Position switch, 1N/0+1N/C, basic, spring-powered interlock



Part no. LS-S11-230AFT-ZBZ/X

106827

EL Number 4356174

(Norway)

General specifications	
Product name	Eaton Moeller® series LS Position switch
Part no.	LS-S11-230AFT-ZBZ/X
EAN	4015081065875
Product Length/Depth	55 millimetre
Product height	170 millimetre
Product width	37 millimetre
Product weight	0.417 kilogram
Certifications	CSA-C22.2 No. 14 UL Category Control No.: NKCR CE IEC/EN 60947 CSA Class No.: 3211-03 CSA UL File No.: E29184 CSA File No.: 012528 UL 508 UL
Product Tradename	LS
Product Type	Position switch
Product Sub Type	None
Catalog Notes	Contacts with safety function, by positive opening to IEC/EN 60947-5-1 For degree of protection IP65, use V-M20 (206910) cable glands with connecting thread of max. 9 mm length. In the event of power failure (e.g., during commissioning), the device can be released with a screwdriver. The auxiliary release mechanism must be sealed! — Instructional leaflet IL 05208005Z Monitoring of door position: continuous The operating head can be rotated manually in 90° steps without tools to suit the specified level of actuation. With the actuator inserted, the N/O contact is open and the N/C contact is closed.
Features & Functions	
Electric connection type	Cable entry metrical
Enclosure material	Insulated material Plastic
Features	Forced opening Expandable
Fitted with:	Auxiliary release mechanism Interlock monitoring
Switch function type	Slow-action switch
General information	
Connection type	Screw terminal
Degree of protection	IP65 NEMA Other
Duty factor	100 % (Magnet)
Lifespan	1,000,000 mechanical Operations
Operating frequency	800 Operations/h
Overvoltage category	III
Pollution degree	3
	Basic units with spring-powered interlock (closed-circuit principle)
Product category	
Product category Rated impulse withstand voltage (Uimp)	4000 V AC
	4000 V AC 0.02 mm (Contacts/switching capacity)
Rated impulse withstand voltage (Uimp)	
Rated impulse withstand voltage (Uimp) Repetition accuracy	0.02 mm (Contacts/switching capacity)

Mounting position	As required
Shock resistance	10 g, Standard-action contact, Mechanical, Half-Sinusoidal shock 20 ms
Climatic environmental conditions	
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	70 °C
Climatic proofing	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Terminal capacities	
Terminal capacity (flexible with ferrule)	2 x (0.5 - 1.5) mm ² 1 x (0.5 - 1.5) mm ²
Terminal capacity (solid)	1 x (0.75 - 2.5) mm ² 2 x (0.75 - 1.5) mm ²
Screw size	PH1, Terminal screw
Tightening torque	0.9 Nm, Screw terminals
Electrical rating	
Power consumption	11 VA at 230 V AC (electromechanical actuation) 8 VA at 120 V AC (electromechanical actuation) 8 W at 24 V DC (electromechanical actuation)
Rated conditional short-circuit current (Iq)	1 kA
Rated control supply voltage	230 V 50/60 Hz (Us, for magnet drive)
Rated insulation voltage (Ui)	400 V
Rated operational current (Ie) at AC-15, 220 V, 230 V, 240 V	6 A
Rated operational current (Ie) at AC-15, 24 V	6 A
Rated operational current (Ie) at AC-15, 380 V, 400 V, 415 V	4 A
Rated operational current (le) at DC-13, 110 V	0.8 A
Rated operational current (le) at DC-13, 125 V	0.8 A
Rated operational current (le) at DC-13, 220 V, 230 V	0.3 A
Rated operational current (le) at DC-13, 24 V	3 A
Short-circuit protection rating	Max. 6 A gG/gL, Fuse, Contacts
Supply frequency	Max. 400 Hz, Contacts
Voltage tolerance	0.85 x Us, Pick-up and drop-out values 1.1 x Us, Pick-up and drop-out values
Actuator	
Actuating force at beginning/end of stroke	25 N/15 N (plug-in/pull-out)
Actuator type	None
Mechanical holding force	1600 N (according to GS-ET-19 (04/2004), XWA, XFG, XF) 1200 N (according to GS-ET-19 (04/2004), XNW) 1700 N (according to GS-ET-19 (04/2004), XG, XW, XNG)
Contacts	
Number of contacts (change-over contacts)	0
Number of contacts (normally closed contacts)	1
Number of contacts (normally open contacts)	1
Safety	
Explosion safety category for gas	None
Explosion safety category for dust	None
Design verification	
Equipment heat dissipation, current-dependent Pvid	0 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	0.13 W
Rated operational current for specified heat dissipation (In)	6 A
Static heat dissipation, non-current-dependent Pvs	0 W
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects	Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation	Meets the product standard's requirements.

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.
10.9.2 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 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) (ecl@ss10.0.1-27-27-26-01 [AKE640013])

Width sansor Mm 60 Diameter sensor mm 13 Length of sensor mm 33 Rated operation current le at AC-15, 24 V a 6 Rated operation current le at AC-15, 229 V a 6 Rated operation current le at DC-13, 24 V a 3 Rated operation current le at DC-13, 24 V a 3 Rated operation current le at DC-13, 24 V a 3 Rated operation current le at DC-13, 28 V a 3 Rated operation current le at DC-13, 28 V a 3 Switching function b A 3 Switching function b Yes 30 Switching function b Yes 10 Switching function stacking yes 10 3 Number of safety auxiliary contact yes 12 12 Number of contacts as normally closed contact yes 12 12 Number of contacts as normally closed contact yes 12 12 Type of interface yes	(eci@ss10.0.1-21-26-01 [AKE640013])		
Height of seasor mm 73 Leagth of seasor mm 39 Rated operation current le at AC-15, 24 V A 6 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 3 Rated operation current le at DC-13, 125 V A 8 Rated operation current le at DC-13, 125 V A 8 Rated operation current le at DC-13, 125 V A 8 Rated operation current le at DC-13, 125 V A 8 Rated operation current le at DC-13, 125 V A 9 Rated operation current le at DC-13, 125 V A 9 Rated operation current le at DC-13, 125 V A 9 Rated operation current le at DC-13, 125 V A 9 Rated operation current le at DC-13, 125 V A 9 Switching function B 10 9 White inflation 8 10 9 Number of contacts as change-over contact 10 10	Width sensor	mm	60
Length of sensor mm 39 Rated operation current le at AC-15, 24 V A 6 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 AC-15, 25 V A 3 Rated operation current le at DC-13, 25 V A 3 Rated operation current le at DC-13, 25 V B 3 Noviching function C 4 3 Svitching function C 4 3 Svitching function latching C 4 3 Svitching function latching C 7 8 Svitching function latching C 7 8 Number of safety auxiliary contacts C 7 9 Number of contacts as normally open contact C 1 1 Number of contacts as normally open contact C 1 9 Type of interface for safety communication C 1 9 Object of interface for safety communication C 1 1	Diameter sensor	mm	0
Rated operation current le at AC-15, 22 V A 6 Rated operation current le at AC-15, 223 V A 6 Rated operation current le at AC-15, 230 V A 3 Rated operation current le at DC-13, 24 V A 8 Rated operation current le at DC-13, 230 V A 0 Rated operation current le at DC-13, 230 V A 0 Switching function C 1 Noveraction switch Switching function latching C 1 Noveraction switch Output alectronic C 1 Noveraction switch Switching function latching C 1 Noveraction switch Output alectronic C 1 Noveraction switch Switching function latching C 1 Noveraction switch Switching function latching C 1 Noveraction switch Switching function latching C 1 1 1 Number of safety wastiliary contacts C 1 1 1 1 1 1 1 1 1 1<	Height of sensor	mm	173
Rated operation current le at AC-15, 230 V A 6 Rated operation current le at DC-13, 24 V A 3 Rated operation current le at DC-13, 25 V A 3 Rated operation current le at DC-13, 25 V A 3 Switching function B 3 100	Length of sensor	mm	39
Rated operation current le at DC-13,24 V A 3 Rated operation current le at DC-13,125 V A 3 Rated operation current le at DC-13,125 V A 0 Rated operation current le at DC-13,125 V A 3 Switching function A 3 104-action switch Switching function latching B No No Output electronic B Yes No Forced opening B Yes No Number of cortacts as normally closed contact Yes 1 No Number of cortacts as normally closed contact Yes 1 No Number of contacts as normally closed contact Yes No No Number of contacts as normally closed contact Yes No No Number of contacts as normally closed contact Yes No No Number of contacts as normally closed contact Yes No No Number of contacts as normally closed contact Yes No No Contact as a close server contact Yes No	Rated operation current le at AC-15, 24 V	А	6
Rated operation current le at DC-13, 125 V A 3 0.8 Rated operation current le at DC-13, 125 V A 0.8 0.3 Switching function A 0.3 Switching function switch Switching function latching B No No Output electronic Yes No No Forced opening Yes 1 No Number of safety auxiliary contacts Yes 1 No Number of contacts as normally closed contact Yes 1 No Number of contacts as normally closed contact Yes 1 No Number of contacts as change-over contact Yes No No Type of interface for safety communication Yes No No Type of interface for safety communication Yes Plastic Construction type housing Yes No Construction type of control element Yes No Adjament of the control element Yes Cable entry metrical With status indication Yes No No <	Rated operation current le at AC-15, 125 V	А	6
Rated operation current le at DC-13, 125 V A 0.8 Rated operation current le at DC-13, 230 V A 0.3 Switching function Switching function latching No Output electronic No No Forced opening Ves Number of safety auxiliary contacts 1 1 Number of contacts as normally closed contact 1 1 Number of contacts as change-over contact 0 None Type of interface None None Construction type housing None None Material housing Cuboid Cuboid Control control element None None Alignment of the control element None Cuboid With status indication None Cuboid With status indication None Cuboid Suitable for safety (vategory for dust None	Rated operation current le at AC-15, 230 V	Α	6
Rated operation current le at DC-13, 230 V A 0.3 Switching function P Slow-action switch Switching function latching No Output electronic No No Forced opening Yes Number of safety auxiliary contacts 1 1 Number of contacts as normally closed contact 1 1 Number of contacts as change-over contact 1 None Type of interface None None Type of interface for safety communication None Plastic Construction type housing Plastic Cuboid Material housing Plastic Other Coating housing None Other Type of control element None Cubic Alignment of the control element None Cubic Alignment of the control element No Cubic entry metrical With status indication No Cubic entry metrical Suitable for safety functions No Cubic entry metrical Explosion safety category for dust No Non	Rated operation current le at DC-13, 24 V	Α	3
Switching function Switching function latching Output electronic Forced opening No	Rated operation current le at DC-13, 125 V	А	0.8
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 Clabid Material housing Plastic Coating housing None Alignment of the control element One Type of 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 Yes Explosion for	Rated operation current le at DC-13, 230 V	А	0.3
Output electronic Forced opening Number of safety auxiliary contacts Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as normally open contact Number of contacts as change-over contact Number of contacts as change-over contact Type of interface Type of interface for safety communication Construction type housing Material housing Coating housing Coating housing Coating housing Type of control element Type of control element Type of electric connection With status indication Suitable for safety functions Explosion safety category for gus Explosion safety category for dust Ameient temperature during operating T'Coating housing Coating housing T'Coating housing Type of electric connection Type	Switching function		Slow-action switch
Forced opening Number of safety auxiliary contacts Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as normally open contact Number of contacts as change-over contact Number of contacts as normally open conta	Switching function latching		No
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 Type of interface Type of interface for safety communication Construction type housing Material housing Coating housing Coating housing Type of control element Type of electric connection With staus indication Suitable for safety tunctions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Pastic 1 Cuboid None Cuboid None Cuboid Cuboid Cuboid None Cuboid Cub	Output electronic		No
Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as change-over contact Type of interface Type of interface for safety communication Construction type housing Material housing Coating housing Type of control element Type of 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) 1	Forced opening		Yes
Number of contacts as normally open contact Number of contacts as change-over contact Type of interface Type of interface for safety communication Construction type housing Material housing Coating housing Coating housing 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 dust Ambient temperature during operating Pastic Other None Cable entry metrical No No None None None None None None None Pastic Other None None Cable entry metrical No No No No Suitable for safety functions Explosion safety category for dust Mone Explosion safety category for dust Ambient temperature during operating PC -25 - 70 Pegree of protection (IP)	Number of safety auxiliary contacts		1
Number of contacts as change-over contact Type of interface Type of interface for safety communication Construction type housing Material housing Coating housing Coating housing 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 dust Ambient temperature during operating Cognes of protection (IP) Done Other Coating housing Other Other Cable entry metrical None	Number of contacts as normally closed contact		1
Type of interface Type of interface for safety communication Construction type housing Material housing Coating housing 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 dust Ambient temperature during operating Pone None None None None None Explosion safety category for dust Ambient temperature during operating Pone None None Pess Pess Pone Pess	Number of contacts as normally open contact		1
Type of interface for safety communication Construction type housing Material housing Coating housing 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 Possible for safety function(IP) None None Possible for safety category for dust Ambient temperature during operating Possible for safety function(IP) None None Possible for safety category for dust None	Number of contacts as change-over contact		0
Construction type housing Material housing Coating housing 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) Cuboid Cuboid Cuboid Cuboid Cuboid Cuboid Cuboid Cable Plastic Other None Cable entry metrical No Ves Ves None None None Plastic Other None Cable entry metrical No Ves Explosion safety category for gas None None None Plastic None Legaco - 25 - 70 Ple56	Type of interface		None
Material housing Coating housing Other Type of control element Alignment of the control element Other Type of electric connection Cable entry metrical With status indication No Suitable for safety functions Explosion safety category for gas None Explosion safety category for dust Ambient temperature during operating Coating Plastic Other Cable entry metrical No No Ves Explosion safety category for gas None Explosion safety category for dust Ambient temperature during operating Coating None Plastic None Plastic Other None 1	Type of interface for safety communication		None
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 None Cable entry metrical No Yes None Yes None None Position Service (are gory for dust of the control element	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) None None None Cable entry metrical No No Ves No No Ves None None PC -25 - 70 IP65	Material housing		Plastic
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 Cable entry metrical No No No Yes None None None None 1 2 25 - 70 IP65	Coating housing		Other
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 None 100 100 100 100 100 100 100 1	Type of control element		None
With status indication Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating CC -25 - 70 Degree of protection (IP) No No No PC -25 - 70 IP65	Alignment of the control element		Other
Suitable for safety functions Explosion safety category for gas Explosion safety category for dust Ambient temperature during operating Occ -25 - 70 Degree of protection (IP) Yes None None 1 P65	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 None 25 - 70 IP65	With status indication		No
Explosion safety category for dust Ambient temperature during operating °C -25 - 70 Degree of protection (IP) IP65	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) Other	Degree of protection (IP)		IP65
	Degree of protection (NEMA)		Other