

DOL starter, 380 V 400 V 415 V: 5.5 kW, I_q= 100 kA, I_r= 3 - 12 A, 24 V DC, DC voltage, Screw terminals

Part no. MSC-DE-12-M17(24VDC)
Catalog No. 121746
Alternate Catalog No. XTSE012B018CTDNL
EL-Nummer (Norway) 4315125

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		5.5
500 V	P	kW		5.5
Rated operational current				
AC-3				
380 V 400 V 415 V	I _e	A		11.3
500 V	I _e	A		9
Rated short-circuit current 380 - 415 V	I _q	kA		100
Rated conditional short-circuit current 500 V	I _q	kA		50

Setting range

Setting range of overload releases	I _r	A		3 - 12
				
Coordination				Type of coordination "1" Type of coordination "2"
Actuating voltage				24 V DC DC voltage

Motor-protective circuit-breakers PKE12/XTU-12

Contactor DILM17-10(...)

DOL starter wiring set

Mechanical connection element and electrical electric contact module PKZM0-XDM32

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 NHI-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	220 V	380 V	415 V	440 V	500 V	500 V	660 V
		230 V	400 V				with	690 V
	240 V						CL-PKZO	
	$I_q = 100$ kA	$I_q = 100$ kA	$I_q = 65$ kA	$I_q = 65$ kA	$I_q = 50$ kA	$I_q = 100$ kA		$I_q = 3$ kA
P	I	I	I	I	I	I	I	I
kW	A	A	A	A	A	A	A	A
0.75	3.2	-	-	-	-	-	-	-
1.1	4.6	-	-	-	-	-	-	-
1.5	6.3	3.6	3.6	3.3	-	-	-	-
2.2	8.7	5	5	4.6	4	4	4	-
3	11.5	6.6	6.6	6	5.3	5.3	5.3	3.8
4	-	8.5	8.5	7.7	6.8	6.8	6.8	4.9
5.5	-	11.3	11.3	10.2	9	9	9	6.5
7.5	-	-	-	-	-	-	-	8.8

Technical data

General

Standards			IEC/EN 60947-4-1, VDE 0660
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	12
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	4.2

Power consumption

DC operated	Sealing	W	0.86
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Rating data for approved types

Short Circuit Current Rating		SCCR	
Basic Rating			
SCCR		kA	5
max. Fuse		A	150

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	12
Heat dissipation per pole, current-dependent	P_{vid}	W	1.4
Equipment heat dissipation, current-dependent	P_{vid}	W	4.2
Static heat dissipation, non-current-dependent	P_{vs}	W	0.86
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 U_s at AC 50HZ	V		0 - 0
Rated control supply voltage U_s at AC 60HZ	V		0 - 0
Rated control supply voltage U_s at DC	V		24 - 24
Voltage type for actuating			DC
Rated operation power at AC-3, 230 V, 3-phase	kW		3
Rated operation power at AC-3, 400 V	kW		5.5
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		11.3
Rated operation current at AC-3, 400 V	A		12
Overload release current setting	A		3 - 12
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		100000
Rated conditional short-circuit current, type 2, 400 V	A		100000
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 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	242
Depth		mm	128