



DOL starter, 3p, 1.5kW/400V/AC3, 100kA, +busbar adapter

Part no. MSC-D-4-M7(230V50HZ)/BBA
Catalog No. 102953
Alternate Catalog No. XTSC004B007BFNL-A
EL-Nummer (Norway) 4315414

Delivery program

Basic function			DOL starters (complete devices)
Basic device			MSC
Notes			Also suitable for motors with efficiency class IE3. IE3-ready devices are identified by the logo on their packaging.
Connection to SmartWire-DT			no
Motor ratings			
Motor rating			
AC-3			
380 V 400 V 415 V	P	kW	1.1 1.5
Rated operational current			
AC-3			
380 V 400 V 415 V	I_e	A	2.6 3.6
Rated short-circuit current 380 - 415 V	I_q	kA	100
Setting range			
Setting range of overload releases	I_r	A	2.5 - 4
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 PKZM0-4			
Contactor DILM7-10(...)			
DOL starter wiring set			
Mechanical connection element and electrical electric contact module PKZM0-XDM12			

Notes			
BK25/3-PKZ0-E extension terminal and if necessary B3.../-PKZ0 three-phase commoning link can be added to motor-starter combinations to make Type F starters in accordance with UL508.			
Notes			
The DOL starters (complete units) consist of a PKZM0 motor protective circuit breaker and a DILM contactor. These combinations are mounted on the busbar adapters.			
The connection of the main circuit between the motor protective circuit breaker and the contactor is established with an electrical contact module.			
Cannot be combined with NHI-E-...-PKZ0-C standard auxiliary contact with spring-cage terminal.			
Further information		Page	
Technical data PKZM0		→ PKZM0	
Accessories PKZ		→ 072896	
Technical data DILM		→ DILM	
Accessories DILM		→ 281199	

Technical data

General			
Standards			UL 508 (on request) CSA C 22.2 No. 14 (on request)

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	4

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			
Power consumption of the coil in a cold state and 1.0 x U _S			
Dual-voltage coil 50 Hz	Sealing	W	1.2

Rating data for approved types			
Auxiliary contacts			
Pilot Duty			
AC operated			A600
DC operated			P300
General Use			
AC		V	600
AC		A	15
DC		V	250
DC		A	1
Short Circuit Current Rating		SCCR	
Basic Rating			
SCCR		kA	5
max. Fuse		A	35
max. CB		A	15

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	A	4
Heat dissipation per pole, current-dependent	P _{vid}	W	2
Equipment heat dissipation, current-dependent	P _{vid}	W	6
Static heat dissipation, non-current-dependent	P _{vs}	W	1.4
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 7.0

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])			
Kind of motor starter			Direct starter
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		0.75
Rated operation power at AC-3, 400 V	kW		1.5
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		3.6
Rated operation current at AC-3, 400 V	A		4
Overload release current setting	A		2.5 - 4
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		50000
Rated conditional short-circuit current, type 2, 400 V	A		50000
Number of auxiliary contacts as normally open contact			1
Number of auxiliary contacts as normally closed contact			0
Ambient temperature, upper operating limit	°C		60
Temperature compensated overload protection			Yes
Release class			CLASS 10
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	200
Depth		mm	154

Approvals

Product Standards			UL60947-4-1A; CSA-C22.2 No. 14-10; IEC60947-4-1; CE marking
UL File No.			E123500
UL Category Control No.			NKJH
CSA File No.			12528
CSA Class No.			3211-04
North America Certification			UL listed, CSA certified
Specially designed for North America			No

Technical drawing of the MSC-D-M7 terminal block showing front and side views with dimensions in mm and inches.

Front View Dimensions:

- Overall width: 67 mm (2.64")
- Overall height: 180 mm (7.09")
- Terminal pitch (between centers): 60 mm (2.36")
- Terminal width: 45 mm (1.77")
- Mounting rail width: 63 mm (2.48")
- Terminal height: 40 mm (1.57")
- Mounting rail height: 10 mm (0.39")
- Terminal spacing from rail: 35 mm (1.38")

Side View Dimensions:

- Overall width: 67 mm (2.64")
- Overall height: 200 mm (7.87")
- Terminal pitch (between centers): 60 mm (2.36")
- Terminal width: 45 mm (1.77")
- Mounting rail width: 63 mm (2.48")
- Terminal height: 40 mm (1.57")
- Mounting rail height: 10 mm (0.39")
- Terminal spacing from rail: 35 mm (1.38")

① l = 73 mm

MSC-D-...-M7[...15]BBA...

Declaration of CE Conformity
 00002885
Instruction Leaflets
 IL034038ZU2018_06