Safety position switch, LS(4)...ZB, Safety position switches, Complete unit, 2 NC, Insulated material, Screw terminal, -25 - \pm 70 °C



Part no. LS-S02-ZB Catalog No. 106874 Alternate Catalog LS-S02-ZB

No.

EL-Nummer 4356195

(Norway)

Delivery program

zomon / program		
Basic function		Position switches Safety position switches
Part group reference		LS(4)ZB
Productrange		Safety position switches
Degree of Protection		IP66
Features		Complete unit
Ambient temperature	°C	-25 - +70
Description		With the actuator inserted, the N/O contact is open and the NC contact is closed.
Contacts		
N/C = Normally closed		2 NC →
Notes		e safety function, by positive opening to IEC/EN 60947-5-1
Contact sequence		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
Housing		Insulated material
Connection type		Screw terminal

Notes Switch must never be used as a mechanical stop!

 $\label{eq:continuous} \textbf{Actuator can be repositioned for horizontal or vertical mounting.}$

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.

Technical data

24 V

220 V 230 V 240 V

General

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	
Terminal capacities		mm^2		
Solid		mm ²	1 x (0.5 - 1.5) 2 x (0.5 - 1.5)	
Flexible with ferrule		mm ²	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	Ui	V	400	
Overvoltage category/pollution degree			III/3	
Rated operational current	I _e	Α		
AC-15				

 I_{e}

Α

6

6

380 V 400 V 415 V	l _e	Α	4
DC-13			
24 V	I _e	Α	3
110 V	Ie	Α	0.6
220 V	Ie	Α	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	x 10 ⁶	1.5
Mechanical shock resistance (half-sinusoidal shock, 20 ms)			
Standard-action contact		g	25
Operating frequency	Operations/h		≦ 1800
Actuation			
Mechanical			
Actuating force at beginning/end of stroke		N	10/5 (plug-in/pull-out)

Design verification as per IEC/EN 61439

Design verification as per IEG/EN 01439			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	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
EC/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 switch gear must be observed.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switch gear 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)

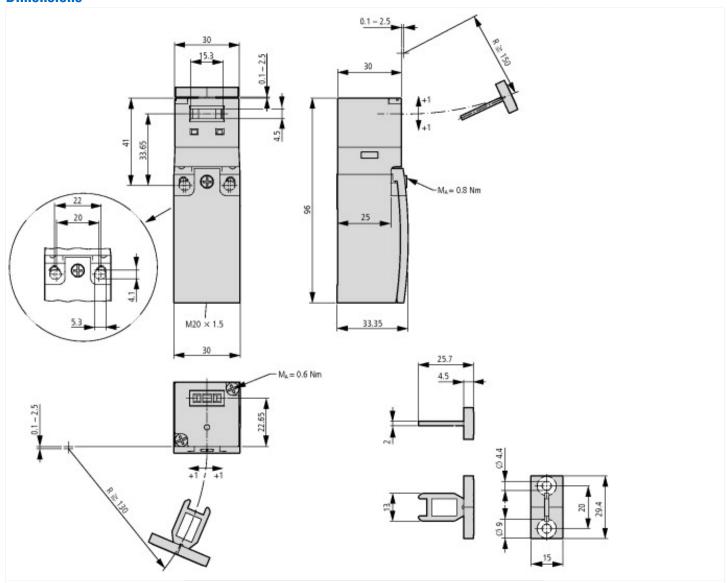
Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Safety-related position switch / Safety position switch (Type 1) (ect@ss10.0.1-27-27-26-01 [AKE640013])

Webstersor mm 90 Diameter sensor mm 90 Length of sensor mm 335 Rated operation current leat AC-15, 24V mm 30 Rated operation current le at AC-15, 23V mm 6 Rated operation current le at CD-13, 24V mm 3 Rated operation current le at CD-13, 24V mm 3 Rated operation current le at CD-13, 25V mm Mm Rated operation current le at CD-13, 25V mm Mm Rated operation current le at CD-13, 25V mm Mm Rated operation current le at CD-13, 25V mm Mm Rated operation current le at CD-13, 25V mm Mm Switching function mm Mm Mm Switching function latching mm Mm Mm United externic mm Mm Mm Focacionnics as normally dosed contact mm Mm Mm Number of contacts as change-over contact mm Mm Mm Type of interface mm Mm Mm	(ecl@ss10.0.1-27-27-26-01 [AKE640013])		
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Length of sensor mm 33.5 Rated operation current eat AC-15, 24 V A 10 Rated operation current le at AC-15, 25 V A 6 Rated operation current le at AC-15, 25 V A 3 Rated operation current le at DC-13, 24 V A 3 Rated operation current le at DC-13, 25 V A 0 Rated operation current le at DC-13, 26 V A 0 Rated operation current le at DC-13, 26 V A 0 Rated operation current le at DC-13, 26 V B 0 Rated operation current le at DC-13, 26 V B 0 Rated operation current le at DC-13, 26 V B 0 Rated operation current le at DC-13, 26 V B 0 Switching function Switching function Switching function 0 Switching function Switching function 1 0 Number of contacts as normally operation W 0 0 Number of contacts as change-over contact W 0 0 Normatice for safety communication W 0 0	Diameter sensor	mm	0
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Rated operation current le at AC-15, 125 V A 6 Rated operation current le at DC-13, 24 V A 3 Rated operation current le at DC-13, 125 V A A 0.3 Rated operation current le at DC-13, 125 V A A 0.3 Switching function Switching function Switching function No No Switching function latching W No No Output electronic No No No Forced opening No No No Number of safety awiliary contacts Yes 2 Number of contacts as normally closed contact Yes 0 Number of contacts as normally open contact Yes No Number of contacts as change-over contact Yes No Type of interface for safety communication Yes No Construction type housing Yes No Material housing Yes Peraction of the control element Type of circutaction fye or control element Yes Other With status indication Yes	Length of sensor	mm	33.35
Rated operation current le at AC-15, 230 V A 3 Rated operation current le at DC-13, 24 V A 0 Rated operation current le at DC-13, 125 V A 0 Rated operation current le at DC-13, 230 V A 0 Switching function Solva-action switch Switching function latching No No Output electronic V Yes Forced opening Yes 2 Number of contacts as normally closed contact Yes 2 Number of contacts as normally closed contact Yes 0 Number of contacts as normally closed contact Yes 0 Number of contacts as change-over contact Yes 0 Type of interface for safety communication Yes None Construction type housing Yes Cubid Material housing Yes Cubid Type of cortrol element Yes Other Type of cortrol element Yes Cubic Type of electric connection Yes Cable entry metrical With status indication	Rated operation current le at AC-15, 24 V	Α	10
Rated operation current le at DC-13, 24V A 3 Rated operation current le at DC-13, 25V A 0.8 Switching function A 0.3 Switching function latching Bold Switching function latching Bold Switching function latching Output electronic Bold Switching function latching Bold Switching function latching Switching function latching Bold Switching function latching Output electronic Bold Switching function latching Switching function latching Bold Switching function latching Number of safety auxiliary contacts Bold Switching function latching Number of contacts as normally closed contact Bold Switching function safety communication Number of contacts as change-over contact Bold Switching function safety communication Type of interface for safety communication Bold Switching function safety communication Material housing Bold Switching function safety control element Alignment of the control element Bold Switching function Alignment of the control element Bold Beletric connection With status indication Bold Beletric connection Bold Beletric connection Skitable for safet	Rated operation current le at AC-15, 125 V	Α	6
Rated operation current le at DC-13, 125 V A 0.3 Switching function current le at DC-13, 230 V A 30-4-action switch Switching function latching B 10-4-action switch Output electronic B 7-4	Rated operation current le at AC-15, 230 V	Α	6
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Switching function latching	Rated operation current le at DC-13, 230 V	Α	0.3
Output electronic No Yes Forced opening Yes 2 Number of safety auxiliary contacts 2 2 Number of contacts as normally closed contact 2 2 Number of contacts as change-over contact 0 0 Type of interface 1 0 Type of interface for safety communication 2 0 Type of interface for safety communication 0 0 Construction type housing 0 0 Material housing 1 0 Coating housing 0 0 Type of control element 0 0 Alignment of the control element 0 0 Type of electric connection 0 0 With status indication 0 0 Suitable for safety functions 0 0 Explosion safety category for gas 0 0 Explosion safety category for dust 0 0 Ambient temperature during operating 0 0 0 Brief 0	Switching function		Slow-action switch
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Number of safety auxiliary contacts Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as change-over contact Number of contacts as change-over contact Number of contacts as change-over contact None None Type of interface Construction type housing Construction type housing Coting housing Coting housing Coting housing Coting housing Coting housing Coting lement Type of electric connection None Cother Cother	Output electronic		No
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Coating housing Type of control element Alignment of the control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Degree of protection (IP) Other Other Cable entry metrical No Cable entry metrica	Construction type housing		Cuboid
Type of control element Alignment of the control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Degree of protection (IP) Other Other Other Cable entry metrical No Vas Suitable entry metrical No No Ves Ves Ves Ves None None Polician None None None None Polician None Polician None None Polician None Pol	Material housing		Plastic
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Type of electric connection With status indication Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Degree of protection (IP) Cable entry metrical No No Yes None None 25 - 70 1P66	Type of control element		Other
With status indication Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Degree of protection (IP) No No None None 25 - 70 1P66	Alignment of the control element		Other
Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Degree of protection (IP) Yes None None 1 25 - 70 1P66	Type of electric connection		Cable entry metrical
Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Degree of protection (IP) None **C	With status indication		No
Explosion safety category for dust Ambient temperature during operating °C -25 - 70 Degree of protection (IP) IP66	Suitable for safety functions		Yes
Ambient temperature during operating °C -25 - 70 Degree of protection (IP) IP66	Explosion safety category for gas		None
Degree of protection (IP)	Explosion safety category for dust		None
	Ambient temperature during operating	°C	-25 - 70
Degree of protection (NEMA) Other	Degree of protection (IP)		IP66
	Degree of protection (NEMA)		Other

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

Additional product information (links)

IL05208003Z (AWA1310-2374) Safety position switch

IL05208003Z (AWA1310-2374) Safety position switch

https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL05208003Z.pdf