

Specifications



Photo is representative

Eaton 106870

Eaton Moeller® series LS Safety position switch, 1N/O+1N/C, insulated material, +actuator ZB, spring clamp connection LS-11S-ZB

General specifications

PRODUCT NAME	Eaton Moeller® series LS Safety position switch
CATALOG NUMBER	106870
MODEL CODE	LS-11S-ZB
EAN	4015081066339
PRODUCT LENGTH/DEPTH	95 mm
PRODUCT HEIGHT	30 mm
PRODUCT WIDTH	30 mm
PRODUCT WEIGHT	0.08 kg
CERTIFICATIONS	UL Category Control No.: NKCR UL 508 CSA UL File No.: E29184 CE CSA-C22.2 No. 14 IEC/EN 60947 IEC/EN 60947-5 CSA File No.: 012528 UL CSA Class No.: 3211-03
CATALOG NOTES	Using the product in areas exposed to ozone and UV radiation or in sub-zero temperatures in unprotected outdoor environments (e.g. altitudes above 1,000 m, unprotected sunlight) may reduce the degree of protection. The customer / user must validate the overall application accordingly. If applicable, the use of the LS-...-CC (Cold Climate) variants should be considered.



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Actuator

ACTUATING FORCE AT BEGINNING/END OF STROKE	10 N/5 N (plug-in/pull-out)
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ACTUATOR TYPE	Other
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Climatic environmental conditions

AMBIENT OPERATING TEMPERATURE - MAX	70 °C
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AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
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CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30
	Damp heat, constant, to IEC 60068-2-78

Ambient conditions, mechanical

MOUNTING POSITION	As required
	Horizontal
	Vertical

SHOCK RESISTANCE	25 g, Standard-action contact, Mechanical, Half-sinusoidal shock 20 ms
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Contacts

NUMBER OF CONTACTS (CHANGE-OVER CONTACTS)	0
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NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)	1
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NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	1
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Design verification

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.
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.
10.2.5 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	Does not apply, since the

Electrical rating

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	10 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	3 A
SHORT-CIRCUIT PROTECTION RATING	Max. 6 A gG/gL, Fuse, Contacts
SUPPLY FREQUENCY	Max. 400 Hz, Contacts
RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)	1 kA

AGAINST ELECTRIC SHOCK	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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0.17 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	6 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0 W

Features & functions	
ELECTRIC CONNECTION TYPE	Cable entry metrical
ENCLOSURE MATERIAL	Plastic Insulated material
FEATURES	Forced opening Snap-action contact
SWITCH FUNCTION TYPE	Quick-break switch

General information	
CONNECTION TYPE	Cage Clamp
DEGREE OF PROTECTION	IP66 NEMA Other
LIFESPAN	1,500,000 mechanical Operations
OPERATING FREQUENCY	1800 Operations/h
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	Safety position switches
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4000 V AC
REPETITION ACCURACY	0.15 mm (Contacts/switching)

	capacity)
SUITABLE FOR	Safety functions
TYPE	• Position switch • Safety position switch

Safety	
EXPLOSION SAFETY CATEGORY FOR DUST	None
EXPLOSION SAFETY CATEGORY FOR GAS	None

Terminal capacities	
SCREW SIZE	PH1, Terminal screw
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 (0.5 - 1.5) mm ² 2 x (0.5 - 1.5) mm ²
TIGHTENING TORQUE	0.4 Nm, Screw terminals

Resources

CATALOGUES	eaton-pushbuttons-signal-towers-sensors-assortment-overview-catalog-ca047003en-en-us.pdf eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
DECLARATIONS OF CONFORMITY	eaton-safety-position-switch-declaration-of-conformity-eu251547en.pdf eaton-safety-position-switch-declaration-of-conformity-uk260008en.pdf
DRAWINGS	eaton-safety-position-switches-ls-dimensions.eps eaton-safety-position-switches-switch-ls-3d-drawing.eps
ECAD MODEL	ETN.106870.edz
INSTALLATION INSTRUCTIONS	eaton-position-switches-ls-zb-safety-position-switch-instruction-leaflet-il05208003z.pdf
MCAD MODEL	eaton-limit-switches-mcad-drawings-ls-zb-mit-betaetiger.dwg DA-CS-ls zb mit betaetiger
SALES NOTES	eaton-safety-switches-rs-titan-flyer-fl053001en-en-us.pdf
WIRING DIAGRAMS	eaton-safety-position-switches-contact-ls-wiring-diagram.eps

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



Eaton Corporation plc Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com

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