

Specifications



Eaton 106810

Eaton Moeller® series LS Position switch, Rounded plunger, Basic device, expandable, 2 N/O, Screw terminal, Yellow, Insulated material, -25 - +70 °C, version A

General specifications

PRODUCT NAME	Eaton Moeller® series LS Position switch
CATALOG NUMBER	106810
MODEL CODE	LS-S20A
EAN	4015081065776
PRODUCT LENGTH/DEPTH	33.5 mm
PRODUCT HEIGHT	76.5 mm
PRODUCT WIDTH	31 mm
PRODUCT WEIGHT	0.045 kg
CERTIFICATIONS	UL 508 UL Category Control No.: NKCR CSA File No.: 012528 CSA Class No.: 3211-03 IEC/EN 60947-5 CE CSA-C22.2 No. 14 UL File No.: E29184 UL CSA IEC/EN 60947
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.



Powering Business Worldwide

Actuator

ACTUATING FORCE AT BEGINNING/END OF STROKE	1.0 N/8.0 N
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ACTUATING TORQUE OF ROTARY DRIVES	0.2 Nm
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ACTUATOR TYPE	Plunger
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OPERATING SPEED	Max. 1/0.5 m/s (with DIN cam, mechanical actuation) For angle of actuation $\alpha = 0^\circ/30^\circ$
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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, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
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Ambient conditions, mechanical

MOUNTING POSITION	As required
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SHOCK RESISTANCE	25 g, Standard-action contact, Mechanical, Half-sinusoidal shock 20 ms
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TEMPERATURE RESISTANCE	100 °C, Contact temperature of roller head
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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)
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NUMBER OF CONTACTS (CHANGE-OVER CONTACTS)	0
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NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)	0
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NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	2
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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	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	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 COLOR	Yellow Cover
ENCLOSURE MATERIAL	Plastic Insulated material
FEATURES	Expandable
SWITCH FUNCTION TYPE	Slow-action switch

General information	
CONNECTION TYPE	Screw terminal
DEGREE OF PROTECTION	IP66/IP67 NEMA Other
LIFESPAN	8,000,000 mechanical Operations
OPERATING FREQUENCY	6000 Operations/h
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	Rounded plunger
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4000 V AC
REPETITION ACCURACY	0.15 mm (Contacts/switching)

	capacity)
TYPE	Position switch

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

Terminal capacities	
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (0.5 - 1.5) mm ²
TERMINAL CAPACITY (SOLID)	1 x (0.5 - 2.5) mm ²

Resources

CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
	eaton-pushbuttons-signal-towers-sensors-assortment-overview-catalog-ca047003en-en-us.pdf
CONTROL TRAVEL DIAGRAM	eaton-position-switches-diagram-ls-contact-travel-diagram-005.eps
DECLARATIONS OF CONFORMITY	eaton-position-switch-declaration-of-conformity-uk251032en.pdf
	eaton-position-switch-declaration-of-conformity-eu251556en.pdf
DRAWINGS	eaton-position-switches-plunger-ls-dimensions-002.eps
	eaton-position-switches-plunger-ls-dimensions-004.eps
	eaton-operating-button-symbol-008.eps
	eaton-position-switches-plunger-ls-3d-drawing.eps
ECAD MODEL	ETN.106810.edz
INSTALLATION INSTRUCTIONS	IL053001ZU
MCAD MODEL	eaton-mechanical-limit-switches-mcad-drawings-ls.dwg
	DA-CS-ls
SALES NOTES	eaton-safety-switches-rs-titan-flyer-fl053001en-en-us.pdf
WIRING DIAGRAMS	eaton-position-switches-contact-ls-wiring-diagram-002.eps

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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