

# Specifications



## Eaton 102989

Eaton Moeller® series MSC-R Reversing starter, 380 V 400 V 415 V: 3 kW, Ir= 6.3 - 10 A, 230 V 50 Hz, 240 V 60 Hz, AC voltage MSC-R-10-M7(230V50HZ)/BBA

### General specifications

|                             |                                                                                                                                                                                                                                               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PRODUCT NAME</b>         | Eaton Moeller® series MSC-R Reversing starter                                                                                                                                                                                                 |
| <b>CATALOG NUMBER</b>       | 102989                                                                                                                                                                                                                                        |
| <b>MODEL CODE</b>           | MSC-R-10-M7(230V50HZ)/BBA                                                                                                                                                                                                                     |
| <b>EAN</b>                  | 4015081028283                                                                                                                                                                                                                                 |
| <b>PRODUCT LENGTH/DEPTH</b> | 200 mm                                                                                                                                                                                                                                        |
| <b>PRODUCT HEIGHT</b>       | 153 mm                                                                                                                                                                                                                                        |
| <b>PRODUCT WIDTH</b>        | 90 mm                                                                                                                                                                                                                                         |
| <b>PRODUCT WEIGHT</b>       | 1.56 kg                                                                                                                                                                                                                                       |
| <b>CERTIFICATIONS</b>       | UL<br>CSA Class No.: 3211-04<br>UL 508 (on request)<br>UL File No.: E123500<br>CSA File No.: 012528<br>UL60947-4-1A<br>CSA<br>CE<br>CSA-C22.2 No. 14 (on request)<br>CSA-C22.2 No. 14-10<br>UL Category Control No.: NKJH<br>IEC/EN 60947-4-1 |



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## Climatic environmental conditions

|                                            |             |
|--------------------------------------------|-------------|
| <b>ALTITUDE</b>                            | Max. 2000 m |
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b> | 55 °C       |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b> | -25 °C      |

## Design verification

|                                                                                         |                                                                                                                                  |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <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.                         |
| <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</b>                                                                  | Does not apply, since the                                                                                                        |

|                                                                      |                                                                    |
|----------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>AGAINST ELECTRIC SHOCK</b>                                        | 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>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>            | 8.4 W                                                              |
| <b>HEAT DISSIPATION CAPACITY PDISS</b>                               | 0 W                                                                |
| <b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>             | 2.8 W                                                              |
| <b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b> | 10 A                                                               |
| <b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>            | 1.4 W                                                              |

## Electrical rating

|                                       |       |
|---------------------------------------|-------|
| <b>RATED OPERATIONAL CURRENT (IE)</b> | 6.6 A |
|---------------------------------------|-------|

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| <b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V</b> | 7 A |
|--------------------------------------------------------------------|-----|

|                                                          |        |
|----------------------------------------------------------|--------|
| <b>RATED OPERATIONAL POWER AT AC-3, 220/230 V, 50 HZ</b> | 1.5 kW |
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|                                                          |      |
|----------------------------------------------------------|------|
| <b>RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ</b> | 3 kW |
|----------------------------------------------------------|------|

|                                  |                |
|----------------------------------|----------------|
| <b>RATED OPERATIONAL VOLTAGE</b> | 230 - 415 V AC |
|----------------------------------|----------------|

|                                                             |                                                     |
|-------------------------------------------------------------|-----------------------------------------------------|
| <b>SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)</b> | 1 A, 250 V DC, (UL/CSA)<br>15 A, 600 V AC, (UL/CSA) |
|-------------------------------------------------------------|-----------------------------------------------------|

|                                                            |                                                          |
|------------------------------------------------------------|----------------------------------------------------------|
| <b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b> | A600, AC operated (UL/CSA)<br>P300, DC operated (UL/CSA) |
|------------------------------------------------------------|----------------------------------------------------------|

## Features & functions

|                     |                       |
|---------------------|-----------------------|
| <b>FITTED WITH:</b> | Short-circuit release |
|---------------------|-----------------------|

|                  |                                             |
|------------------|---------------------------------------------|
| <b>FUNCTIONS</b> | Temperature compensated overload protection |
|------------------|---------------------------------------------|

## General information

|                                                                |                                       |
|----------------------------------------------------------------|---------------------------------------|
| <b>CLASS</b>                                                   | CLASS 10 A                            |
| <b>CONNECTION</b>                                              | Screw terminals                       |
| <b>CONNECTION TO SMARTWIRE-DT</b>                              | No                                    |
| <b>COORDINATION TYPE</b>                                       | 1                                     |
| <b>DEGREE OF PROTECTION</b>                                    | IP20<br>NEMA Other                    |
| <b>MODEL</b>                                                   | IEC/UL starter                        |
| <b>MOUNTING METHOD</b>                                         | Mounting on Busbar 60 mm              |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b> | 0                                     |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>   | 0                                     |
| <b>OVERLOAD RELEASE CURRENT SETTING - MAX</b>                  | 10 A                                  |
| <b>OVERLOAD RELEASE CURRENT SETTING - MIN</b>                  | 6.3 A                                 |
| <b>OVERVOLTAGE CATEGORY</b>                                    | III                                   |
| <b>POLLUTION DEGREE</b>                                        | 3                                     |
| <b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>                  | 6000 V AC                             |
| <b>SUITABLE FOR</b>                                            | Also motors with efficiency class IE3 |
| <b>TYPE</b>                                                    | Starter with Bi-Metal release         |
| <b>VOLTAGE TYPE</b>                                            | AC                                    |

## Short-circuit rating

|                                                                                  |       |
|----------------------------------------------------------------------------------|-------|
| <b>RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ), TYPE 2, 380 V, 400 V, 415 V</b> | 100 A |
| <b>SHORT-CIRCUIT RELEASE (IRM) - MAX</b>                                         | 155 A |

## Magnet system

|                                                             |                                                                   |
|-------------------------------------------------------------|-------------------------------------------------------------------|
| <b>POWER CONSUMPTION, SEALING, 50 HZ</b>                    | 1.2 W, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b> | 230 V                                                             |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b> | 230 V                                                             |

## Resources

|                            |                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------|
| BROCHURES                  | <a href="#">eaton-msfs-motor-starter-feeder-system-brochure-br034005en-en-us.pdf</a>   |
|                            | <a href="#">eaton-motor-starters-system-xstart-brochure-br03407001en-en-us.pdf</a>     |
| CATALOGUES                 | <a href="#">eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf</a> |
| DECLARATIONS OF CONFORMITY | <a href="#">eaton-reversing-starter-declaration-of-conformity-uk251158en.pdf</a>       |

|                           |                                                                                                                                                                      |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           | <a href="#">eaton-reversing-starter-declaration-of-conformity-eu250675en.pdf</a>                                                                                     |
| DRAWINGS                  | <a href="#">eaton-manual-motor-starters-busbar-msc-r-reversing-starter-dimensions-002.eps</a><br><a href="#">eaton-general-ie-ready-dilm-contactor-standards.eps</a> |
| ECAD MODEL                | <a href="#">ETN.102989.edz</a>                                                                                                                                       |
| INSTALLATION INSTRUCTIONS | <a href="#">IL03402015Z</a><br><a href="#">eaton-reversing-starter-up-to-12a-il03402006z.pdf</a>                                                                     |
| INSTALLATION VIDEOS       | <a href="#">WIN-WIN with push-in technology</a>                                                                                                                      |
| MCAD MODEL                | <a href="#">DA-CS-msc r bba bg1</a><br><a href="#">eaton-motor-starter-mcad-drawings-msc-r-bba-bg1.dwg</a>                                                           |
| SALES NOTES               | <a href="#">eaton-link-module-for-motor-starters-pkz-flyer-fl034003en-en-us.pdf</a>                                                                                  |
| WIRING DIAGRAMS           | <a href="#">eaton-manual-motor-starters-starter-msc-r-reversing-starter-wiring-diagram.eps</a>                                                                       |

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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

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