

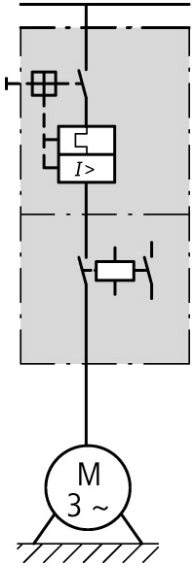




**DOL starter, 380 V 400 V 415 V: 2.2 kW, I<sub>r</sub>= 4 - 6.3 A, 230 V 50 Hz, 240 V 60 Hz, AC voltage**

**Part no. MSC-D-6,3-M7(230V50HZ)**  
**Catalog No. 283145**  
**Alternate Catalog XTSC6P3B007BFNL**  
**No.**  
**EL-Nummer 4365029**  
**(Norway)**

**Delivery program**

|  |   |    |         |  |
|--|---|----|---------|--|
| Basic function                                     |   |    |         | DOL starters (complete devices)  |
| Basic device                                       |   |    |         | MSC  |
|  |   |    |         |                                    |
| Notes  |   |    |         | Also suitable for motors with efficiency class IE3. IE3-ready devices are identified by the logo on their packaging. |
| Connection technique                               |   |    |         | Screw terminals  |
| Connection to SmartWire-DT                         |   |    |         | no   |
| <b>Motor ratings</b>                               |   |    |         |  |
| Motor rating                                       |   |    |         |  |
| AC-3   |   |    |         |  |
| 380 V 400 V 415 V                                  | P   | kW | 2.2     |  |
| Rated operational current                          |   |    |         |  |
| AC-3   |   |    |         |  |
| 380 V 400 V 415 V                                  | I <sub>e</sub>  | A  | 5       |  |
| Rated short-circuit current 380 - 415 V            | I <sub>q</sub>  | kA | 150     |  |
| <b>Setting range</b>                               |   |    |         |  |
| Setting range of overload releases                 | I <sub>r</sub>  | A  | 4 - 6.3 |  |
|  |  |    |         |  |
| Coordination                                       |   |    |         | Type of coordination "1"<br>Type of coordination "2"   |
| Contact sequence                                   |   |    |         |                                  |
| Actuating voltage                                  |   |    |         | 230 V 50 Hz, 240 V 60 Hz<br>AC voltage   |
| <b>Motor-protective circuit-breakers PKZM0-6,3</b> |   |    |         |  |
| <b>Contactors DILM7-10(...)</b>                    |   |    |         |  |

## DOL starter wiring set

Mechanical connection element and electrical electric contact module PKZM0-XDM12

### Notes

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.

### Notes

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.

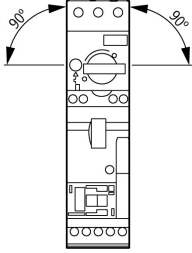
Control wire guide with max. 6 conductors up to 2.5 mm external diameter or 4 conductors up to 3.5 mm external diameter.

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           |  |   | IEC/EN 60947-4-1, VDE 0660   |
| Mounting position   |  |   |  |
| Altitude            |  | m | Max. 2000  |
| Ambient temperature |  |   | -25 - +55  |

### 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    | 6.3       |

### Additional technical data

|  |         |   |   |
|--|---------|---|---|
| Motor protective circuit breaker PKZM0, PKE                        |         |   | PKZM0 motor-protective circuit-breakers, see motor-protective circuit-breakers/<br>PKZM0 product group<br>DILM contactors, see contactor product group<br>DILET timing relay, ETR, see contactors, electronic timing relays product group |
| DILM contactors  |         |   |   |
| Current heat loss  |         |   |   |
| Current heat loss at $I_e$ to AC-3/400 V                           |         | W | 6.6   |
| Power consumption of the coil in a cold state and $1.0 \times U_S$ |         |   |   |
| Dual-voltage coil 50 Hz  | Sealing | W | 1.4   |

### 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            |
| Short Circuit Current Rating |  | SCCR |              |
| 600 V High Fault             |  |      |              |
| SCCR (fuse)                  |  | kA   | 100          |
| max. Fuse                    |  | A    | 3 Class J/CC |

## Design verification as per IEC/EN 61439

| Technical data for design verification   |            |    |  |
|--|------------|----|--|
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 6.3  |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 2.2  |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 6.6  |
| Static heat dissipation, non-current-dependent   | $P_{vs}$   | W  | 1.4  |
| 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   |            |    |  |
| 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

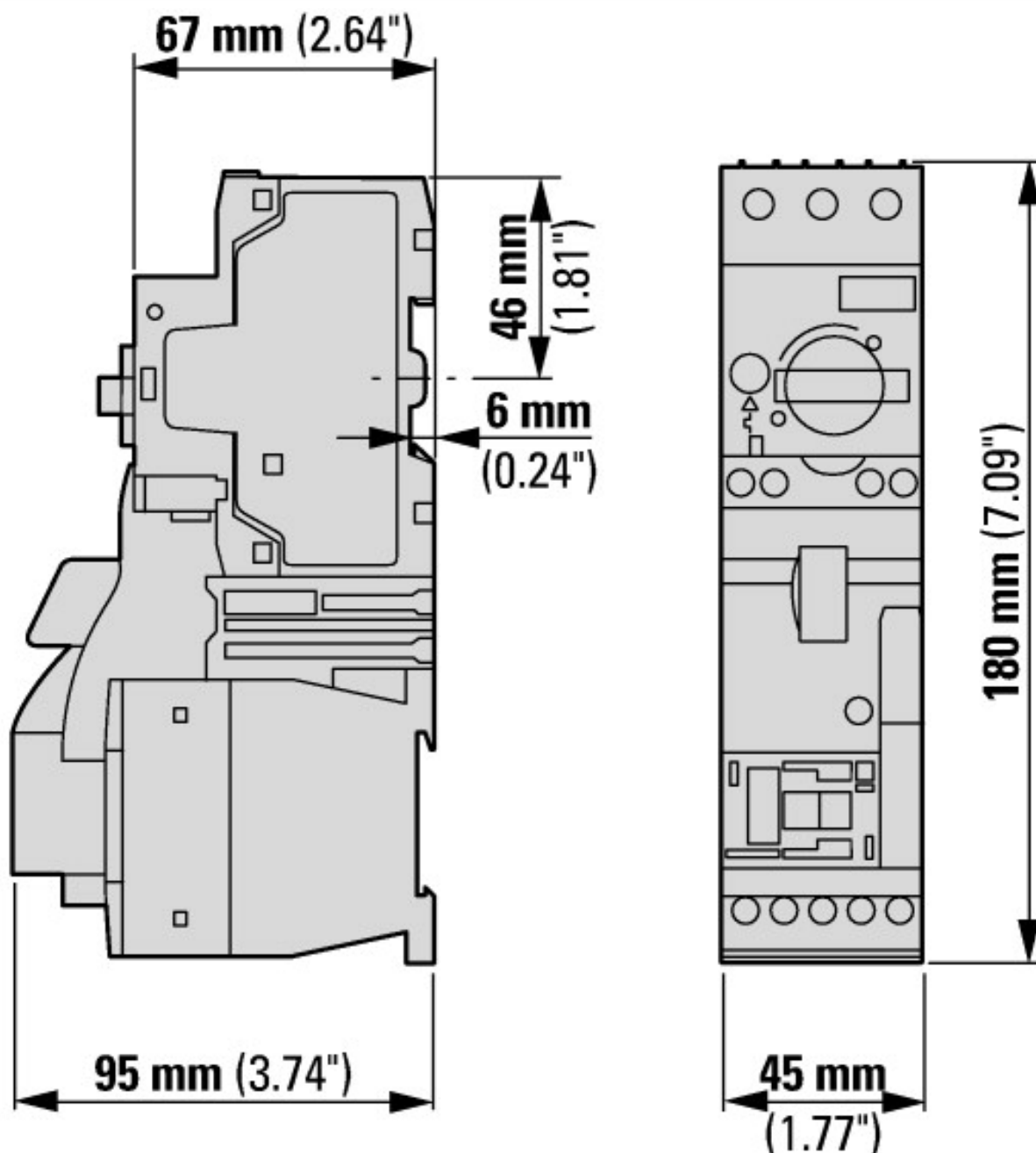
| Low-voltage industrial components (EG000017) / Motor starter/Motor starter combination (EC001037)  |  |    |                |
|--|--|----|----------------|
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Load breakout, motor breakout / Motor starter 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 $U_s$ at AC 50HZ  |  | V  | 230 - 230      |
| Rated control supply voltage $U_s$ at AC 60HZ  |  | V  | 0 - 0          |
| Rated control supply voltage $U_s$ at DC   |  | V  | 0 - 0          |
| Voltage type for actuating   |  |    | AC             |
| Rated operation power at AC-3, 230 V, 3-phase  |  | kW | 1.5            |
| Rated operation power at AC-3, 400 V   |  | kW | 2.2            |
| Rated power, 460 V, 60 Hz, 3-phase   |  | kW | 0              |
| Rated power, 575 V, 60 Hz, 3-phase   |  | kW | 0              |
| Rated operation current $I_e$  |  | A  | 5              |
| Rated operation current at AC-3, 400 V   |  | A  | 6.3            |
| Overload release current setting   |  | A  | 6.3 - 6.3      |
| Rated conditional short-circuit current, type 1, 480 V/277 V   |  | A  | 0              |

|  |    |                  |
|--|----|------------------|
| Rated conditional short-circuit current, type 1, 600 V/347 V             | A  | 0                |
| Rated conditional short-circuit current, type 2, 230 V                   | A  | 50               |
| Rated conditional short-circuit current, type 2, 400 V                   | A  | 50               |
| 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 A       |
| 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 2          |
| 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]...

## Additional product information (links)

### IL034038ZU (AWA1210-2246) Direct-on-line starter up to 15 A

|  |   |
|--|---|
| IL034038ZU (AWA1210-2246) Direct-on-line starter up to 15 A                | <a href="https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL034038ZU2018_06.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL034038ZU2018_06.pdf</a>                                 |
| Motor starters and "Special Purpose Ratings" for the North American market | <a href="http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.pdf">http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.pdf</a> |
| Busbar Component Adapters for modern Industrial control panels             | <a href="http://www.moeller.net/binary/ver_techpapers/ver960en.pdf">http://www.moeller.net/binary/ver_techpapers/ver960en.pdf</a>   |
| Moeller_Online Selections Aids   | <a href="http://www.moeller.net/en/support/slider/index.jsp">http://www.moeller.net/en/support/slider/index.jsp</a>   |