35
Rated operation current I <sub>e</sub> at AC-15, 24 V	A	10
Rated operation current I <sub>e</sub> at AC-15, 125 V	A	6
Rated operation current I <sub>e</sub> at AC-15, 230 V	A	6
Rated operation current I <sub>e</sub> at DC-13, 24 V	A	3
Rated operation current I <sub>e</sub> at DC-13, 125 V	A	0.8
Rated operation current I <sub>e</sub> at DC-13, 230 V	A	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		Other
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)		IP65
Degree of protection (NEMA)		13

## 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: IP65, UL/CSA Type 3R, 4X (indoor use only), 12, 13

## Dimensions



Switch must not be used as a mechanical stop

Terminal marking according to EN 50 013

Travel [mm]

■ = Contact closed

□ = Contact open

Zw = Positive opening sequence



# SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product suppliers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

# [www.scatts.co.uk](http://www.scatts.co.uk)