

# Specifications



Photo is representative



## Eaton 199610

Eaton Moeller® series MSC-D DOL starter,  
380 V 400 V 415 V: 4 kW, Ir= 6.3 - 10 A, 24 V  
DC, DC voltage MSC-D-10-M11(24VDC)-PI

### General specifications

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| <b>PRODUCT NAME</b>             | Eaton Moeller® series<br>MSC-D DOL starter             |
| <b>CATALOG NUMBER</b>           | 199610                                                 |
| <b>MODEL CODE</b>               | MSC-D-10-M11(24VDC)-PI                                 |
| <b>EAN</b>                      | 4015081983117                                          |
| <b>PRODUCT<br/>LENGTH/DEPTH</b> | 115 mm                                                 |
| <b>PRODUCT HEIGHT</b>           | 214 mm                                                 |
| <b>PRODUCT WIDTH</b>            | 45 mm                                                  |
| <b>PRODUCT WEIGHT</b>           | 0.952 kg                                               |
| <b>CERTIFICATIONS</b>           | VDE 0660<br>IEC/EN 60947-4-1                           |
| <b>CATALOG NOTES</b>            | Also suitable for motors<br>with efficiency class IE3. |



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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.                             |

| Electrical rating                                                  |                |
|--------------------------------------------------------------------|----------------|
| <b>RATED OPERATIONAL CURRENT (IE)</b>                              | 8.5 A          |
| <b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V</b> | 10 A           |
| <b>RATED OPERATIONAL POWER AT AC-3, 220/230 V, 50 HZ</b>           | 2.2 kW         |
| <b>RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ</b>           | 4 kW           |
| <b>RATED OPERATIONAL VOLTAGE</b>                                   | 230 - 415 V AC |

| Features & functions |                                             |
|----------------------|---------------------------------------------|
| <b>FITTED WITH:</b>  | Short-circuit release                       |
| <b>FUNCTIONS</b>     | Temperature compensated overload protection |

## General information

|                                                         |                                       |
|---------------------------------------------------------|---------------------------------------|
| CLASS                                                   | CLASS 10 A                            |
| CONNECTION                                              | Push in terminals                     |
| CONNECTION TO SMARTWIRE-DT                              | No                                    |
| COORDINATION TYPE                                       | 2                                     |
| DEGREE OF PROTECTION                                    | IP20<br>NEMA Other                    |
| MODEL                                                   | IEC/UL starter                        |
| MOUNTING METHOD                                         | DIN rail                              |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) | 0                                     |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)   | 1                                     |
| OVERLOAD RELEASE CURRENT SETTING - MAX                  | 10 A                                  |
| OVERLOAD RELEASE CURRENT SETTING - MIN                  | 6.3 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 | 50 A  |
| SHORT-CIRCUIT RELEASE (IRM) - MAX                                         | 155 A |

## Magnet system

POWER CONSUMPTION (SEALING) AT DC 0.86 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>                                                                                     |
| DECLARATIONS OF CONFORMITY | <a href="#">eaton-dol-starter-declaration-of-conformity-eu250676en.pdf</a>                                                                                                 |

|                           |                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------|
|                           | <a href="#">eaton-dol-starter-declaration-of-conformity-uk251159en.pdf</a>                             |
| DRAWINGS                  | <a href="#">eaton-manual-motor-starters-motortsarter-msc-d-dol-starter-dimensions-002.eps</a>          |
| ECAD MODEL                | <a href="#">ETN.199610.edz</a>                                                                         |
| INSTALLATION INSTRUCTIONS | <a href="#">eaton-push-in-dol-msc-d-up-to-32a-il034097zu.pdf</a>                                       |
| INSTALLATION VIDEOS       | <a href="#">WIN-WIN with push-in technology</a>                                                        |
| MCAD MODEL                | <a href="#">msc_d_bg2_pi.stp</a><br><a href="#">eaton-motor-starter-mcad-drawings-msc-d-bg2-pi.dwg</a> |
| SALES NOTES               | <a href="#">eaton-link-module-for-motor-starters-pkz-flyer-fl034003en-en-us.pdf</a>                    |

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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