## DATASHEET - MSC-D-16-M15(24VDC)



DOL starter, 380 V 400 V 415 V: 7.5 kW, Ir= 10 - 16 A, 24 V DC, DC

MSC-D-16-M15(24VDC)

Catalog No.

**Alternate Catalog** 

Part no.

**EL-Nummer** (Norway)

100415

XTSC016B015BTDNL

4315109

Powering Business Worldwide

Delivery program
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Delivery program			
Basic function			DOL starters (complete devices)
Basic device			MSC
Notes			Not suitable for motors with efficiency class IE3.
Connection to SmartWire-DT			no
Motor ratings			
Motor rating			
AC-3			
380 V 400 V 415 V	P	kW	7.5
Rated operational current			
AC-3			
380 V 400 V 415 V	I <sub>e</sub>	Α	15.2
Rated short-circuit current 380 - 415 V	$I_q$	kA	50
Setting range			
Setting range of overload releases	I <sub>r</sub>	А	10 - 16
中			
Coordination			Type of coordination "1"
Contact sequence			M 3~
Actuating voltage			24 V DC
			DC

#### Motor-protective circuit-breakers PKZM0-16

Contactor DILM15-10(...)

## 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.

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.

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 <sub>e</sub>	V	230 - 415
Rated operational current			
Open, 3-pole: 50 – 60 Hz			
380 V 400 V	I <sub>e</sub>	Α	15
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 <sub>e</sub> to AC-3/400 V		W	12
Power consumption			
DC operated	Sealing	W	2.6
Rating data for approved types			
Auxiliary contacts			
Pilot Duty			
AC operated			A600
DC operated			P300
General Use			
AC		V	600
AC		Α	15
DC		V	250
DC		Α	1

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	15.5
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	4
Equipment heat dissipation, current-dependent	$P_{vid}$	W	12
Static heat dissipation, non-current-dependent	$P_{vs}$	W	2.6
Heat dissipation capacity	P <sub>diss</sub>	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])

[AJZ/10013])		
Kind of motor starter		Direct starter
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	kV	V 4
Rated operation power at AC-3, 400 V	kV	V 7.5
Rated power, 460 V, 60 Hz, 3-phase	kV	<i>V</i> 0
Rated power, 575 V, 60 Hz, 3-phase	kV	<i>V</i> 0
Rated operation current le	А	15.2
Rated operation current at AC-3, 400 V	А	15
Overload release current setting	А	10 - 16
Rated conditional short-circuit current, type 1, 480 Y/277 V	А	0
Rated conditional short-circuit current, type 1, 600 Y/347 V	А	0
Rated conditional short-circuit current, type 2, 230 V	А	0
Rated conditional short-circuit current, type 2, 400 V	А	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
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	n	mm	45
Height	n	nm	180
Depth	n	nm	95

# Approvals

Product Standards	IEC/EN 60947-4-1; UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CE marking
UL File No.	E36332
UL Category Control No.	NLRV
CSA File No.	12528
CSA Class No.	3211-24
North America Certification	UL listed, CSA certified
Specially designed for North America	No

# **Dimensions 67 mm** (2.64") 180 mm (7.09") 95 mm (3.74")

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

### **Assets (links)**

**Declaration of CE Conformity** 

00002885

**Instruction Leaflets** 

IL034038ZU2018\_06

## **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	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL034038ZU2018_06.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	