



# MSC-DE-12-M17(230V50HZ)

Overview

Specifications

Resources







# **DELIVERY PROGRAM**

Delivery program

Technical data

Basic function

DOL starters (complete devices)

Design verification as per IEC/EN 61439

Basic device MSC

Technical data ETIM 7.0



Dimensions

Notes

Also suitable for motors with efficiency class IE3.

Connection technique Screw terminals

Connection to SmartWire-DT no

**Motor ratings** 

Motor rating [P] AC-3 380 V 400 V 415 V [P] 5.5 kW

Motor rating [P] AC-3 500 V [P] 5.5 kW

Rated operational current AC-3 380 V 400 V 415 V [le] 11.3 A

Rated operational current AC-3 500 V [l<sub>e</sub>] 9 A

Rated short-circuit current 380 - 415 V [Iq ] 100 kA

Rated conditional short-circuit current 500 V [Iq ] 50 kA

## **Setting range**

Setting range of overload releases [I,] 3 - 12 A

Coordination
Type of coordination "1"
Type of coordination "2"

Contact sequence



Actuating voltage 230 V 50 Hz, 240 V 60 Hz

**AC** voltage

#### Motor-protective circuit-breakers

PKE12/XTU-12 Type

#### Contactor

DILM17-10(...) Part no.

#### DOL starter wiring set

Mechanical connection element and electrical electric contact module PKZM0-XDM32 Type

#### Notes

The DOL starter (complete devices) consists of a PKE 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 PKE and contactor is established with electrical contact modules.

When using DILA-XHIT... auxiliary contacts with MSC-DE-... DOL starters, the plug-in electrical connectors can be removed without removing the front-mounted auxiliary contact.

Cannot be combined with NH-E..PKZ0-C.

MSC-DEA... DOL starters are prepared for communications via SmartWire-DT. In order to be used this way, they first need to be expanded with the PKE-SWD-32 communications module.

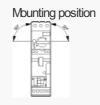
Motor output/rated motor current

Motor rating	Rated motor current						
AC 3	; <u>-</u>						
	220 V 230 V 240 V	380 V 400 V	415 V	440 V	500 V	500 V with CL- PKZ0	660 V 690 V
D	I <sub>q</sub> = 100 kA	I <sub>q</sub> =100 kA I	I <sub>q</sub> = 65 kA I	I <sub>q</sub> = 65 kA I	I <sub>q</sub> = 50 kA I	I <sub>q</sub> = 100 kA I	I <sub>q</sub> = 3 kA I
Р	•	•	•	•	•	•	•
kW	Α	Α	Α	Α	Α	Α	Α

# **TECHNICAL DATA**

## **General**

Standards IEC/EN 60947-4-1, VDE 0660



Ambient temperature -25 - +55

## Main conducting paths

Rated impulse withstand voltage [ $U_{mp}$ ] 6000 V AC

Overvoltage category/pollution degree III/3

Rated operational voltage  $[U_e]$  230 - 415 V

Rated operational current Open, 3-pole: 50 – 60 Hz 380 V 400 V [l<sub>e</sub>] 12 A

AC-4 cycle operation Mnimum current flow times 500 (Class 5) 700 (Class 10) 900 (Class 15) 1000 (Class 20) ms

AC-4 cycle operation Mnimum cut-out periods 500 ms

AC-4 cycle operation
Note
In AC-4 cycle operation, going below the minimum current flow time can cause overheating of the load (motor).
For all combinations with an SWD activation, you need not adhere to the minimum current flow times and minimum cut-out periods. ms

## Additional technical data

Motor protective circuit breaker PKZM0, PKE PKZM0 motor-protective circuit-breakers, see motor-protective circuit-breakers/PKZM0 product group DILM contactors, see contactor product group DILET timing relay, ETR, see contactors, electronic timing relays product group

DILM contactors Current heat loss Current heat loss at I<sub>e</sub> to AC-3/400 V 4.2 W

DILM contactors

Power consumption of the coil in a cold state and 1.0 x  $U_S$  Dual-voltage coil 50 Hz [Sealing] 2.1 W

## Rating data for approved types

Short Circuit Current Rating 600 V High Fault SCOR (fuse) 100 kA

Short Circuit Current Rating 600 V High Fault max. Fuse 60 Class J A

## **DESIGN VERIFICATION AS PER IEC/EN 61439**

## Technical data for design verification

Rated operational current for specified heat dissipation  $[I_n]$  12 A

Heat dissipation per pole, current-dependent [ $P_{id}$ ] 1.4 W

Equipment heat dissipation, current-dependent  $[P_{\text{vid}}]$  4.2 W

Static heat dissipation, non-current-dependent [ $P_{\text{NS}}$ ] 2.1 W

Heat dissipation capacity [P<sub>diss</sub>] 0 W

Operating ambient temperature min.  $-25 \, ^{\circ}\mathrm{C}$ 

Operating ambient temperature max. +55 °C

#### IEC/EN 61439 design verification

10.2 Strength of materials and parts10.2.2 Corrosion resistanceMeets the product standard's requirements.

10.2 Strength of materials and parts10.2.3.1 Verification of thermal stability of enclosuresMeets the product standard's requirements.

10.2 Strength of materials and parts10.2.3.2 Verification of resistance of insulating materials to normal heatMeets the product standard's requirements.

10.2 Strength of materials and parts
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 Strength of materials and parts 10.2.4 Resistance to ultra-violet (UV) radiation Weets the product standard's requirements.

10.2 Strength of materials and parts10.2.5 LiftingDoes not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts
10.2.6 Mechanical impact
Does not apply, since the entire switchgear needs
to be evaluated.

10.2 Strength of materials and parts10.2.7 InscriptionsMeets the product standard's requirements.

10.3 Degree of protection of ASSEVBLIES Does not apply, since the entire switchgear needs to be evaluated.

10.4 Clearances and creepage distances Meets the product standard's requirements. 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 Insulation properties 10.9.3 Impulse withstand voltage Is the panel builder's responsibility.

10.9 Insulation properties10.9.4 Testing of enclosures made of insulating materialIs 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.

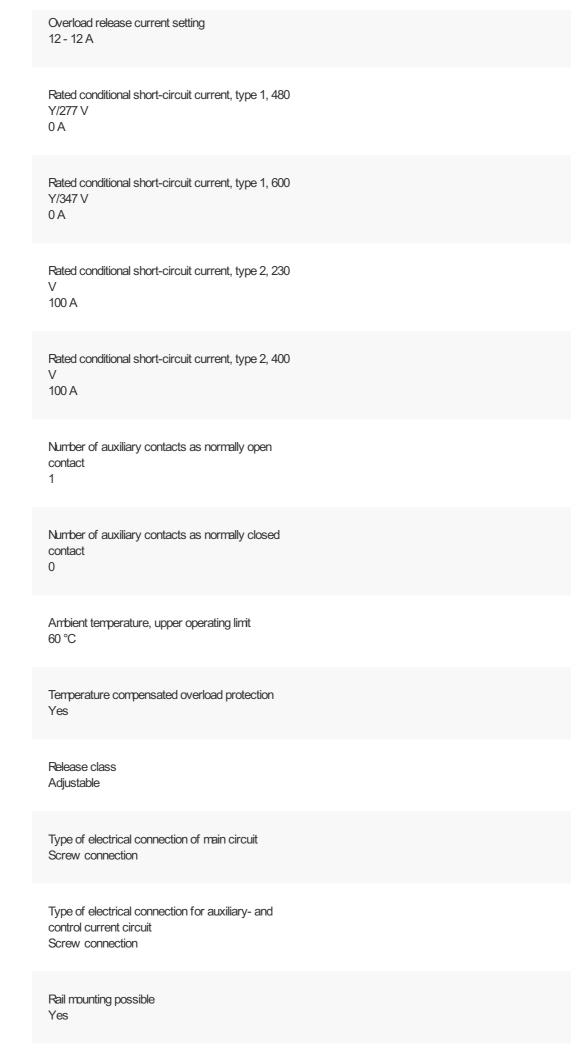
10.13 Mechanical function
The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

## **TECHNICAL DATA ETIM 7.0**

Low-voltage industrial components (EG000017) / Motor starter/Motor starter combination (EC001037) Bectric 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 230 - 230 V Rated control supply voltage Us at AC 60HZ 0-0V Rated control supply voltage Us at DC 0 - 0 VVoltage type for actuating AC Rated operation power at AC-3, 230 V, 3-phase 3 kW Rated operation power at AC-3, 400 V 5.5 kW Rated power, 460 V, 60 Hz, 3-phase 0 kW Rated power, 575 V, 60 Hz, 3-phase 0 kW Rated operation current le 11.3 A

Rated operation current at AC-3, 400 V

12 A



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 (NEVA) 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
45 mm

Height
242 mm

Depth
128 mm

# **DIMENSIONS**









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