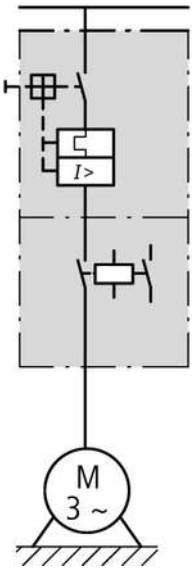
DATASHEET - MSC-D-12-M12(24V50HZ)



DOL starter, 380 V 400 V 415 V: 5.5 kW, Ir= 8 - 12 A, 24 V 50 Hz, AC

Part no.	**MSC-D-12-M12(24V50HZ)**
Catalog No.	**115947**
Alternate Catalog No.	**XTSC012B012BUNL**
EL-Nummer (Norway)	**4361011**

Delivery program

Basic function			DOL starters (complete devices)
Basic device			MSC
			IE3
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
Rated operational current			
AC-3			
380 V 400 V 415 V	I_e	A	11.3
Setting range			
Setting range of overload releases	I_r	A	8 - 12
Coordination			Type of coordination “1”
Contact sequence			
Actuating voltage			24 V 50 Hz
			AC

Motor-protective circuit-breakers PKZM0-12

Contactor DILM12-10(...)

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.

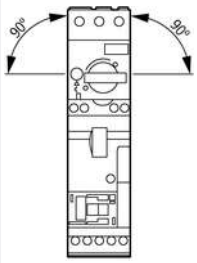
From 16 A, the motor protective circuit breaker and contactor are mounted on the top hat rail adapter plate.

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			
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	12

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	8.7
Power consumption of the coil in a cold state and 1.0 x U_S			
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Sealing	W	1.4

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	12
Heat dissipation per pole, current-dependent	P_{vid}	W	2.9
Equipment heat dissipation, current-dependent	P_{vid}	W	8.7
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 8.0

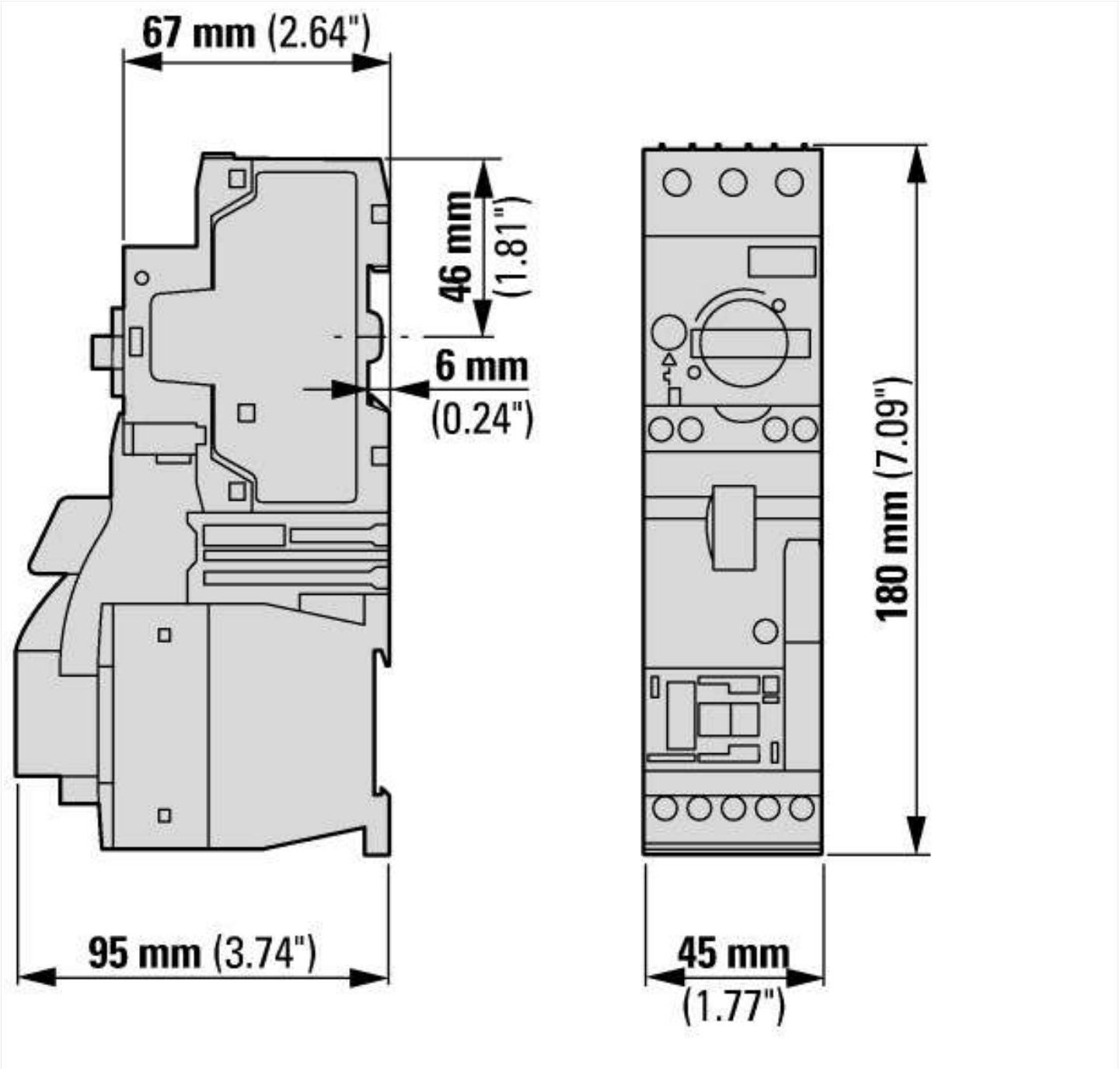
Low-voltage industrial components (EG000017) / Motor starter/Motor starter combination (EC001037)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Load breakout, motor breakout / Motor starter combination (ecl@ss10.0.1-27-37-09-05 [AJZ718013])			
Type of motor starter			Direct online starter (DOL)
With short-circuit release			Yes
Rated control supply voltage Us at AC 50HZ		V	24 - 24
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	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 Ie		A	11.3
Rated operation current at AC-3, 400 V		A	12
Overload release current setting		A	8 - 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	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	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	180
Depth		mm	95

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.			3211-24
North America Certification			UL listed, CSA certified
Specially designed for North America			No

Dimensions



Additional product information (links)

IL034038ZU (AWA1210-2246) Direct-on-line starter up to 15 A	
IL034038ZU (AWA1210-2246) Direct-on-line starter up to 15 A	https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL034038ZU2021_09.pdf
Motor starters and "Special Purpose Ratings" for the North American market	http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.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

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