

DOL starter, 380 V 400 V 415 V: 4 kW, I_r= 6.3 - 10 A, 24 V DC, DC voltage

Part no. MSC-D-10-M9(24VDC)/BBA
Catalog No. 102973
Alternate Catalog No. XTSC010B009BTDNL-A
EL-Nummer (Norway) 4315434

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		4
Rated operational current				
AC-3				
380 V 400 V 415 V	I _e	A		8.5
Rated short-circuit current 380 - 415 V	I _q	kA		100
Setting range				
Setting range of overload releases	I _r	A		6.3 - 10
				
Coordination				Type of coordination "1"
Actuating voltage				24 V DC
				DC voltage
Motor-protective circuit-breakers PKZM0-10				
Contactors DILM9-10(...)				
DOL starter wiring set				
Mechanical connection element and electrical electric contact module PKZM0-XDM12				
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)
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		9

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
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Power consumption

DC operated	Sealing	W	3
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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

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	9
Heat dissipation per pole, current-dependent	P_{vid}	W	3.1
Equipment heat dissipation, current-dependent	P_{vid}	W	9.3
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)

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	2.2
Rated operation power at AC-3, 400 V	kW	4
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	8.5
Rated operation current at AC-3, 400 V	A	9
Overload release current setting	A	6.3 - 10
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		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
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	200
Depth	mm	154