

# Specifications



Photo is representative

## Eaton 106825

Eaton Moeller® series LS Position switch,  
1N/O+1N/C, basic, spring-powered interlock  
LS-S11-120AFT-ZBZ/X

### General specifications

<b>PRODUCT NAME</b>	Eaton Moeller® series LS Position switch
<b>CATALOG NUMBER</b>	106825
<b>MODEL CODE</b>	LS-S11-120AFT-ZBZ/X
<b>EAN</b>	4015081065851
<b>PRODUCT LENGTH/DEPTH</b>	55 mm
<b>PRODUCT HEIGHT</b>	170 mm
<b>PRODUCT WIDTH</b>	37 mm
<b>PRODUCT WEIGHT</b>	0.417 kg

<b>CERTIFICATIONS</b>	CSA File No.: 012528 CE CSA Class No.: 3211-03 CSA-C22.2 No. 14 IEC/EN 60947-5 UL IEC/EN 60947 CSA UL File No.: E29184 UL 508 UL Category Control No.: NKCR
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## Features & Functions

<b>ELECTRIC CONNECTION TYPE</b>	Cable entry metrical
<b>ENCLOSURE MATERIAL</b>	Insulated material Plastic
<b>FEATURES</b>	Forced opening Expandable
<b>FITTED WITH:</b>	Auxiliary release mechanism Interlock monitoring
<b>SWITCH FUNCTION TYPE</b>	Slow-action switch

## General

<b>CONNECTION TYPE</b>	Screw terminal
<b>DEGREE OF PROTECTION</b>	IP65 NEMA Other
<b>DUTY FACTOR</b>	100 % (Magnet)
<b>OPERATING FREQUENCY</b>	800 Operations/h
<b>OVERVOLTAGE CATEGORY</b>	III
<b>POLLUTION DEGREE</b>	3
<b>PRODUCT CATEGORY</b>	Basic units with spring-powered interlock (closed-circuit principle)
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	4000 V AC
<b>REPETITION ACCURACY</b>	0.02 mm (Contacts/switching capacity)
<b>SUITABLE FOR</b>	Safety functions
<b>TYPE</b>	<ul style="list-style-type: none"> <li>Position switch</li> <li>Safety position switch</li> </ul>

## Ambient conditions, mechanical

<b>MOUNTING POSITION</b>	As required
<b>SHOCK RESISTANCE</b>	10 g, Standard-action contact, Mechanical, Half-Sinusoidal shock 20 ms

## 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

## Terminal capacities

<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	2 x (0.5 - 1.5) mm <sup>2</sup> 1 x (0.5 - 1.5) mm <sup>2</sup>
<b>TERMINAL CAPACITY (SOLID)</b>	1 x (0.75 - 2.5) mm <sup>2</sup> 2 x (0.75 - 1.5) mm <sup>2</sup>
<b>SCREW SIZE</b>	PH1, Terminal screw
<b>TIGHTENING TORQUE</b>	0.9 Nm, Screw terminals

## Electrical rating

<b>POWER CONSUMPTION</b>	8 W at 24 V DC (electromechanical actuation) 11 VA at 230 V AC (electromechanical actuation) 8 VA at 120 V AC (electromechanical actuation)
<b>RATED CONDITIONAL</b>	1 kA

## SHORT-CIRCUIT CURRENT (IQ)

**RATED CONTROL SUPPLY VOLTAGE** 120 V 50/60 Hz (Us, for magnet drive)

**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** 0.8 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

**VOLTAGE TOLERANCE** 0.85 x Us, Pick-up and drop-out values  
1.1 x Us, Pick-up and drop-out values

## Actuator

**ACTUATING FORCE AT BEGINNING/END OF STROKE** 25 N/15 N (plug-in/pull-out)

**ACTUATOR TYPE** None

1600 N (according to GS-ET-19 (04/2004), XWA, XFG, XF)

**MECHANICAL HOLDING FORCE** 1200 N (according to GS-ET-19 (04/2004), XNW)

1700 N (according to GS-ET-19 (04/2004), XG, XW, XNG)

## Contacts

**NUMBER OF CONTACTS (CHANGE-OVER CONTACTS)** 0

**NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)** 1

**NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)** 1

## Safety

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

## 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>	0.13 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](#)

[eaton-position-switch-declaration-of-conformity-uk251040en.pdf](#)

### DECLARATIONS OF CONFORMITY

[DA-DC-00004360.pdf](#)

[DA-DC-00004361.pdf](#)

[eaton-position-switch-declaration-of-conformity-eu250557en.pdf](#)

### DRAWINGS

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

### ECAD MODEL

[ETN.106825.edz](#)

### INSTALLATION INSTRUCTIONS

[eaton-ls-s-zbz-safety-position-switch-instruction-leaflet-il05208005z.pdf](#)

### MCAD MODEL

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

### SALES NOTES

[eaton-safety-switches-rs-titan-flyer-fl053001en-en-us.pdf](#)

### WIRING DIAGRAMS

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

**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**



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