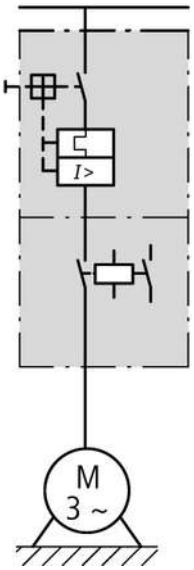
# DATASHEET - MSC-D-0,25-M7(24V50HZ)



**DOL starter, 380 V 400 V 415 V: 0.06 kW, Ir= 0.16 - 0.25 A, 24 V 50 Hz, AC**

| | |
|---|---|
| **Part no.** | **MSC-D-0,25-M7(24V50HZ)** |
| **Catalog No.** | **115937** |
| **Alternate Catalog No.** | **XTSCP25B007BUNL** |

## Delivery program

| | | | |
|---|---|---|---|
| Basic function | | | DOL starters (complete devices) |
| Basic device | | | MSC |
| | | | IE3 |
| Notes | | | Also suitable for motors with efficiency class IE3. |
| Connection technique | | | Screw terminals |
| Connection to SmartWire-DT | | | no |
| **Motor ratings** | | | |
| Motor rating | | | |
| AC-3 | | | |
| 380 V 400 V 415 V | P | kW | 0.06 |
| Rated operational current | | | |
| AC-3 | | | |
| 380 V 400 V 415 V | $I_e$ | A | 0.21 |
| **Setting range** | | | |
| Setting range of overload releases | $I_r$ | A | 0.16 - 0.25 |
| Coordination | | | Type of coordination “1”<br>Type of coordination “2” |
| Contact sequence | | |  |
| Actuating voltage | | | 24 V 50 Hz |
| | | | AC |

**Motor-protective circuit-breakers** PKZM0-0,25

**Contactor** DILM7-10(...)

**DOL starter wiring set**
Mechanical connection element and electrical electric contact module PKZM0-XDM12

**Notes**

The DOL starter (complete device) consists 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.

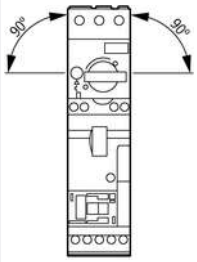
From 16 A, the motor protective circuit breaker and contactor are mounted on the top hat rail adapter plate.

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 | 0.25 |

## Additional technical data

| | | | |
|---|---|---|---|
| Motor protective circuit breaker PKZM0, PKE | | | PKZM0 motor-protective circuit-breakers, see motor-protective circuit-breakers/ 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 | 5.7 |
| Power consumption of the coil in a cold state and 1.0 x $U_S$ | | | |
| Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 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 |

# Design verification as per IEC/EN 61439

| | | | |
|---|---|---|---|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | $I_n$ | A | 0.25 |
| Heat dissipation per pole, current-dependent | $P_{vid}$ | W | 1.9 |
| Equipment heat dissipation, current-dependent | $P_{vid}$ | W | 5.7 |
| 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 8.0

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])

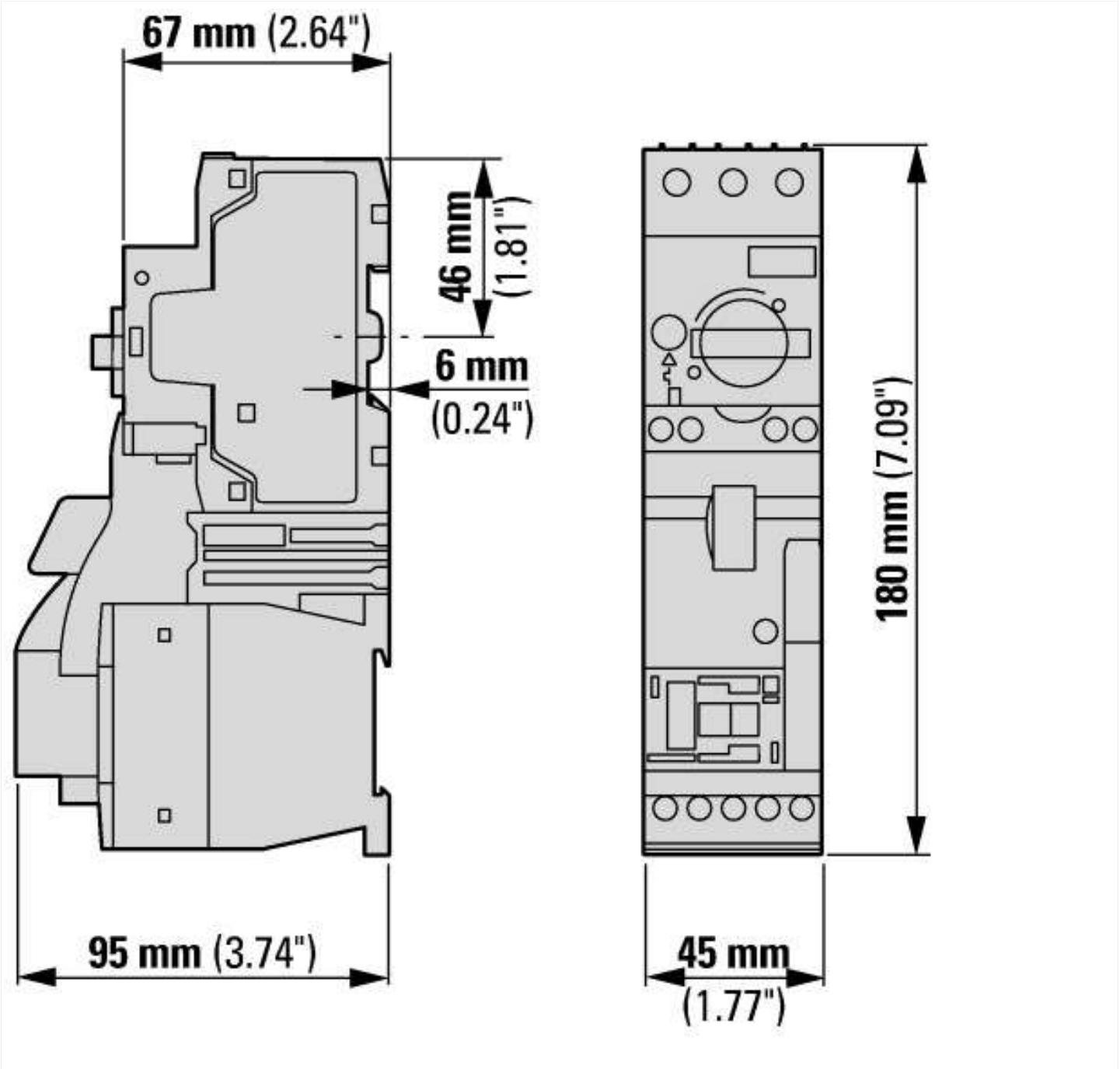
| | | |
|---|---|---|
| Type of motor starter | | Direct online starter (DOL) |
| With short-circuit release | | Yes |
| Rated control supply voltage Us at AC 50HZ | V | 24 - 24 |
| Rated control supply voltage Us at AC 60HZ | V | 0 - 0 |
| Rated control supply voltage Us at DC | V | 0 - 0 |
| Voltage type for actuating | | AC |
| Rated operation power at AC-3, 230 V, 3-phase | kW | 0.04 |
| Rated operation power at AC-3, 400 V | kW | 0.06 |
| 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 | 0.21 |
| Rated operation current at AC-3, 400 V | A | 0.25 |
| Overload release current setting | A | 0.16 - 0.25 |
| 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 | 50000 |
| Rated conditional short-circuit current, type 2, 400 V | A | 50000 |
| Number of auxiliary contacts as normally open contact | | 1 |
| Number of auxiliary contacts as normally closed contact | | 0 |
| Ambient temperature, upper operating limit | °C | 55 |
| 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 | | UL60947-4-1A; CSA-C22.2 No. 14-10; IEC60947-4-1; CE marking |
| UL File No. | | E123500 |
| UL Category Control No. | | NKJH |
| CSA File No. | | 12528 |
| CSA Class No. | | 3211-24 |
| North America Certification | | UL listed, CSA certified |
| Specially designed for North America | | No |

## Dimensions




## 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 | https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL034038ZU2021_09.pdf |
| Motor starters and "Special Purpose Ratings" for the North American market | http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.pdf |
| Busbar Component Adapters for modern Industrial control panels | http://www.moeller.net/binary/ver_techpapers/ver960en.pdf |
| Moeller_Online Selections Aids | http://www.moeller.net/en/support/slider/index.jsp |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