

# Specifications



## Eaton 100051

Eaton Moeller® series LSM Position switch, Rounded plunger, Basic device, expandable, 2 N/O, Cage Clamp, Yellow, Metal, -25 - +70 °C, version A

### General specifications

<b>PRODUCT NAME</b>	Eaton Moeller® series LSM Position switch
<b>CATALOG NUMBER</b>	100051
<b>MODEL CODE</b>	LSM-20A
<b>EAN</b>	4015081000418
<b>PRODUCT LENGTH/DEPTH</b>	33.5 mm
<b>PRODUCT HEIGHT</b>	76.5 mm
<b>PRODUCT WIDTH</b>	31 mm
<b>PRODUCT WEIGHT</b>	0.147 kg
<b>CERTIFICATIONS</b>	CSA File No.: 012528 UL CSA-C22.2 No. 14 CSA Class No.: 3211-03 UL 508 IEC/EN 60947 CE CSA UL Category Control No.: NKCR IEC/EN 60947-5 UL File No.: E29184

## Features & Functions

<b>ELECTRIC CONNECTION TYPE</b>	Cable entry metrical
<b>ENCLOSURE COLOR</b>	Yellow Cover
<b>ENCLOSURE MATERIAL</b>	Metal
<b>FEATURES</b>	Expandable
<b>SWITCH FUNCTION TYPE</b>	Slow-action switch

## Ambient conditions, mechanical

<b>MOUNTING POSITION</b>	As required
<b>SHOCK RESISTANCE</b>	25 g, Standard-action contact, Mechanical, Half-sinusoidal shock 20 ms
<b>TEMPERATURE RESISTANCE</b>	100 °C, Contact temperature of roller head

## Terminal capacities

<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	1 x (0.5 - 1.5) mm <sup>2</sup>
<b>TERMINAL CAPACITY (SOLID)</b>	1 x (0.5 - 2.5) mm <sup>2</sup>

## General

<b>CONNECTION TYPE</b>	Cage Clamp
<b>DEGREE OF PROTECTION</b>	IP66/IP67 NEMA Other
<b>OPERATING FREQUENCY</b>	6000 Operations/h
<b>OVERVOLTAGE CATEGORY</b>	III
<b>POLLUTION DEGREE</b>	3
<b>PRODUCT CATEGORY</b>	Rounded plunger
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	4000 V AC
<b>REPETITION ACCURACY</b>	0.15 mm (Contacts/switching capacity)
<b>TYPE</b>	Position switch

## Climatic environmental conditions

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

## Electrical rating

<b>RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ)</b>	1 kA
<b>RATED INSULATION VOLTAGE (UI)</b>	400 V
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V</b>	6 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 24 V</b>	6 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V</b>	4 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 110 V</b>	0.6 A

<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 125 V</b>	0.8 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 220 V, 230 V</b>	0.3 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 24 V</b>	3 A
<b>SHORT-CIRCUIT PROTECTION RATING</b>	Max. 6 A gG/gL, Fuse, Contacts
<b>SUPPLY FREQUENCY</b>	Max. 400 Hz, Contacts

## Actuator

<b>ACTUATING FORCE AT BEGINNING/END OF STROKE</b>	1.0 N/8.0 N
<b>ACTUATING TORQUE OF ROTARY DRIVES</b>	0.2 Nm
<b>ACTUATOR TYPE</b>	Plunger
<b>OPERATING SPEED</b>	For angle of actuation $\alpha = 0^\circ/30^\circ$ Max. 1/0.5 m/s (with DIN cam, mechanical actuation)

## Safety

<b>EXPLOSION SAFETY CATEGORY FOR GAS</b>	None
<b>EXPLOSION SAFETY CATEGORY FOR DUST</b>	None

## Contacts

<b>CONTROL CIRCUIT RELIABILITY</b>	1 failure per 5,000,000 switching operations (statistically determined, at 5 V DC/1 mA) 1 failure per 10,000,000 switching operations (Statistically determined, at 24 V DC/5 mA)
<b>NUMBER OF CONTACTS (CHANGE-OVER CONTACTS)</b>	0
<b>NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)</b>	2

## Design verification

<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	0 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	0.17 W
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	6 A
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	0 W

<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>10.10 TEMPERATURE RISE</b>	The panel builder is

	responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

## Resources

### CATALOGUES

[eaton-pushbuttons-signal-towers-sensors-assortment-overview-catalog-ca047003en-en-us.pdf](#)

[eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf](#)

### CONTROL TRAVEL DIAGRAM

[eaton-position-switches-diagram-ls-contact-travel-diagram-005.eps](#)

### DRAWINGS

[eaton-position-switches-plunger-ls-dimensions-004.eps](#)

[eaton-position-switches-plunger-ls-dimensions-002.eps](#)

[eaton-operating-button-symbol-008.eps](#)

[eaton-position-switches-plunger-ls-3d-drawing.eps](#)

### ECAD MODEL

[ETN.100051.edz](#)

### INSTALLATION INSTRUCTIONS

[IL053001ZU](#)

### MCAD MODEL

[DA-CS-lsm](#) [DA-CD-lsm](#)

### 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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