



101047 MSC-D-10-M17(24VDC)

Overview

Specifications

Resources







Delivery program

Technical data

Design verification as per IEC/EN 61439

Technical data ETIM 7.0

Approvals

Dimensions

**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 [P] AC-3 380 V 400 V 415 V [P] 3 4 kW

Rated operational current AC-3 380 V 400 V 415 V [I<sub>e</sub>] 6.6 8.5 A

Rated short-circuit current 380 - 415 V [Iq ] 50 kA

### **Setting range**

Setting range of overload releases  $\[\[\]\]$  6.3 - 10 A

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

### Contact sequence



Actuating voltage 24 V DC

DC

Motor-protective circuit-breakers PKZM0-10 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 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.

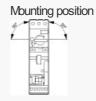
The connection of the main circuit between PKZ and contactor is established with electrical contact modules.

When using the auxiliary contacts DILA-XHT... ( $\square$  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



Ambient temperature -25 - +55

### Main conducting paths

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

Overvoltage category/pollution degree

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>] 10 A

#### Additional technical data

Motor protective circuit breaker PKZMO, PKE PKZMO motor-protective circuit-breakers, see motor-protective circuit-breakers/PKZMO 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

7.8 W

### **Power consumption**

DC operated [Sealing] 0.86 W

### Rating data for approved types

Auxiliary contacts Filot Duty AC operated A600

Auxiliary contacts Filot Duty DC operated P300

Auxiliary contacts General Use AC 600 V Auxiliary contacts
General Use
AC
15 A

Auxiliary contacts
General Use
DC
250 V

Auxiliary contacts General Use DC 1 A

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

### Technical data for design verification

Rated operational current for specified heat dissipation  $\left[I_{n}\right]$  10 A

Heat dissipation per pole, current-dependent  $[P_{iid}] \ 2.6 \ W$ 

Equipment heat dissipation, current-dependent  $[P_{\text{id}}] \\ 7.8 \, \text{W}$ 

Heat dissipation capacity  $[P_{\text{diss}}]$  0 W

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

Operating ambient temperature max. +55  $^{\circ}\text{C}$ 

### IEC/EN 61439 design verification

10.2 Strength of materials and parts10.2.2 Corrosion resistanceWeets 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 parts10.2.6 Mechanical impactDoes 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.

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 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.

Low-voltage industrial components (EG000017) / Motor starter/Votor 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 0 - 0 V  $\,$ 

Rated control supply voltage Us at AC 60HZ 0 - 0 V  $\,$ 

Rated control supply voltage Us at DC 24 - 24 V

Voltage type for actuating DC

Rated operation power at AC-3, 230 V, 3-phase 2.2 kW

Rated operation power at AC-3, 400 V 4 kW

Rated power, 460 V, 60 Hz, 3-phase 0 kW

Rated power, 575 V, 60 Hz, 3-phase 0 kW

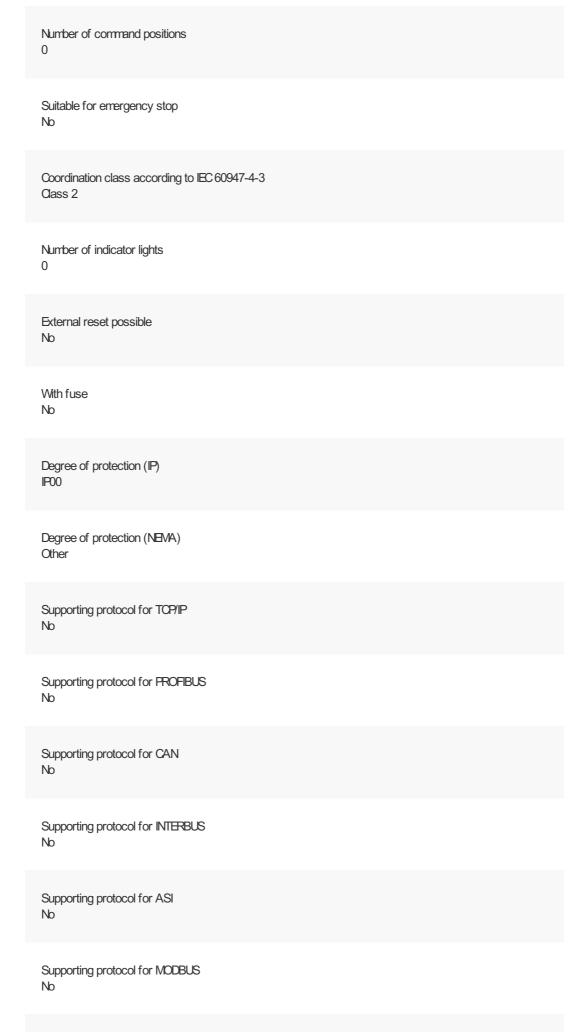
Rated operation current le 8.5 A

Rated operation current at AC-3, 400 V 10 A

Overload release current setting 10 - 10 A

Rated conditional short-circuit current, type 1, 480 Y/277 V 0 A Rated conditional short-circuit current, type 1, 600 Y/347 V 0 A Rated conditional short-circuit current, type 2, 230 50 A Rated conditional short-circuit current, type 2, 400 50 A Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally closed contact Ambient temperature, upper operating limit 60 °C 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



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 228 mm	
Depth 123.4 mm	
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-...-M17[...32]...







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