

# Specifications



## Eaton 272008

Eaton Moeller® series LS Position switch,  
Rounded plunger, Basic device, expandable,  
2 N/O, Cage Clamp, Black, Insulated  
material, -25 - +70 °C

### General specifications

|                             |                                          |
|-----------------------------|------------------------------------------|
| <b>PRODUCT NAME</b>         | Eaton Moeller® series LS Position switch |
| <b>CATALOG NUMBER</b>       | 272008                                   |
| <b>MODEL CODE</b>           | LS-20-SW                                 |
| <b>EAN</b>                  | 4015082720087                            |
| <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>       | 0.05 kg                                  |

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

## Features & Functions

|                                 |                               |
|---------------------------------|-------------------------------|
| <b>ELECTRIC CONNECTION TYPE</b> | Cable entry metrical          |
| <b>ENCLOSURE COLOR</b>          | Black (Cover)                 |
| <b>ENCLOSURE MATERIAL</b>       | Insulated material<br>Plastic |
| <b>FEATURES</b>                 | Expandable                    |
| <b>SWITCH FUNCTION TYPE</b>     | Slow-action switch            |

## General

|                                               |                                          |
|-----------------------------------------------|------------------------------------------|
| <b>CONNECTION TYPE</b>                        | Cage Clamp                               |
| <b>DEGREE OF PROTECTION</b>                   | IP66/IP67<br>NEMA Other                  |
| <b>OPERATING FREQUENCY</b>                    | 6000 Operations/h                        |
| <b>OVERTVOLTAGE 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<br>(Contacts/switching capacity) |
| <b>TYPE</b>                                   | Position 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                             |

## 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<br>Damp heat, cyclic, to IEC 60068-2-30 |

## 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> |

## 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>                            | Max. 1/0.5 m/s (with DIN cam, mechanical actuation)<br>For angle of actuation $\alpha = 0^\circ/30^\circ$ |

## Contacts

|                                                      |                                                                                              |
|------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>CONTROL CIRCUIT RELIABILITY</b>                   | 1 failure per 10,000,000 switching operations<br>(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                                                                                            |

## 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>             | 0.17 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                                               |

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|                                            |                                                                                                             |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------|
|                                            | 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

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

### CATALOGUES

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

### CONTROL TRAVEL DIAGRAM

[eaton-position-switches-diagram-ls-contact-travel-diagram-020.eps](#)

[eaton-position-switch-declaration-of-conformity-uk251032en.pdf](#)

### DECLARATIONS OF CONFORMITY

[DA-DC-00004160.pdf](#)

[eaton-position-switch-declaration-of-conformity-eu250549en.pdf](#)

[DA-DC-00004133.pdf](#)

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

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

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

[eaton-operating-button-symbol-005.eps](#)

### DRAWINGS

### ECAD MODEL

[ETN.272008.edz](#)

### INSTALLATION INSTRUCTIONS

[IL053001ZU](#)

### MCAD MODEL

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

### SALES NOTES

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

### WIRING DIAGRAMS

[eaton-position-switches-contact-ls-wiring-diagram-002.eps](#)

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**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**

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