DATASHEET - MSC-R-10-M9(24VDC)/BBA



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



MSC-R-10-M9(24VDC)/BBA Part no. 103006 Catalog No. **Alternate Catalog** XTSR010B009BTDNL-A 4315467

EL-Nummer (Norway)

No.

Delivery program

Basic function			Reversing starters (complete devices)	
Basic device			MSC	
			IE3 🗸	
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	Р	kW	4	
Rated operational current				
AC-3				
380 V 400 V 415 V	l _e	Α	8.5	
Rated short-circuit current 380 - 415 V	Iq	kA	100	
Setting range				
Setting range of overload releases	l _r	A	6.3 - 10	
Coordination			Type of coordination "1"	
Contact sequence				
Actuating voltage			24 V DC	
			DC voltage	
Motor-protective circuit-breakers PKZM0-10				
Contactor DILM9-01()				
DOL starter wiring set Mechanical connection element and electrical electric contact module PKZM0-XRM12				
Notes				
The reversing starter (complete units) consists of a PKZM0 motor protective circuit breaker and two DILM contactors.				
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.				
Complete units with mechanical interlock, starters up to 12 A also feature electric	al interlock.			
Further information	F	Page		

standards Image: Provide the standards UL 508 (on request) CSA C 22.2 No. 14 (on request) vitude m Max. 2000 kubient temperature Max. 2000 -25 - 455 Aain conducting paths Vac 6000 vervoltage category/pollution degree Mu 20 - 415 kated operational voltage Me Vac 20 - 415 (open, 3-pole: 50 - 60 Hz Me Vac 9 380 V 400 V Ne A 9 vervoltage category/pollution degree Me Max 9 vervoltage category/pollution degree Me Max 9 Kated operational voltage Ne Ne Ne Ne Volo V Ne Ne Ne Ne Ne Ne Sab V 400 V Ne Ne <td< th=""><th>Technical data</th><th></th><th></th><th></th></td<>	Technical data			
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Act operational current Image: Contract of the contrac	Overvoltage category/pollution degree			111/3
Open, 3-pole: 50 – 60 Hz Image: Construction of the second s	Rated operational voltage	Ue	V	230 - 415
380 V 400 V Ie A 9 Additional technical data	Rated operational current			
Initial data Initial data Additional technical data	Open, 3-pole: 50 – 60 Hz			
Ador protective circuit breaker PKZM0, PKE FKZM0 product group PKZM0 product group <	380 V 400 V	le	А	9
PKZM0 product group DILM contactors, see contactor product group DILET timing relay, ETR, see contactors, electronic timing relays product group DILET timing relay, ETR, see contactors, electronic timing relays product group DILET timing relay, ETR, see contactors, electronic timing relays product group DILET timing relay, ETR, see contactors, electronic timing relays product group DILET timing relay, ETR, see contactors, electronic timing relays product group DILET timing relay, ETR, see contactors, electronic timing relays product group DILET timing relay, ETR, see contactors, electronic timing relays product group Att of a proved types Att operated Sealing W AC operated A600 General Use M AC V	Additional technical data			
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ACV600ACA15DCV250	DC operated			P300
AC A 15 DC V 250	General Use			
DC V 250	AC		V	600
	AC		А	15
DC A 1	DC		V	250
	DC		А	1

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	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 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])

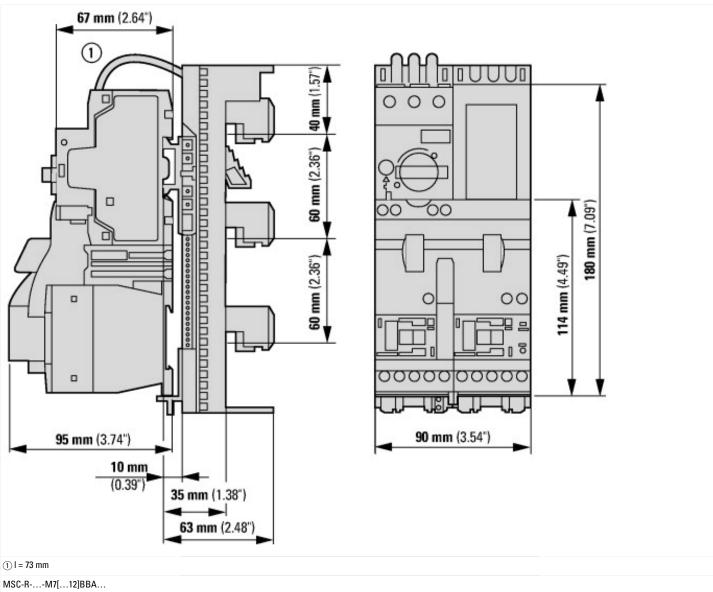
Kind of motor starter			Reversing starter
With short-circuit release			Yes
Rated control supply voltage Us at AC 50HZ	V	,	0 - 0
Rated control supply voltage Us at AC 60HZ	V	,	0 - 0
Rated control supply voltage Us at DC	V	,	24 - 24
Voltage type for actuating			DC
Rated operation power at AC-3, 230 V, 3-phase	kV	W	2.2
Rated operation power at AC-3, 400 V	kV	W	4
Rated power, 460 V, 60 Hz, 3-phase	k١	W	0
Rated power, 575 V, 60 Hz, 3-phase	k۱	W	0
Rated operation current le	A	١	8.5
Rated operation current at AC-3, 400 V	A	١	9
Overload release current setting	A	١	6.3 - 10
Rated conditional short-circuit current, type 1, 480 Y/277 V	A	١	0
Rated conditional short-circuit current, type 1, 600 Y/347 V	A	١	0
Rated conditional short-circuit current, type 2, 230 V	A	١	0
Rated conditional short-circuit current, type 2, 400 V	А	l l	0
Number of auxiliary contacts as normally open contact			0
Number of auxiliary contacts as normally closed contact			0
Ambient temperature, upper operating limit	°C	С	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

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Width mm 90 Height mm 200	Supporting protocol for SafetyBUS p		No
Height mm 200	Supporting protocol for other bus systems		No
	Width	mm	90
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	Depth	mm	154

Approvals

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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





Assets (links)

Declaration of CE Conformity 00002885

Instruction Leaflets IL03402006Z2018_04

Additional product information (links)

IL03402006Z (AWA1210-2248) Reversing starter to 12 A

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IL03402006Z (AWA1210-2248) Reversing starter to 12 A	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03402006Z2018_04.pdf
IL03402015Z (AWA1210-2324) Busbar adapter	
IL03402015Z (AWA1210-2324) Busbar adapter	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03402015Z2018_05.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