



## DOL starter, 3p, 7.5kW/400V/AC3, 50kA

**Part no.** MSC-D-16-M15(24VDC)  
**Catalog No.** 100415  
**Alternate Catalog No.** XTSC016B015BTNDL  
**EL-Nummer (Norway)** 4315109

Powering Business Worldwide™

## Delivery program

|  |  |    |         |
|--|--|----|---------|
| Basic function   | DOL starters (complete devices)                    |    |         |
| Basic device   | MSC  |    |         |
| Notes  | Not suitable for motors with efficiency class IE3. |    |         |
| Connection to SmartWire-DT   | no   |    |         |
| <b>Motor ratings</b>   |  |    |         |
| Motor rating   |  |    |         |
| AC-3   |  |    |         |
| 380 V 400 V 415 V  | P  | kW | 7.5     |
| Rated operational current  |  |    |         |
| AC-3   |  |    |         |
| 380 V 400 V 415 V  | $I_e$  | A  | 15.2    |
| Rated short-circuit current 380 - 415 V  | $I_q$  | kA | 50      |
| <b>Setting range</b>   |  |    |         |
| Setting range of overload releases   | $I_r$  | A  | 10 - 16 |
|  |  |    |         |
| Coordination   | Type of coordination "1"                           |    |         |
| Contact sequence   |  |    |         |
| Actuating voltage  | 24 V DC  |    |         |
|  | DC   |    |         |
| <b>Motor-protective circuit-breakers PKZM0-16</b>  |  |    |         |
| Contactor DILM15-10(...)   |  |    |         |
| <b>DOL starter wiring set</b>  |  |    |         |
| Mechanical connection element and electrical electric contact module PKZM0-XDM12   |  |    |         |
| <b>Notes</b>   |  |    |         |
| BK25/3-PKZ0-E extension terminal and if necessary B3.../...-PKZ0 three-phase commoning link can be added to motor-starter combinations to make Type F starters in accordance with UL508. |  |    |         |
| <b>Notes</b>   |  |    |         |
| The DOL starters (complete units) consist of a PKZM0 motor protective circuit breaker and a DILM contactor.  |  |    |         |

With the adapter-less top-hat rail mounting of starters up to 15 A, only the motor protective circuit breaker on the top-hat rail requires an adapter. The contactors are provided with mechanical support via a mechanical connection element.

Control wire guide with max. 6 conductors up to 2.5 mm external diameter or 4 conductors up to 3.5 mm external diameter.

The connection of the main circuit between PKZ and contactor is established with electrical contact modules.

When using the auxiliary contacts DILA-XHIT... (→ 101042) the plug-in electrical connector can be removed without the removal of the front mounting auxiliary contact.

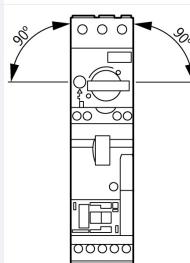
## Technical data

### General

Standards

Mounting position

IEC/EN 60947-4-1, VDE 0660



### Main conducting paths

|                                       |           |      |           |
|---------------------------------------|-----------|------|-----------|
| Rated impulse withstand voltage       | $U_{imp}$ | V AC | 6000      |
| Overvoltage category/pollution degree |           |      | III/3     |
| Rated operational voltage             | $U_e$     | V    | 230 - 415 |
| Rated operational current             |           |      |           |
| Open, 3-pole: 50 – 60 Hz              |           |      |           |
| 380 V 400 V                           | $I_e$     | A    | 15        |

### Additional technical data

|   |   |  |
|---|---|--|
| Motor protective circuit breaker PKZM0, PKE |   | PKZM0 motor-protective circuit-breakers, see motor-protective circuit-breakers/<br>PKZM0 product group |
| DILM contactors                             |   | DILM contactors, see contactor product group   |
| Current heat loss                           |   | DILET timing relay, ETR, see contactors, electronic timing relays product group                        |
| Current heat loss at $I_e$ to AC-3/400 V    | W | 12   |

### Power consumption

|             |         |   |     |
|-------------|---------|---|-----|
| DC operated | Sealing | W | 2.6 |
|-------------|---------|---|-----|

### Rating data for approved types

|                    |   |      |  |
|--------------------|---|------|--|
| Auxiliary contacts |   |      |  |
| Pilot Duty         |   |      |  |
| AC operated        |   | A600 |  |
| DC operated        |   | P300 |  |
| General Use        |   |      |  |
| AC                 | V | 600  |  |
| AC                 | A | 15   |  |
| DC                 | V | 250  |  |
| DC                 | A | 1    |  |

## Design verification as per IEC/EN 61439

|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification                   |            |    |  |
| Rated operational current for specified heat dissipation | $I_n$      | A  | 15.5                                       |
| Heat dissipation per pole, current-dependent             | $P_{vid}$  | W  | 4  |
| Equipment heat dissipation, current-dependent            | $P_{vid}$  | W  | 12   |
| Static heat dissipation, non-current-dependent           | $P_{vs}$   | W  | 2.6  |
| Heat dissipation capacity                                | $P_{diss}$ | W  | 0  |
| Operating ambient temperature min.                       |            | °C | -25  |
| Operating ambient temperature max.                       |            | °C | 55   |
| IEC/EN 61439 design verification                         |            |    |  |
| 10.2 Strength of materials and parts                     |            |    | Meets the product standard's requirements. |
| 10.2.2 Corrosion resistance                              |            |    | Meets the product standard's requirements. |
| 10.2.3.1 Verification of thermal stability of enclosures |            |    | Meets the product standard's requirements. |

|  |  |
|--|--|
| 10.2.3.2 Verification of resistance of insulating materials to normal heat   | Meets the product standard's requirements.   |
| 10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects | Meets the product standard's requirements.   |
| 10.2.4 Resistance to ultra-violet (UV) radiation   | Meets the product standard's requirements.   |
| 10.2.5 Lifting   | Does not apply, since the entire switchgear needs to be evaluated.   |
| 10.2.6 Mechanical impact   | Does not apply, since the entire switchgear needs to be evaluated.   |
| 10.2.7 Inscriptions  | Meets the product standard's requirements.   |
| 10.3 Degree of protection of ASSEMBLIES  | Does not apply, since the entire switchgear needs to be evaluated.   |
| 10.4 Clearances and creepage distances   | Meets the product standard's requirements.   |
| 10.5 Protection against electric shock   | Does not apply, since the entire switchgear needs to be evaluated.   |
| 10.6 Incorporation of switching devices and components   | Does not apply, since the entire switchgear needs to be evaluated.   |
| 10.7 Internal electrical circuits and connections  | Is the panel builder's responsibility.   |
| 10.8 Connections for external conductors   | Is the panel builder's responsibility.   |
| 10.9 Insulation properties   |  |
| 10.9.2 Power-frequency electric strength   | Is the panel builder's responsibility.   |
| 10.9.3 Impulse withstand voltage   | Is the panel builder's responsibility.   |
| 10.9.4 Testing of enclosures made of insulating material   | Is the panel builder's responsibility.   |
| 10.10 Temperature rise   | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| 10.11 Short-circuit rating   | Is the panel builder's responsibility. The specifications for the switchgear must be observed.                                   |
| 10.12 Electromagnetic compatibility  | Is the panel builder's responsibility. The specifications for the switchgear must be observed.                                   |
| 10.13 Mechanical function  | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.                         |

## Technical data ETIM 7.0

Low-voltage industrial components (EG000017) / Motor starter/Motor starter combination (EC001037)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Load breakout, motor breakout / Motor starter combination (ecl@ss10.0.1-27-37-09-05 [AJZ718013])

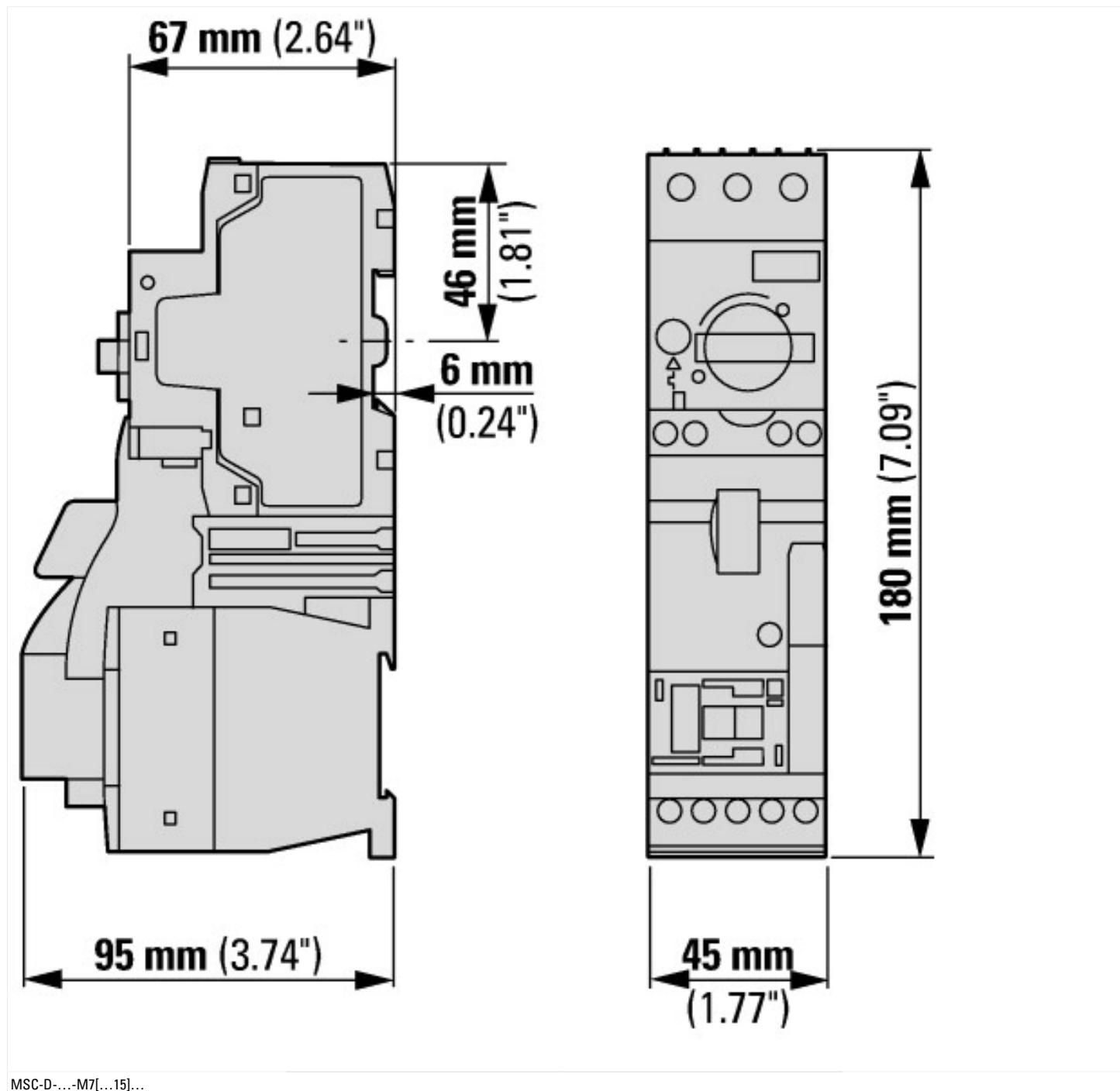
|  |                  |         |
|--|------------------|---------|
| Kind of motor starter  | Direct starter   |         |
| With short-circuit release   | Yes              |         |
| Rated control supply voltage Us at AC 50HZ                               | V                | 0 - 0   |
| Rated control supply voltage Us at AC 60HZ                               | V                | 0 - 0   |
| Rated control supply voltage Us at DC                                    | V                | 24 - 24 |
| Voltage type for actuating   | DC               |         |
| Voltage type for actuating   | DC               |         |
| Rated operation power at AC-3, 230 V, 3-phase                            | kW               | 4       |
| Rated operation power at AC-3, 400 V                                     | kW               | 7.5     |
| Rated power, 460 V, 60 Hz, 3-phase                                       | kW               | 0       |
| Rated power, 575 V, 60 Hz, 3-phase                                       | kW               | 0       |
| Rated operation current Ie   | A                | 15.2    |
| Rated operation current at AC-3, 400 V                                   | A                | 15      |
| Overload release current setting   | A                | 10 - 16 |
| Rated conditional short-circuit current, type 1, 480 Y/277 V             | A                | 0       |
| Rated conditional short-circuit current, type 1, 600 Y/347 V             | A                | 0       |
| Rated conditional short-circuit current, type 2, 230 V                   | A                | 0       |
| Rated conditional short-circuit current, type 2, 400 V                   | A                | 0       |
| Number of auxiliary contacts as normally open contact                    | 1                |         |
| Number of auxiliary contacts as normally closed contact                  | 0                |         |
| Ambient temperature, upper operating limit                               | °C               | 60      |
| Temperature compensated overload protection                              | Yes              |         |
| Release class  | CLASS 10         |         |
| Type of electrical connection of main circuit                            | Screw connection |         |
| Type of electrical connection for auxiliary- and control current circuit | Screw connection |         |
| Rail mounting possible   | Yes              |         |
| With transformer   | No               |         |
| Number of command positions  | 0                |         |

|   |    |         |
|---|----|---------|
| Suitable for emergency stop                         |    | No      |
| Coordination class according to IEC 60947-4-3       |    | Class 1 |
| Number of indicator lights                          |    | 0       |
| External reset possible                             |    | No      |
| With fuse   |    | No      |
| Degree of protection (IP)                           |    | IP20    |
| Degree of protection (NEMA)                         |    | Other   |
| Supporting protocol for TCP/IP                      |    | No      |
| Supporting protocol for PROFIBUS                    |    | No      |
| Supporting protocol for CAN                         |    | No      |
| Supporting protocol for INTERBUS                    |    | No      |
| Supporting protocol for ASI                         |    | No      |
| Supporting protocol for MODBUS                      |    | No      |
| Supporting protocol for Data-Highway                |    | No      |
| Supporting protocol for DeviceNet                   |    | No      |
| Supporting protocol for SUCONET                     |    | No      |
| Supporting protocol for LON                         |    | No      |
| Supporting protocol for PROFINET IO                 |    | No      |
| Supporting protocol for PROFINET CBA                |    | No      |
| Supporting protocol for SERCOS                      |    | No      |
| Supporting protocol for Foundation Fieldbus         |    | No      |
| Supporting protocol for EtherNet/IP                 |    | No      |
| Supporting protocol for AS-Interface Safety at Work |    | No      |
| Supporting protocol for DeviceNet Safety            |    | No      |
| Supporting protocol for INTERBUS-Safety             |    | No      |
| Supporting protocol for PROFIsafe                   |    | No      |
| Supporting protocol for SafetyBUS p                 |    | No      |
| Supporting protocol for other bus systems           |    | No      |
| Width   | mm | 45      |
| Height  | mm | 180     |
| Depth   | mm | 95      |

## Approvals

|                                      |  |  |
|--------------------------------------|--|--|
| Product Standards                    |  | IEC/EN 60947-4-1; UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CE marking |
| UL File No.                          |  | E36332   |
| UL Category Control No.              |  | NLRV   |
| CSA File No.                         |  | 12528  |
| CSA Class No.                        |  | 3211-24  |
| North America Certification          |  | UL listed, CSA certified   |
| Specially designed for North America |  | No   |

## Dimensions



MSC-D-...-M7[...15]...

## Assets (links)

### Declaration of CE Conformity

00002885

### Instruction Leaflets

IL034038ZU2018\_06