

Position switch, 1early N/O+1late N/C, rounded plunger

Pawering Business Worldwide'

LS-11D Part no. Article no. 266114 Catalog No. LS-11D

Delivery programme		
Basic function		Position switches Safety position switches
Part group reference		LS(M)
Product range		Rounded plunger
Degree of Protection		IP66, IP67
Features		Basic device, expandable
Ambient temperature	°C	-25 - +70
Contacts		
N/O = Normally open		1 N/0
N/C = Normally closed		1 NC →
Notes		= safety function, by positive opening to IEC/EN 60947-5-1
Contact sequence		$0 - \frac{1}{16}$
Contact travel = Contact closed = Contact open		0 18 6.1 15-16 90 27-28 2.1 28 - 4.5 ms
Positive opening (ZW)		yes
Colour		
Enclosure covers		Yellow
Enclosure covers		
Housing		Insulated material
Connection type		Cage Clamp
Notes		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

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: IP66, 67, UL/CSA Type 3R, 4X (indoor use only), 12, 13	

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		J	As required
Degree of Protection			IP66, IP67
Terminal capacities		mm ²	11 50, 11 67
Solid			1, (0, 2, 2, 5)
		mm ²	1 x (0.5 - 2.5)
Flexible with ferrule		mm ²	1 x (0.5 - 1.5)
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	l _e	Α	
AC-15			
24 V	l _e	Α	6
220 V 230 V 240 V	l _e	Α	6
380 V 400 V 415 V	I _e	Α	4
DC-13			
24 V	l _e	Α	3
110 V	I _e	Α	0.6
220 V	I _e	Α	0.3
Control circuit reliability			
at 24 V DC/5 mA	H _F	Fault probabilit	< 10 ⁻⁷ , < 1 fault in 107 operations cy
at 5 V DC/1 mA	H _F	Fault probabilit	$< 10^{-6}$, < 1 failure at 5 x 10^6 operations
Supply frequency		Hz	max. 400
Short-circuit rating to IEC/EN 60947-5-1			
max. fuse		A gG/gL	6
Repetition accuracy		mm	0.15
Rated conditional short-circuit current		kA	1
Mechanical variables			
Lifespan, mechanical	Operations	x 10 ⁶	8
Contact temperature of roller head		°C	≦ ₁₀₀
Mechanical shock resistance (half-sinusoidal shock, 20 ms)			
Standard-action contact		g	25
Operating frequency	Operations/h		≦ ₆₀₀₀
Actuation			
Mechanical			
Actuating force at beginning/end of stroke		N	1.0/8.0
Actuating torque of rotary drives		Nm	0.2
Max. operating speed with DIN cam		m/s	1/0.5
Notes			for angle of actuation $\alpha=0^{\circ}/30^{\circ}$

Data for design verification according to IEC/EN 61439

Technical data for design verification			
Rated operational current AC-15 at 220 V, 230 V, 240 V	l _e	Α	6
Rated operational current at 24 V	le	Α	3
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.

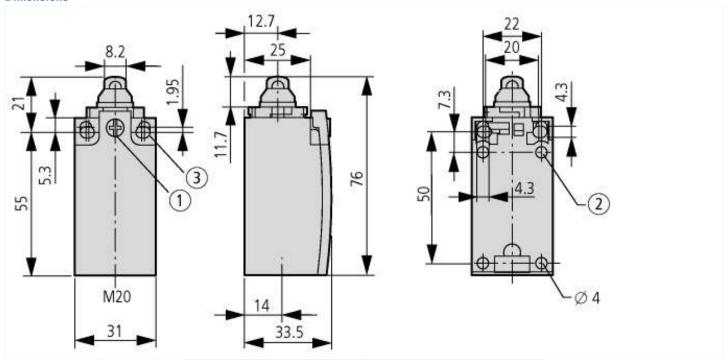
Technical data ETIM 5.0

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@ss8-27-27-06-01 [AGZ382011])

Diameter sensor mm 0 Height of sensor mm 61 Length of sensor mm 33.5 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 AC-15, 230 V A 6 Rated operation current le at DC-13, 24 V A 8 Rated operation current le at DC-13, 25 V A 8 Rated operation current le at DC-13, 25 V A 8 Rated operation current le at DC-13, 25 V A 8 Rated operation current le at DC-13, 25 V A 8 Rated operation current le at DC-13, 25 V A B Rated operation current le at DC-13, 25 V A B Rated operation current le at DC-13, 25 V A B Rated operation current le at DC-13, 25 V A B Rated operation current le at DC-13, 25 V B B B B B B B B B B B B B B B B	[AGZ382011])		
Internation of Sensor	Width sensor	mm	31
Length of sensor mm 33.5 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 AC-15, 230 V A 3 Rated operation current le at DC-13, 24 V A 0.8 Rated operation current le at DC-13, 250 V A 0.8 Rated operation current le at DC-13, 250 V A 0.3 Switching function Image: Slow-action switch Output elestronic Image: Slow-action switch Forced opening Image: Slow-action switch Number of safety auxiliary contacts Image: Slow-action switch Number of contacts as normally closed contact Image: Slow-action switch Number of contacts as change-over contact Image: Slow-action switch Number of contacts as change-over contact Image: Slow-action switch None Image: Slow-action switch None Image: Slow-action switch Construction type housing Image: Slow-action switch Coating housing Image: Slow-action switch Coating housing Image: Slow-action switch	Diameter sensor	mm	0
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 AC-15, 125 V A 6 Rated operation current le at DC-13, 24 V A 0.8 Rated operation current le at DC-13, 220 V A 0.8 Rated operation current le at DC-13, 230 V A 0.3 Switching function Dutput electronic No Forced opening Pes No Number of contacts as normally closed contact 1 1 Number of contacts as normally open contact 1 1 Number of contacts as change-over contact 0 None Type of interface for safety communication None None Housing according to norm Cubiod Cubiod Material housing Plastic Cubiod Construction type housing Plastic Plunger Cating housing Plastic Plunger Alignment of the control element Plunger Plunger Alignment of the control element Plunger Plunger	Height of sensor	mm	61
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, 125 V A 0.8 Rated operation current le at DC-13, 125 V A 0.3 Rated operation current le at DC-13, 230 V A 0.3 Switching function No No Output electronic No No Forced opening Yes No Number of safety auxiliary contacts 1 1 Number of contacts as normally closed contact 1 1 Number of contacts as change-over contact 0 0 Number of contacts as change-over contact None None Housing according to norm None None Construction type inverface for safety communication None Plastic Construction type housing Plastic Cuboid Material housing Plastic Plunger Control element Plunger Plunger Alignment of the control element No No Vigo a feet ty fu	Length of sensor	mm	33.5
Rated operation current le at AC-15, 230 V A 3 Rated operation current le at DC-13, 24 V A 0.8 Rated operation current le at DC-13, 125 V A 0.3 Rated operation current le at DC-13, 230 V A 0.3 Switching function No No Output electronic No No Forced opening Yes Ves Number of safety auxiliary contacts 1 1 Number of contacts as normally closed contact 1 1 Number of contacts as normally open contact 1 None Number of contacts as change-over contact 0 None Type of interface for safety communication None None Housing according to norm 2 2 Construction type housing 2 1 Material housing 2 1 Coating housing 2 1 Control element 2 2 Type of electric connection 2 2 With status indication 3 2 Suite	Rated operation current le at AC-15, 24 V	Α	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 Book-action switch Output electronic Pos Forced opening Pos 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 1 Type of interface None Type of interface for safety communication None Housing according to norm Cubic Construction type housing Cubic Material housing Plastic Coating housing Plunger Coating housing Plunger Action of the control element Plunger Type of control element Plunger With status indication No Suited for safety functions Pse Explosion safety category for dust None	Rated operation current le at AC-15, 125 V	Α	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 Columnation Solow-action switch Output electronic No Yes Forced opening Yes Ves Number of safety auxiliary contacts 0 1 Number of contacts as normally closed contact 1 1 Number of contacts as change-over contact 0 None Number of contacts as change-over contact 0 None Type of interface None None Housing according to norm Cuboid Cuboid Construction type housing Plastic Cuboid Material housing Plastic Cuboid Control element Plunger Plunger Alignment of the control element Plunger Plunger Sylpe of control element Plunger Plunger Sylpe of electric connection Plunger Plunger Sylpe of electric connection Plunger Plunger With status indication <td>Rated operation current le at AC-15, 230 V</td> <td>Α</td> <td>6</td>	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 Slow-action switch Output electronic No Forced opening Yes Number of safety auxiliary contacts 0 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 Housing according to norm None Construction type housing Cuboid Material housing Plastic Construction type of control element 1 Type of control element 1 Amount of the control element 1 Type of electric connection 1 With status indication No Suited for safety functions 1 Explosion safety category for gas None Explosion safety category for dust None	Rated operation current le at DC-13, 24 V	Α	3
Switching function Output electronic Output electronic Forced opening Number of safety auxiliary contacts 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 Type of interface None Type of interface for safety communication None Construction type housing Material housing Coating housing Type of control element Type of control element Type of control element Type of electric connection With status indication Suited for safety functions Explosion safety category for dust None Explosion safety category for dust	Rated operation current le at DC-13, 125 V	Α	0.8
Output electronic No Forced opening Yes Number of safety auxiliary contacts 0 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 Housing according to norm Cuboid Construction type housing Cuboid Material housing Plastic Coating housing Plunger Type of control element Plunger Alignment of the control element - Type of electric connection No With status indication No Suited for safety functions Yes Explosion safety category for gas None Explosion safety category for dust None	Rated operation current le at DC-13, 230 V	Α	0.3
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 None Type of interface None None Construction type of unsufficial onorm Construction type housing Raterial housing Coating housing Plastic Coating housing Plunger Alignment of the control element Type of element Control element Number of contacts as change-over contact None Suited for safety functions Vith status indication None Explosion safety category for gas None	Switching function		Slow-action switch
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 Type of interface Type of interface for safety communication None Type of interface for safety communication None Construction type housing Construction type housing Material housing Coating housing Type of control element Type of control element Con	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 None None Type of interface for safety communication Housing according to norm 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 Suited for safety functions Explosion safety category for gas Explosion safety category for dust	Forced opening		Yes
Number of contacts as normally open contact Number of contacts as change-over contact Number of contacts as change-over contact Type of interface None None None None Housing according to norm 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 Suited for safety functions Explosion safety category for gas Explosion safety category for dust	Number of safety auxiliary contacts		0
Number of contacts as change-over contact Type of interface Type of interface for safety communication None Type of interface for safety communication None Housing according to norm Construction type housing Material housing Coating housing Type of control element Alignment of the control element Type of electric connection With status indication No Suited for safety functions Explosion safety category for dust None One None None None None None	Number of contacts as normally closed contact		1
Type of interface Type of interface for safety communication None Type of interface for safety communication None Housing according to norm	Number of contacts as normally open contact		1
Type of interface for safety communication Housing according to norm 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 Suited for safety functions Explosion safety category for gas Explosion safety category for dust None None None None None None	Number of contacts as change-over contact		0
Housing according to norm 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 Suited for safety functions Explosion safety category for gas Explosion safety category for dust Cuboid Cuboid Cuboid Plastic - Plunger - No No No No No No No No No	Type of interface		None
Construction type housing Material housing Coating housing Co	Type of interface for safety communication		None
Material housing Coating housing - Type of control element Alignment of the control element Type of electric connection With status indication Suited for safety functions Explosion safety category for dust Plastic Plastic Plunger - No Punger - No Suited for safety functions Yes None None	Housing according to norm		•
Coating housing - Coating housing housin	Construction type housing		Cuboid
Type of control element Alignment of the control element Type of electric connection Type of electric connection With status indication Suited for safety functions Explosion safety category for dust Plunger - Ro Punger - No No No No No Yes None None	Material housing		Plastic
Alignment of the control element Type of electric connection With status indication Suited for safety functions Explosion safety category for dust None None	Coating housing		
Type of electric connection	Type of control element		Plunger
With status indication Suited for safety functions Explosion safety category for dust No No Yes None None	Alignment of the control element		
Suited for safety functions Explosion safety category for dust Yes None None	Type of electric connection		
Explosion safety category for gas Explosion safety category for dust None	With status indication		No
Explosion safety category for dust None	Suited for safety functions		Yes
	Explosion safety category for gas		None
Ambient temperature during operating °C -25 - 70	Explosion safety category for dust		None
	Ambient temperature during operating	°C	-25 - 70

Dimensions



- $igotimes_{ ext{Tightening torque of cover screws: 0.8 Nm ±0.2 Nm}}$
- only with LS (insulated version)
- Fixing screws 2 x M4 = 30

 M_A = 1.5 Nm

