

# Specifications



Photo is representative



## Eaton 103010

Eaton Moeller® series MSC-R Reversing starter, 380 V 400 V 415 V: 7.5 kW, I<sub>r</sub>= 10 - 16 A, 24 V DC, DC voltage MSC-R-16-M17(24VDC)/BBA

### General specifications

|                     |                                               |
|---------------------|-----------------------------------------------|
| <b>PRODUCT NAME</b> | Eaton Moeller® series MSC-R Reversing starter |
|---------------------|-----------------------------------------------|

|                       |        |
|-----------------------|--------|
| <b>CATALOG NUMBER</b> | 103010 |
|-----------------------|--------|

|                   |                         |
|-------------------|-------------------------|
| <b>MODEL CODE</b> | MSC-R-16-M17(24VDC)/BBA |
|-------------------|-------------------------|

|            |               |
|------------|---------------|
| <b>EAN</b> | 4015081028498 |
|------------|---------------|

|                             |        |
|-----------------------------|--------|
| <b>PRODUCT LENGTH/DEPTH</b> | 200 mm |
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|                       |        |
|-----------------------|--------|
| <b>PRODUCT HEIGHT</b> | 157 mm |
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|                      |       |
|----------------------|-------|
| <b>PRODUCT WIDTH</b> | 90 mm |
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|                       |         |
|-----------------------|---------|
| <b>PRODUCT WEIGHT</b> | 1.93 kg |
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| <b>CERTIFICATIONS</b> | CSA-C22.2 No. 14 (on request)<br>CSA File No.: 012528<br>CSA-C22.2 No. 14-10<br>UL File No.: E123500<br>CE<br>IEC/EN 60947-4-1<br>UL60947-4-1A<br>CSA Class No.: 3211-04<br>UL Category Control No.: NKJH<br>UL 508 (on request)<br>UL<br>CSA |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



Powering Business Worldwide

## 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>            | 9.9 W                                                              |
| <b>HEAT DISSIPATION CAPACITY PDISS</b>                               | 0 W                                                                |
| <b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>             | 3.3 W                                                              |
| <b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b> | 16 A                                                               |
| <b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>            | 0.9 W                                                              |

## Electrical rating

|                                           |        |
|-------------------------------------------|--------|
| <b>RATED OPERATIONAL<br/>CURRENT (IE)</b> | 15.2 A |
|-------------------------------------------|--------|

|                                                                            |      |
|----------------------------------------------------------------------------|------|
| <b>RATED OPERATIONAL<br/>CURRENT (IE) AT AC-3,<br/>380 V, 400 V, 415 V</b> | 16 A |
|----------------------------------------------------------------------------|------|

|                                                                  |      |
|------------------------------------------------------------------|------|
| <b>RATED OPERATIONAL<br/>POWER AT AC-3, 220/230<br/>V, 50 HZ</b> | 4 kW |
|------------------------------------------------------------------|------|

|                                                                  |        |
|------------------------------------------------------------------|--------|
| <b>RATED OPERATIONAL<br/>POWER AT AC-3, 380/400<br/>V, 50 HZ</b> | 7.5 kW |
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|                                      |                |
|--------------------------------------|----------------|
| <b>RATED OPERATIONAL<br/>VOLTAGE</b> | 230 - 415 V AC |
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|                                                                     |                                                     |
|---------------------------------------------------------------------|-----------------------------------------------------|
| <b>SWITCHING CAPACITY<br/>(AUXILIARY CONTACTS,<br/>GENERAL USE)</b> | 1 A, 250 V DC, (UL/CSA)<br>15 A, 600 V AC, (UL/CSA) |
|---------------------------------------------------------------------|-----------------------------------------------------|

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

## Features & functions

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

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

## General information

|                                                         |                                       |
|---------------------------------------------------------|---------------------------------------|
| CLASS                                                   | CLASS 10 A                            |
| CONNECTION                                              | Screw terminals                       |
| CONNECTION TO SMARTWIRE-DT                              | No                                    |
| COORDINATION TYPE                                       | 2                                     |
| DEGREE OF PROTECTION                                    | IP00<br>NEMA Other                    |
| MODEL                                                   | IEC starter                           |
| MOUNTING METHOD                                         | Mounting on Busbar 60 mm              |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) | 0                                     |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)   | 0                                     |
| OVERLOAD RELEASE CURRENT SETTING - MAX                  | 16 A                                  |
| OVERLOAD RELEASE CURRENT SETTING - MIN                  | 10 A                                  |
| OVERVOLTAGE CATEGORY                                    | III                                   |
| POLLUTION DEGREE                                        | 3                                     |
| RATED IMPULSE WITHSTAND VOLTAGE (UIMP)                  | 6000 V AC                             |
| SUITABLE FOR                                            | Also motors with efficiency class IE3 |
| TYPE                                                    | Starter with Bi-Metal release         |
| VOLTAGE TYPE                                            | DC                                    |

## Short-circuit rating

|                                                                           |         |
|---------------------------------------------------------------------------|---------|
| RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ), TYPE 2, 380 V, 400 V, 415 V | 50000 A |
| SHORT-CIRCUIT RELEASE (IRM) - MAX                                         | 248 A   |

## Magnet system

POWER CONSUMPTION (SEALING) AT DC 0.5 W

RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX 24 V

RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN 24 V

## Resources

|            |                                                                                                                                                                            |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BROCHURES  | <a href="#">eaton-motor-starters-system-xstart-brochure-br03407001en-en-us.pdf</a><br><a href="#">eaton-msfs-motor-starter-feeder-system-brochure-br034005en-en-us.pdf</a> |
| CATALOGUES | <a href="#">eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf</a><br><a href="#">Product Range Catalog Switching and protecting motors</a>            |

|                            |                                                                                                                                                                                                                                                               |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DECLARATIONS OF CONFORMITY | <a href="#">eaton-reversing-starter-declaration-of-conformity-uk251160en.pdf</a><br><a href="#">eaton-reversing-starter-declaration-of-conformity-eu250677en.pdf</a>                                                                                          |
| DRAWINGS                   | <a href="#">eaton-manual-motor-starters-busbar-msc-r-reversing-starter-dimensions.eps</a><br><a href="#">eaton-general-ie-ready-dilm-contactor-standards.eps</a><br><a href="#">eaton-manual-motor-starters-busbar-msc-r-reversing-starter-3d-drawing.eps</a> |
| ECAD MODEL                 | <a href="#">ETN.103010.edz</a>                                                                                                                                                                                                                                |
| INSTALLATION INSTRUCTIONS  | <a href="#">IL03402011Z</a> <a href="#">IL03402015Z</a>                                                                                                                                                                                                       |
| INSTALLATION VIDEOS        | <a href="#">WIN-WIN with push-in technology</a>                                                                                                                                                                                                               |
| MCAD MODEL                 | <a href="#">DA-CS-msc r bba bg2</a><br><a href="#">eaton-motor-starter-mcad-drawings-msc-r-bba-bg2.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:



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