

DOL starter, 380 V 400 V 415 V: 11 kW, $I_q = 100 \text{ kA}$, $I_r = 8 - 32 \text{ A}$, 230 V 50 Hz, 240 V 60 Hz, AC voltage

Part no. **MSC-DE-32-M25(230V50HZ)**
Catalog No. **121749**
Alternate Catalog No. **XTSE032B025CFNL**
EL-Nummer (Norway) **4315128**

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	11
500 V	P	kW	15
Rated operational current			
AC-3			
380 V 400 V 415 V	I_e	A	21.7
500 V	I_e	A	23.4
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	8 - 32
			
Coordination	Type of coordination "1" Type of coordination "2"		
Actuating voltage	230 V 50 Hz, 240 V 60 Hz AC voltage		

Motor-protective circuit-breakers PKE32/XTU-32

Contactor DILM25-10(...)

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^omm external diameter or 4 conductors up to 3.5^omm 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-DE... 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 output	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-PKZ0	
P	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	
kW	A	A	A	A	A	A	A	
2.2	8.7	-	-	-	-	-	-	
3	11.5	-	-	-	-	-	-	
4	14.8	8.5	8.5	-	-	-	-	
5.5	19.6	11.3	11.3	10.2	9	9	-	
7.5	-	15.2	15.2	13.8	12.1	12.1	8.8	
11	-	21.7	21.7	19.7	17.4	17.4	12.6	
15	-	-	-	-	23.4	23.4	17	

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
Oversupply 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	25
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			DILM contactors, see contactor product group
Current heat loss			DILET timing relay, ETR, see contactors, electronic timing relays product group
Current heat loss at I _e to AC-3/400 V		W	6.42
Power consumption of the coil in a cold state and 1.0 x U _s			
Dual-voltage coil 50 Hz	Sealing	W	2.1

Rating data for approved types

Short Circuit Current Rating		SCCR	
Basic Rating			
SCCR		kA	10
max. CB		A	500

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	A	25
Heat dissipation per pole, current-dependent	P _{vid}	W	2.14
Equipment heat dissipation, current-dependent	P _{vid}	W	6.42
Static heat dissipation, non-current-dependent	P _{vs}	W	2.1
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	230 - 230
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	5.5
Rated operation power at AC-3, 400 V	kW	12.5
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	21.7
Rated operation current at AC-3, 400 V	A	25
Overload release current setting	A	8 - 32
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