



DOL starter, 3p, 4.0kW/400V/AC3, 150kA

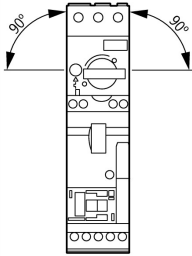
Part no. **MSC-D-10-M9(230V50HZ)**
 Article no. **283147**
 Catalog No. **XTSC010B009BFNL**

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.
Motor ratings			
Motor rating			
AC-3			
380 V 400 V 415 V	P	kW	4
Rated operational current			
AC-3			
400 V	I _e	A	8.5
Rated short-circuit current 380 - 415 V	I _q	kA	150
Setting range			
Setting range of overload releases	I _r	A	6.3 - 10
Short-circuit releases			
Non-delayed	I _{rm}	A	155
Coordination			Type of coordination "1"
Contact sequence			
Actuating voltage			230 V 50 Hz
			AC voltage

Motor-protective circuit-breakers PKZM0-10
Contactor DILM9-10(...)
DOL starter wiring set Mechanical connection element and electrical electric contact module PKZM0-XDM12
Notes The DOL starter (complete device) consists of a PKZM0 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 PKZ and contactor is established with electrical contact modules. When using the auxiliary contacts DILA-XHIT... (→ 101042) the plug-in electrical connector can be removed without the removal of the front mounting auxiliary contact.

Technical data

General			
Standards			IEC/EN 60947-4-1, VDE 0660
Mounting position			

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 contactors 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 _c			
Dual-voltage coil 50 Hz	Sealing	W	1.2

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	2.7
Equipment heat dissipation, current-dependent	P _{vid}	W	8.1
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.

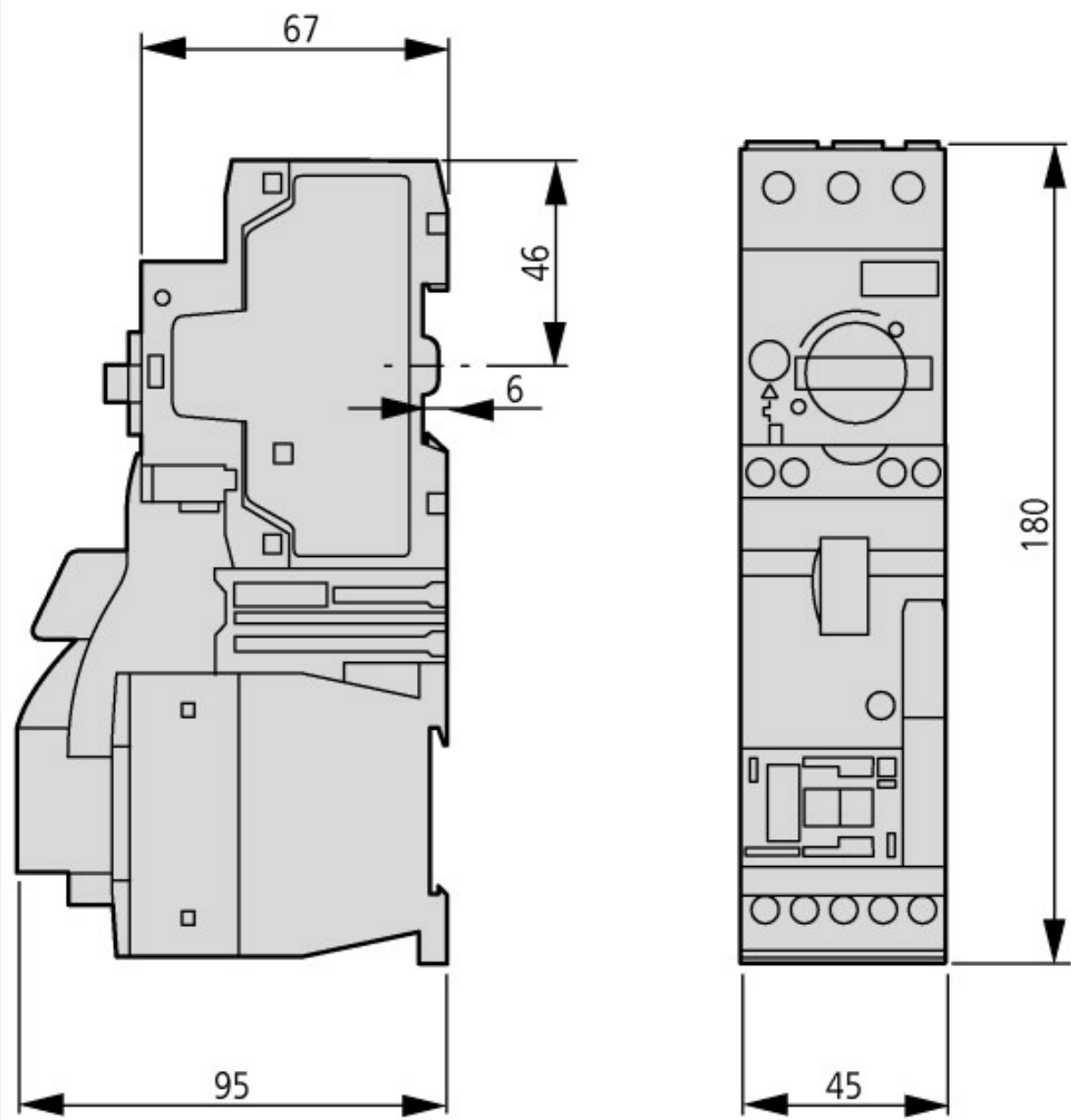
Technical data ETIM 6.0

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@ss8.1-27-37-09-05 [AJZ718010])		
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	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	0
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
Degree of protection (IP)		IP20
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

Approvals

Product Standards			UL508; CSA-C22.2 No. 14; IEC60847-4-1; CE marking
UL File No.			E36332
UL Category Control No.			NLRV
CSA File No.			165628
CSA Class No.			3211-04
North America Certification			UL listed, CSA certified
Specially designed for North America			No



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

Additional product information (links)

IL034014ZU (IL03402005Z) Direct-on-line starter up to 15 A	
IL034014ZU (IL03402005Z) Direct-on-line starter up to 15 A	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL034014ZU2013_11.pdf
Motor starters and "Special Purpose Ratings" for the North American market	http://www.moeller.net/binary/ver_techpapers/ver953en.pdf
Busbar Component Adapters for modern Industrial control panels	http://www.moeller.net/binary/ver_techpapers/ver960en.pdf
Moeller_Online Selections Aids	http://www.moeller.net/en/support/slider/index.jsp