## **DATASHEET - LS-11-SW**

Position switch, Rounded plunger, Basic device, expandable, 1 N/O, 1 NC, Cage Clamp, Black, Insulated material, -25 - +70  $^{\circ}$ C

LS-11-SW 272006



Part no.

General specifications	
Product name	Eaton Moeller® series LS Position switch
Part no.	LS-11-SW
EAN	4015082720063
Product Length/Depth	33.5 millimetre
Product height	76.5 millimetre
Product width	31 millimetre
Product weight	0.05 kilogram
Certifications	IEC/EN 60947-5 UL UL File No.: E29184 CSA Class No.: 3211-03 UL 508 UL Category Control No.: NKCR IEC/EN 60947 CSA CE CSA File No.: 012528 CSA-C22.2 No. 14
Product Tradename	LS
Product Type	Position switch
Product Sub Type	None
Catalog Notes	Accessories for the Cage-Clamp terminals from Wago:power comb, gray, Wago Article No. 264-402 Cage-Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany Contacts with safety function, by positive opening to IEC/EN 60947-5-1
Features & Functions	
Electric connection type	Cable entry metrical
Enclosure color	Black (Cover)
Enclosure material	Plastic Insulated material
Features	Forced opening Expandable Positive opening
Switch function type	Slow-action switch
General information	
Connection type	Cage Clamp
Degree of protection	IP66/IP67 NEMA Other
Lifespan	8,000,000 mechanical Operations
Operating frequency	6000 Operations/h
Overvoltage category	
Pollution degree	3
Product category	Rounded plunger
Rated impulse withstand voltage (Uimp)	4000 V AC
Repetition accuracy	0.15 mm (Contacts/switching capacity)
Suitable for	Safety functions
Туре	Safety position switch
Ambient conditions, mechanical	
Mounting position	As required
Shock resistance	25 g, Standard-action contact, Mechanical, Half-sinusoidal shock 20 ms
Temperature resistance	100 °C, Contact temperature of roller head
Climatic environmental conditions	
Ambient operating temperature - min	-25 °C
Amoreni operating temperature - mm	-20 0

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)	1 x (0.5 - 1.5) mm <sup>2</sup>
Terminal capacity (solid)	1 x (0.5 - 2.5) mm <sup>2</sup>
Electrical rating	
Rated conditional short-circuit current (Iq)	1 kA
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 (Ie) at DC-13, 110 V	0.6 A
Rated operational current (Ie) at DC-13, 125 V	0.8 A
Rated operational current (Ie) at DC-13, 220 V, 230 V	0.3 A
Rated operational current (Ie) at DC-13, 24 V	3A
Short-circuit protection rating	Max. 6 A gG/gL, Fuse, Contacts
Supply frequency	Max. 400 Hz, Contacts
Actuator	
Actuating force at beginning/end of stroke	1.0 N/8.0 N
Actuating torque of rotary drives	0.2 N·m
Actuator type	Plunger
Operating speed	For angle of actuation $\alpha = 0^{\circ}/30^{\circ}$
	Max. 1/0.5 m/s (with DIN cam, mechanical actuation)
Contacts	
Control circuit reliability	1 failure per 10,000,000 switching operations (Statistically determined, at 24 V DC/5
	mA) 1 failure per 5,000,000 switching operations (statistically determined, at 5 V DC/1
	mA)
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
	None
	None OW
Design verification	
Design verification Equipment heat dissipation, current-dependent Pvid	0 W
Design verification         Equipment heat dissipation, current-dependent Pvid         Heat dissipation capacity Pdiss	0 W 0 W
Design verification         Equipment heat dissipation, current-dependent Pvid         Heat dissipation capacity Pdiss         Heat dissipation per pole, current-dependent Pvid	0 W           0 W           0 W           0 W           0.17 W
Design verification         Equipment heat dissipation, current-dependent Pvid         Heat dissipation capacity Pdiss         Heat dissipation per pole, current-dependent Pvid         Rated operational current for specified heat dissipation (In)	0 W           0 W           0 W           0 III           0 IIII           0 IIII           0 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
Design verification         Equipment heat dissipation, current-dependent Pvid         Heat dissipation capacity Pdiss         Heat dissipation per pole, current-dependent Pvid         Rated operational current for specified heat dissipation (In)         Static heat dissipation, non-current-dependent Pvs	0W           0W           0W           0.17 W           6A           0W
Design verification       Equipment heat dissipation, current-dependent Pvid         Heat dissipation capacity Pdiss       Heat dissipation per pole, current-dependent Pvid         Rated operational current for specified heat dissipation (In)       Static heat dissipation, non-current-dependent Pvs         10.2.2 Corrosion resistance       Interval and the state of	Image: Constraint of the sequence of the sequen
Design verification         Equipment heat dissipation, current-dependent Pvid         Heat dissipation capacity Pdiss         Heat dissipation per pole, current-dependent Pvid         Rated operational current for specified heat dissipation (In)         Static heat dissipation, non-current-dependent Pvs         10.2.2 Corrosion resistance         10.2.3.1 Verification of thermal stability of enclosures	Image: Constraint of the product standard's requirements.         Image: Constraint of the product standard's requirements.
Design verification         Equipment heat dissipation, current-dependent Pvid         Heat dissipation capacity Pdiss         Heat dissipation per pole, current-dependent Pvid         Rated operational current for specified heat dissipation (ln)         Static heat dissipation, non-current-dependent Pvs         10.2.2 Corrosion resistance         10.2.3.1 Verification of thermal stability of enclosures         10.2.3.2 Verification of resistance of insulating materials to normal heat	Image: Constraint of the product standard's requirements.
Design verification         Equipment heat dissipation, current-dependent Pvid         Heat dissipation capacity Pdiss         Heat dissipation per pole, current-dependent Pvid         Rated operational current for specified heat dissipation (In)         Static heat dissipation, non-current-dependent Pvs         10.2.2 Corrosion resistance         10.2.3.1 Verification of thermal stability of enclosures         10.2.3.2 Verification of resistance of insulating materials to normal heat         10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects	Image: Constraint of the product standard's requirements.
Design verification         Equipment heat dissipation, current-dependent Pvid         Heat dissipation capacity Pdiss         Heat dissipation per pole, current-dependent Pvid         Rated operational current for specified heat dissipation (In)         Static heat dissipation, non-current-dependent Pvs         10.2.2 Corrosion resistance         10.2.3.1 Verification of thermal stability of enclosures         10.2.3.2 Verification of resistance of insulating materials to normal heat         10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects         10.2.4 Resistance to ultra-violet (UV) radiation	Image:
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Design verificationEquipment heat dissipation, current-dependent PvidHeat dissipation capacity PdissHeat dissipation per pole, current-dependent PvidRated operational current for specified heat dissipation (In)Static heat dissipation, non-current-dependent Pvs10.2.2 Corrosion resistance10.2.3.1 Verification of thermal stability of enclosures10.2.3.2 Verification of resistance of insulating materials to normal heat10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects10.2.4 Resistance to ultra-violet (UV) radiation10.2.5 Lifting10.2.6 Mechanical impact	Image:
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Design verificationEquipment heat dissipation, current-dependent PvidHeat dissipation capacity PdissHeat dissipation per pole, current-dependent PvidRated operational current for specified heat dissipation (In)Static heat dissipation, non-current-dependent Pvs10.2.2 Corrosion resistance10.2.3.1 Verification of thermal stability of enclosures10.2.3.2 Verification of resistance of insulating materials to normal heat10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects10.2.5 Lifting10.2.6 Mechanical impact10.2.7 Inscriptions10.3 Degree of protection of assemblies10.4 Clearances and creepage distances	Image:
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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 9.0**

## Sensors (EG000026) / End switch (EC000030)

Electric engineering, automation, process control engineering / Sensor technology, safety-related sensor technology / Safety-related mechanical switch (sensor technology) / Safety position switch (Type 1) (ecl@ss13-27-27-26-01 [AKE640018])

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       Sow-action switch       Sow-action switch         Switching function latching       No       No         Output electronic       Yes       Sow-action switch         Forced opening       Yes       Interconce         Number of safety auxiliary contacts       Yes       Interconce         Number of contacts as normally open contact       Yes       Interconce         Number of contacts as change-over contact       None       None			
Height of sensorImmI	Width sensor	mm	31
Langh of sensor         nm         3.5           Bated operation current le at AC-15, 24V         A         6           Bated operation current le at AC-15, 25V         A         6           Bated operation current le at AC-15, 25V         A         6           Bated operation current le at AC-15, 25V         A         8           Reted operation current le at AC-15, 25V         A         8           Bated operation current le at AC-15, 25V         A         8           Switching function         B         Solor additional science           Switching function         A         8         Solor additional science           Output electron         C         A         A           Number of contacts as normally closed contact         C         No           Number of contacts as normally closed contact         C         No           Number of contacts as normally closed contact         C         No           Number of contacts as normally closed contact         C         No           Number of contacts as normally closed contact         No         No           Construction type housing         C         No         No           Number of contacts as normally closed contact         No         No           Constructintype housing	Diameter sensor	mm	0
Rate operation current le at AC-15, 24 V       A       6         Bate operation current le at AC-15, 25 V       A       6         Rate operation current le at AC-15, 26 V       A       6         Rate operation current le at AC-15, 26 V       A       6         Rate operation current le at DC-13, 25 V       A       0         Rate operation current le at DC-13, 25 V       A       0         Switching function       Switching function       Non-conservet le at DC-13, 25 V         Switching function latching       Switching function       Non-conservet le at DC-13, 25 V         Switching function latching       Switching function       Non-conservet le at DC-13, 25 V         Switching function latching       Switching function       Non-conservet le at DC-13, 25 V         Switching function latching       Switching function       Non-conservet le at DC-13, 25 V         Switching function latching       Switching function       Non-conservet le at DC-13, 25 V         Switching function latching       Switching function       Non-conservet le at DC-13, 25 V         Switching function latching       Switching function       Switching function         Number of softext sandmalp open contact       Switching function       Switching function         Number of contacts as change-vever contact       Switching function       Switc	Height of sensor	mm	61
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, 25 V       B       0         Rated operation current leat DC-13, 250 V       A       0         Soluching function       B       A       0         Soluching function       B       M       Non-consonkich         Number of contacts as normally closed contact       B       M       Non-Consonkich         Number of contacts as normally closed contact       M       Non-Consonkich       Non-Consonkich         Soluting function starburg-over contact       M       Non-Consonkich       N	Length of sensor	mm	33.5
Rated operation current le at DC-13, 23V       A       6         Rated operation current le at DC-13, 23V       C       A         Rated operation current le at DC-13, 25V       C       B         Switching function       C       A       0         Switching function       C       A       0         Switching function       C       A       0         Output electricities       Non-action switch       Non-action switch         Switching function leathing       C       Non-action switch         Number of safety awiliary contacts       C       Non-action switch         Number of contacts as normally closed contact       C       Non-action contact         Number of contacts as change-over contact       C       Non-action contact         Number of contacts as change-over contact       Non-action contact       Non-action contact         Systemation contact as change-over contact       Non-action contact       Non-action contact         Systemation contact as change-over contact       Non-action contact       Non-action contact         Systemation contact as change-over contact       Non-action contact       Non-action contact         Systemation contact as change-over contact       Non-action contact       Non-action contact         Systemation contact as change-over contact	Rated operation current le at AC-15, 24 V	А	6
Rated operation current le at DC-13, 25 V       A       3         Bated operation current le at DC-13, 25 V       A       3         Switching function       A       3         Switching function       Switching function       Non-action switching         Switching function latching       Non-action switching       Non-action switching         Output electronic       Person       Non-action switching         Number of acting switching       Person       1         Number of acting switching       Person       Non-Action         Number of acting switching       Person       Non-Action         None Contracts as normally open contact       Person       Non-Action         None Contracts as normally open contact       Non-Action       Non-Action         Notation factor for safety communication       Person       <	Rated operation current le at AC-15, 125 V	А	6
Rated operation current le at DC-13, 230 V       A       0         Switching function       Slow-action switch         Switching function latching       Slow-action switch         Output electronic       Slow-action switch         Switching function latching       No         Output electronic       No         Number of safety axiliary contacts       No         Number of safety axiliary contacts       I         Number of contacts as normally copen contact       I         Number of contacts as change-over contact       I         Number of contact as change-over contact       I         Number of contract as change-over contact       I         Number o	Rated operation current le at AC-15, 230 V	Α	6
Rated operation current le at DC-13,230 V         P         A         0.3           Switching function         Switching switching         Switching switching         Non-action switching           Output electronic         Non-action switching         Non-action switching         Non-action switching           Forced opening         Vice of the switching         Non-action switching         Non-action switching           Number of contacts as normally closed contact         P         F         1           Number of contacts as change-over contact         P         F         1           Number of contacts as change-over contact         P         F         1           Number of contacts as change-over contact         P         F         1           Number of contacts as change-over contact         P         F         0           Number of contacts as change-over contact         P         F         F         0           Number of contacts as change-over contact         P         F         Non-Contaction         P         F         P         Non-Contaction         P         P         P         P         P         P         P         P         P         P         P         P         P         P         P         P         P         P	Rated operation current le at DC-13, 24 V	А	3
Switching functionImage: Section Switching function latchingImage: Section SwitchingImage: Section	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	A	0.3
Duput electronicImage: state of the state of	Switching function		Slow-action switch
Forced opening       Kerd apening       Kerd apening       Kerd apening         Number of safety auxiliary contacts       I       I         Number of contacts as normally closed contact       I       I         Number of contacts as normally open contact       I       I         Number of contacts as normally open contact       I       I         Number of contacts as normally open contact       I       I         Number of contacts as normally open contact       I       I         Number of contacts as normally open contact       I       I         Number of contacts as normally open contact       I       I         Number of contacts as normally open contact       I       I       I         Number of contacts as normally open contact       I       I       I       I         Number of contacts as normally open contact       I	Switching function latching		No
Number of safety auxiliary contacts         I         I           Number of contacts as normally closed contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as change-over contact         I         I           Yue of interface         I         I         I           Construction type housing         I         I         I           Alignment of the control element         I         I         I         I           Stable for safety functions         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I <td>Output electronic</td> <td></td> <td>No</td>	Output electronic		No
Number of contacts as normally closed contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Number of contacts as normally open contact         I         I           Output of the control contact         I         I         I           Nation of the control element         I         I         I         I           Number of contact of safety function         I         I         I         I           Number of contact of safety functions         I         I         I         I           Subale for safety category for dust         I         I         I         I           Rolegion sa	Forced opening		Yes
Number of contacts as normally open contactImage of point of as a change over contactImage of point of as a change over contactImage of point of a change over contactImage of point of a change over contactImage of point of a change over contactImage over contactImag	Number of safety auxiliary contacts		1
Number of contacts as change-over contact       Image: Provide the set of the set	Number of contacts as normally closed contact		1
Type of interface         More           Type of interface for safety communication         More           Construction type housing         More           Housing material         More           Coating housing         More           Coating housing         More           Type of control element         More           Alignment of the control element         More           Type of electric connection         More           With status indication         More           Suitable for safety functions         More           Explosion safety category for gas         More           Explosion safety category for dust         More           Aminent emperature during operating         More           Degree of protection (IP)         More	Number of contacts as normally open contact		1
Type of interface for safety communication       Image: Selection of the construction type housing       Mone         Construction type housing       Image: Selection of the construction type housing       Image: Selection of the construction of the con	Number of contacts as change-over contact		0
Construction type housing       Cobid       Cuboid         Housing material       Plastic         Coating housing       Cuboid       Cuboid         Type of control element       Cuboid       Cuboid         Alignment of the control element       Feed       Roller cam straight         Type of electric connection       Feed       Roller cam straight         With status indication       Feed       Solle entry metrical         Stable for safety functions       Feed       Solle entry metrical         Explosion safety category for gas       Feed       None         Ambient temperature during operating       Feed       Solle Feed         Perge of protection (IP)       Feed       Solle Solle Feed	Type of interface		None
Housing material       Feed of the control element         Alignment of the control element       Feed of the control element         Yub of clectric connection       Feed of the control element         With status indication       Feed of the control element         Suitable for safety functions       Feed of the control element         Explosion safety category for dust       Feed of the control element         Anbient temperature during operating       Feed of the control element         Partice       Feed of the control element         Partice       Feed of the control element         With status indication       Feed of the control element         Suitable for safety functions       Feed of the control element         Feed of the control element       Feed of the control element         Suitable for safety functions       Feed of the control element         Feed of the control element       Feed of the control element         Suitable for safety functions       Feed of the control element         Suitable for safety functions       Feed of the control element         Suitable for safety category for dust       Feed of the control element         Ambient temperature during operating       Feed of the control element         Feed of the control element       Feed of the control element         Feed of the control element	Type of interface for safety communication		None
Coating housingOtherType of control elementPlungerAlignment of the control elementPlungerType of electric connectionRoller cam straightWith status indicationSolle entry metricalSuitable for safety functionsSolleExplosion safety category for dustSolleAmbient temperature during operatingSolleDegree of protection (IP)Solle (Plane)	Construction type housing		Cuboid
Type of control element       Plunger         Alignment of the control element       Roller cam straight         Type of electric connection       Cable entry metrical         With status indication       No         Suitable for safety functions       Yes         Explosion safety category for gas       None         Ambient temperature during operating       Sone         Percent of (P)       For Sone	Housing material		Plastic
Alignment of the control elementRoller cam straightType of electric connectionCable entry metricalWith status indicationCable entry metricalSuitable for safety functionsSetExplosion safety category for gasSetAmbient temperature during operatingSetPerce of protection (IP)Set	Coating housing		Other
Type of electric connectionCable entry metricalWith status indicationNoSuitable for safety functionsYesExplosion safety category for gasNoneExplosion safety category for dustNoneAmbient temperature during operating°CSeree of protection (IP)Seree of the seree of the serie o	Type of control element		Plunger
With status indicationNoSuitable for safety functionsYesExplosion safety category for gasYesExplosion safety category for dustNoneAmbient temperature during operatingYesDegree of protection (IP)Yes	Alignment of the control element		Roller cam straight
Suitable for safety functionsPage Page Page Page Page Page Page Page	Type of electric connection		Cable entry metrical
Explosion safety category for gas     Mone       Explosion safety category for dust     None       Ambient temperature during operating     C     -25 - 70       Degree of protection (IP)     Image: Comparison of the section	With status indication		No
Explosion safety category for dust     None       Ambient temperature during operating     °C     -25 - 70       Degree of protection (IP)     C     -266/IP67	Suitable for safety functions		Yes
Ambient temperature during operating     °C     -25 - 70       Degree of protection (IP)     IP66/IP67	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/IP67
	Degree of protection (NEMA)		Other