DATASHEET - MSC-DE-1,2-M7(24VDC)

DOL starter, 380 V 400 V 415 V: 0.37 kW, Iq= 100 kA, Ir= 0.3 - 1.2 A, 24 V DC, DC voltage

Powering Business Worldwide™

Part no.	**MSC-DE-1,2-M7(24VDC)**
Catalog No.	**121736**
Alternate Catalog No.	**XTSE1P2B007BTDNL**
EL-Nummer (Norway)	**4315115**

Delivery program

Basic function			DOL starters (complete devices)
Basic device			MSC
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	0.37
Rated operational current			
AC-3			
380 V 400 V 415 V	I_e	A	1.1
Rated short-circuit current 380 - 415 V	I_q	kA	100
Setting range			
Setting range of overload releases	I_r	A	0.3 - 1.2
Coordination			Type of coordination “1”
Actuating voltage			24 V DC
			DC voltage

Motor-protective circuit-breakers PKE12/XTU-1,2

Contactor DILM7-10(...)

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

Notes

The DOL starters (complete units) consist 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.

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 NHI-E…PKZ0-C.

The MSC-DEA... DOL starters are prepared for communication via SmartWire-DT. For this, the PKE-SWD-32 communication module must be added.

Motor output/rated motor current

Motor rating	Rated motor current AC-3		
	220 V 230 V 240 V	380 V 400 V	415 V
	I_q = 100 kA	I_q =100 kA	I_q = 50 kA
P	I	I	I
kW	A	A	A
0.06	0.37	-	-
0.09	0.54	0.31	0.31
0.12	0.72	0.41	0.41
0.18	1.04	0.6	0.6
0.25	-	0.8	0.8
0.37	-	1.1	1.1

Technical data

General

Standards			IEC/EN 60947-4-1, VDE 0660
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	1.2
AC-4 cycle operation			
Minimum current flow times		ms	500 (Class 5) 700 (Class 10) 900 (Class 15) 1000 (Class 20)
Minimum cut-out periods		ms	500
Note		ms	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.

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_e to AC-3/400 V		W	0.6

Power consumption

DC operated	Sealing	W	2.6

Rating data for approved types

Short Circuit Current Rating		SCCR	
600 V High Fault			
SCCR (fuse)		kA	100
max. Fuse		A	15 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	1.2
Heat dissipation per pole, current-dependent	P_{vid}	W	0.2
Equipment heat dissipation, current-dependent	P_{vid}	W	0.6
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			
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	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
Rated operation power at AC-3, 230 V, 3-phase		kW	0.18
Rated operation power at AC-3, 400 V		kW	0.37
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	1.1
Rated operation current at AC-3, 400 V		A	1.2
Overload release current setting		A	0.3 - 1.2
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	100
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			Adjustable
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	198
Depth		mm	102