## DATASHEET - LS4/S11-1/IA/ZB



Safety position switch, LS(4)...ZB, Safety position switches, Complete unit, 1 N/O, 1 NC, wide, Insulated material, Screw terminal, -25 - +70 °C



Part no.LS4/S11-1/IA/ZBCatalog No.106858Alternate CatalogLS4/S11-1/IA/ZBNo.EL-Nummer4315221(Norway)

## **Delivery program**

Basic function	Position switches Safety position switches
Part group reference	LS(4)ZB
Product range	Safety position switches
Degree of Protection	IP65
Features	Complete unit
Ambient temperature	°C -25 - +70
Design	wide
Description	With the actuator inserted, the N/O contact is open and the NC contact is closed.
Approval	ET 17039 Sicherheit geprüft tested safety
Contacts	
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	$\begin{array}{c} \uparrow \downarrow^{13} \downarrow^{21} \\ \downarrow^{14} \downarrow^{22} \end{array}$
Contact travel = Contact closed = Contact open	13-14 21-22 0 2.65 3.55 6.0 Zw = 3.9 mm
Housing	Insulated material
Connection type	Screw terminal

Connect operating elements permanently with the protective device, e.g., with non-reusable screws or rivets. Operating head can be rotated 90°.

### **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		IP65
Terminal capacities	mm <sup>2</sup>	
Solid	mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 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	0.9
Repetition accuracy		mm	0.02
Contacts/switching capacity			
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
Rated insulation voltage	Ui	V	500
Overvoltage category/pollution degree			111/3
Rated operational current	I <sub>e</sub>	Α	
AC-15			
24 V	۱ <sub>e</sub>	Α	6
220 V 230 V 240 V	I <sub>e</sub>	Α	6
380 V 400 V 415 V	I <sub>e</sub>	Α	4
DC-13			
24 V	۱ <sub>e</sub>	Α	3
110 V	۱ <sub>e</sub>	Α	0.8
220 V	I <sub>e</sub>	А	0.3
Supply frequency		Hz	max. 400
Short-circuit rating to IEC/EN 60947-5-1			
max. fuse		A gG/gL	10
Rated conditional short-circuit current		kA	1
Mechanical variables			
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	1.5
Mechanical shock resistance (half-sinusoidal shock, 20 ms)			
Standard-action contact		g	5
Operating frequency	Operations/h		≦ 1800
Actuation			
Mechanical			
Actuating force at beginning/end of stroke		Ν	15/20 (plug-in/pull-out)

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	А	6
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0.1
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])

	(eci@SS10.0.1-27-27-00-01 [A02302013])		
Height of sensor   Imm   Schedungenetic sensor     Rade operation current te at AC-15, 24 V   Imm   Imm     Rade operation current te at AC-15, 24 V   Imm   Imm     Rade operation current te at AC-15, 24 V   Imm   Imm     Rade operation current te at AC-15, 24 V   Imm   Imm     Rade operation current te at AC-15, 24 V   Imm   Imm     Rade operation current te at AC-15, 24 V   Imm   Imm     Rade operation current te at AC-15, 24 V   Imm   Imm     Rade operation current te at AC-15, 24 V   Imm   Imm     Rade operation current te at AC-15, 24 V   Imm   Imm     Rade operation current te at AC-15, 24 V   Imm   Imm     Rade operation current te at AC-15, 24 V   Imm   Imm     Stocking function   Imm   Imm   Imm     Stocking function   Imm   Imm   Imm     Stocking function   Imm   Imm   Imm     Number of contracts an onmaly open contact   Imm   Imm   Imm     Number of contacts an onmaly open contact   Imm   Imm   Imm   Imm     Stockind state operation contact   Imm<	Width sensor	mm	40
Langh of sansar     Image	Diameter sensor	mm	0
Rad operation current le at AC-15, 24V     I     I       Rad operation current le at AC-15, 25V     I     A     I	Height of sensor	mm	125
Rated operation current leat AC-15, 250 V   A   6     Rated operation current leat AC-15, 230 V   A   6     Rated operation current leat DC-13, 24 V   B   8     Rated operation current leat DC-13, 250 V   B   6     Solutching function   B   A   8     Solutching function   Solutching function   Solutching function   Solutching function     Solutching function   Solutching function   Solutching function   Solutching function     Number of contacts as normally closed contact   Solutching function   Solutching function     Number of contacts as normally closed contact   Solutching function   Solutching function     Number of contacts as normally closed contact   Solutching function   Solutching function     Solutching function   Solutching function   <	Length of sensor	mm	40
Rated operation current le at DC-13, 23V   A   6     Rated operation current le at DC-13, 23V   A   0     Rated operation current le at DC-13, 23V   B   0     Switching function   S   0     Switching function   M   0     Switching function   M   Noneconswitch     Output electroin le at DC-13, 23V   M   Noneconswitch     Switching function   M   Noneconswitch     Output electroin le at DC-13, 23V   M   Noneconswitch     Switching function   M   Noneconswitch     Output electroin le at DC-13, 23V   M   Noneconswitch     Switching function le at the maximum electroin electroi	Rated operation current le at AC-15, 24 V	А	10
Reted operation current te DC-13, 25 V   A   3     Bated operation current te DC-13, 250 V   A   0     Switching function   Switching function   Switching function     Switching function latching   M   Non-action switching     Output electronic   M   Non-action switching     Switching function latching   M   Non-action switching     Output electronic   M   Non-action switching     Switching function latching   M   Non-action switching     Number of acting te switching   M   Non-Action Switching     Number of acting te switching   M   Non-Action Switching     Number of acting te switching   M   Non-Action Switching     System of acting te switching   M   Non-Action Switching     Number of acting te switching   M   Non-Action Switching     System of acting te switching   Non-Action Switching	Rated operation current le at AC-15, 125 V	А	6
Rated operation current le at DC-13, 250 V   A   0     Switching function   Sow action switch     Switching function latching   Sow action switch     Output electronic   Sow action switch     Output electronic   Sow action switch     Switching function latching   Sow action switch     Output electronic   Sow action switch     Sow action switch   Sow action switch     Sow action state show and sy action action switch   Sow action switch     Sow action state show and sy action action action switch   Sow action switch     Sow action state show and s	Rated operation current le at AC-15, 230 V	А	6
Rated operation current le at DC-13,230 V   A   0     Switching function   Switching function latching   Switching function latching   No     Switching function latching   No   No     Output electronic   No   No     Forced opening   Vo   No     Number of contacts as normally closed contact   P   0     Number of contacts as chang-over contact   P   0     System of contacts as chang-over contact   P   0     Number of contacts as chang-over contact   P   0     System of contacts as chang-over contact   P   0     System of contacts as chang-over contact   P   P   0     System of contacts as chang-over contact   P   P   P   P   P   P   P   P   P   P   P   P   P   P   P   P   P   P   P </td <td>Rated operation current le at DC-13, 24 V</td> <td>А</td> <td>3</td>	Rated operation current le at DC-13, 24 V	А	3
Switching functionImage: Switching functionSwitching function latchingSwitching function latchingOutput electronicImage: Switching functionImage: Switching functionImage: Switching functionForced openingImage: Switching functionImage: Switching functionImage: Switching functionNumber of safety auxiliary contactsImage: Switching functionImage: Switching functionImage: Switching functionNumber of contacts as nomally closed contactImage: Switching functionImage: Switching functionImage: Switching functionNumber of contacts as change-over contactImage: Switching functionImage: Switching functionImage: Switching functionNype of indrafaceImage: Switching functionImage: Switching functionImage: Switching functionNype of control elementImage: Switching functionImage: Switching functionImage: Switching functionNype of control elementImage: Switching functionImage: Switching functionImage: Switching functionNype of control elementImage: Switching functionImage: Switching functionImage: Switching functionNype of control elementImage: Switching functionImage: Switching functionImage: Switching functionNype of control elementImage: Switching functionImage: Switching functionImage: Switching functionNype of contact elementImage: Switching functionImage: Switching functionImage: Switching functionNype of contact elementImage: Switching functionImage: Switching functionImage: Switching function <td< td=""><td>Rated operation current le at DC-13, 125 V</td><td>А</td><td>0.8</td></td<>	Rated operation current le at DC-13, 125 V	А	0.8
Nuching function latchingImage: set of the set of th	Rated operation current le at DC-13, 230 V	А	0.3
Duput electronicImage: state of the state of	Switching function		Slow-action switch
Fored opening   Kead openind   Kead openind <t< td=""><td>Switching function latching</td><td></td><td>No</td></t<>	Switching function latching		No
Number of safety axiliary contacts     Image of contacts as normally closed contact     Image of contacts as normally closed contact       Number of contacts as normally open contact     Image of contacts as normally open contact     Image of contacts as normally open contact       Number of contacts as normally open contact     Image of contacts as normally open contact     Image of contacts as normally open contact       Number of contacts as normally open contact     Image of contacts as normally open contact     Image of contacts as normally open contact       Number of contacts as normally open contact     Image of contacts as normally open contact     Image of contacts as normally open contact       Number of contacts as normally open contact     Image of contacts as normally open contact     Image of contacts as normally open contact       Number of contacts as normally open contact     Image of contacts as normally open contact     Image of contacts as normally open contact       Nigo of contracts as normally open contact     Image of contacts as normally open contact     Image of contact as normally open contact       Not of contact as normally open contact     Image of contact as normally open contact     Image of contact as normally open contact       Not of contact as normally open contact     Image of contact as normally open contact     Image of contact as normally open contact       Not of contact as normally open contact <td>Output electronic</td> <td></td> <td>No</td>	Output electronic		No
Number of contacts as normally closed contact   Imper of contacts as normally open contact   Imper of contacts as normally open contact     Number of contacts as normally open contact   Imper of contacts as normally open contact   Imper of contacts as normally open contact     Number of contacts as normally open contact   Imper of contacts as normally open contact   Imper of contacts as normally open contact     Number of contacts as normally open contact   Imper of contacts as normally open contact   Imper of contacts as normally open contact     Number of contacts as normally open contact   Imper of contacts as normally open contact   Imper of contacts as normally open contact     Number of contacts as normally open contact   Imper of contacts as normally open contact   Imper of contacts as normally open contact   Imper of contacts as normally open contact     Naterial housing   Imper of control element   Imper of control element   Imper of control element   Imper of control element     Night status indication   Imper of contact element   Imper of contact element   Imper of contact element   Imper of contact element     Night status indication   Imper of contact element   Imper of contact element   Imper of contact element   Imper of contact element     Status indication   Imper of contact element   Imper of contact element   Imper of contact element	Forced opening		Yes
Number of contacts as normally open contact     Image: Provide state sta	Number of safety auxiliary contacts		0
Number of contacts as change-over contact   Image: Contact as change-over contact   Image: Contact as change-over contact     Type of interface   None   None     Type of interface for safety communication   Image: Contact as change-over contact   None     Construction type housing   Image: Contact as change-over contact   Image: Contact as change-over contact   None     Coating housing   Image: Contact as change-over contact as	Number of contacts as normally closed contact		0
Type of interface     None       Type of interface for safety communication     None       Construction type housing     None       Material housing     Luboid       Coating housing     None       Type of control element     None       Alignment of the control element     Mone       Type of electric connection     Mone       With status indication     Mone       Suitable for safety functions     Mone       Explosion safety category for gas     Mone       Explosion safety category for dust     Mone       Aminent emperature during operating     Mone       Degree of protection (IP)     Mone	Number of contacts as normally open contact		0
Type of interface for safety communication   Image: Communication   None     Construction type housing   Cubid   Cubid     Material housing   Plastic   Plastic     Coating housing   Other   Other     Type of ontrol element   Other   Other     Alignment of the control element   Other   Cable entry metrical     Yub of safety functions   Image: Communication   None     Suitable for safety category for dust   Image: Communication   None     Anbient emperature during operating   Image: Communication   None     Suitable for safety category for dust   Image: Communication   None     Suitable for safety category for dust   Image: Communication   None     Suitable for safety category for dust   Image: Communication   None     Suitable for safety category for dust   Image: Communication   None     Anbient emperature during operating   Image: Communication   Sofoon	Number of contacts as change-over contact		0
Construction type housing   Cubid     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   Sole     Suitable for safety functions   Sole     Explosion safety category for gas   Sole     Anbient temperature during operating   Sole     Parteed function (IP)   Sole	Type of interface		None
Material housingPasticCoating housingOtherType of control elementOtherAlignment of the control elementOtherType of electric connectionOtherWith status indicationOtherSuitable for safety functionsOtherExplosion safety category for dustOtherAmbient temperature during operatingOtherDegree of protection (IP)Other	Type of interface for safety communication		None
Coating housing   Other     Type of control element   Other     Alignment of the control element   Other     Type of electric connection   Other     With status indication   Solution     Suitable for safety functions   Image: Solution Single Singl	Construction type housing		Cuboid
Type of control element   Image: Control element     Alignment of the control element   Image: Control element     Type of electric connection   Image: Control element     With status indication   Image: Control element     Suitable for safety functions   Image: Control element     Explosion safety category for gas   Image: Control element     Ambient temperature during operating   Image: Control element     Image: Control element   Image: Control element	Material housing		Plastic
Alignment of the control element   Mer     Type of electric connection   Cable entry metrical     With status indication   Solone     Suitable for safety functions   Solone     Explosion safety category for gas   Solone     Ambient temperature during operating   Solone     Page of protection (IP)   Solone	Coating housing		Other
Type of electric connectionCalle entry metricalWith status indicationNoSuitable for safety functionsYesExplosion safety category for gasNoneAmbient temperature during operatingCalleDegree of protection (IP)Image during temperature du	Type of control element		Other
With status indicationNoSuitable for safety functionsSeaExplosion safety category for gasSeaExplosion safety category for dustNoneAmbient temperature during operatingSeaDegree of protection (IP)Sea	Alignment of the control element		Other
Suitable for safety functionsPage 1YesExplosion safety category for gasNoneNoneExplosion safety category for dustCSoneAmbient temperature during operating°CSoneDegree of protection (IP)GoodP65	Type of electric connection		Cable entry metrical
Explosion safety category for gasMoneExplosion safety category for dustMoneAmbient temperature during operatingCDegree of protection (IP)C	With status indication		No
Explosion safety category for dustNoneAmbient temperature during operating°C25 - 70Degree of protection (IP)Image: Constant operation oper	Suitable for safety functions		Yes
Ambient temperature during operating °C 25 - 70   Degree of protection (IP) IP65	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) 13	Degree of protection (IP)		IP65
	Degree of protection (NEMA)		13

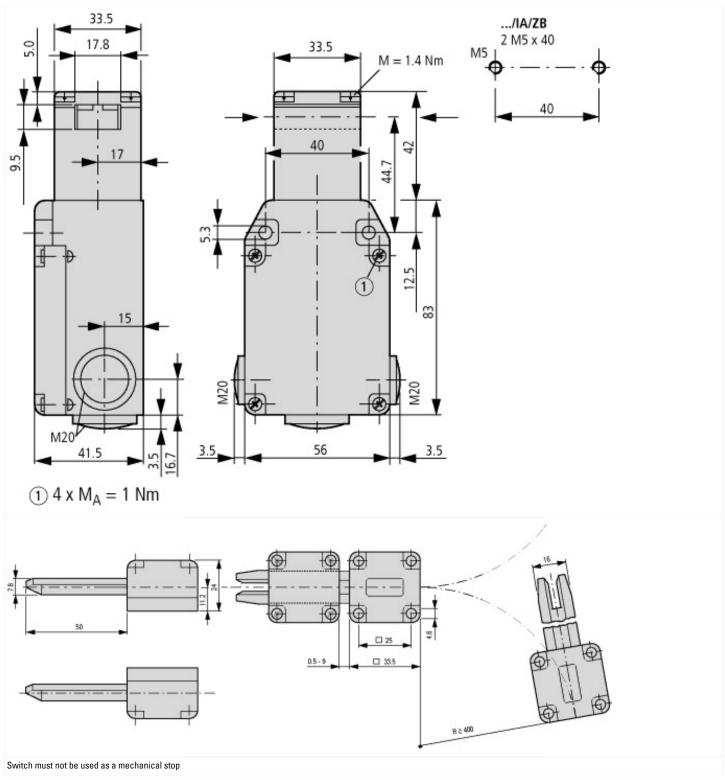
#### **Approvals**

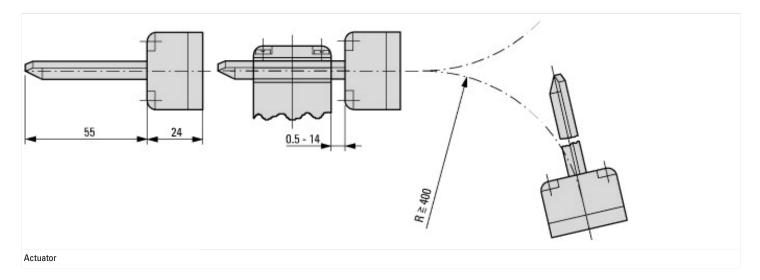
Product Standards	IEC/EN 60947-5; UL 508; CSA-C22.2 No. 14; CE marking
UL File No.	E29184
UL Category Control No.	NKCR
CSA File No.	12528
CSA Class No.	3211-03

Degree of Protection

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

#### Dimensions





## **Assets (links)**

Declaration of CE Conformity 00003114

#### **Additional product information (links)**

IL05208004Z (AWA1310-2367) Safety position switch

IL05208004Z (AWA1310-2367) Safety position ftp://ftp.moeller.net/D0CUMENTATION/AWA\_INSTRUCTIONS/IL05208004Z2018\_09.pdf switch