MC Contactors

IMO

Technical Datasheet

Key Features

- Up to 1200A AC3
- Up to 1350A AC1
- DIN Rail Mounting up to AC3 74A
- International Approvals
- Data according to IEC 947 / EN 60947

Options & Ordering Codes

MC - **10N** - **S** - **10** - **24AC**

Series

Standard Contactor	MC

AC3 Rating

4kW / 10A	10N
5.5kW / 14A	14N
7.5kW / 18A	18N
11kW / 22A	22N

Switching Type

Standard	S

Aux. Contact Configuration

10	Normally Open (NO)
01	Normally Closed (NC)

Coil Voltage*

24AC	24DC
110AC	48DC
230AC	110DC
400AC	

* Other coil voltages available. Please contact IMO for more information.

Technical Data acc. to IEC / EN 60947-4-1

Part Number			MC10N-S-10	MC14N-S-10	MC18N-S-10	MC22N-S-10
Main Contact Ratings	AC1 I_e (=I_{th}) open at 40°C		25A	25A	32A	32A
	AC2, AC3, 380-440V		4kW / 10A	5.5kW / 14A	7.5kW / 18A	11kW / 22A
	AC2, AC3, 500-690V		5.5kW	7.5kW	10kW	10kW
	DC1 / 2 / 5, 24VDC		20A	25A	32A	32A
	Fuse "Typ1" gl. (gG)		63A max.	63A max.	63A max.	63A max.
	Rated Insulation Voltage U_i*4		690V~	690V~	690V~	690V~
	Making Capacity I_{eff} at U_e=690V~		200A	200A	200A	200A
	Breaking Capacity I_{eff} 400V~		180A	180A	200A	200A
	cosθ= 0.65 500V~		150A	150A	180A	180A
Max. Ambient Temp	Operation Open		-40 to +60°C (+90°C)*1			
	Operation Enclosed		-40 to +40°C			
	with Thermal Overload Relay Open		-25 to +60°C			
	with Thermal Overload Relay Enclosed		-25 to +40°C			
	Storage		-50 to +90°C			
Freqency of Operations z Ops/hr	Switching Without Load		10,000			
	AC3, I_e		600			
	AC4, I_e		120			
	DC3, I_e		600			
Switching Time at Control Voltage Us ±10%*2, *3	AC Operated	Make Time	8 - 16ms			
		Release Time	5 - 13ms			
		Arc Duration	10 - 15ms			
	DC Operated	Make Time	8 - 12ms			
		Release Time	8 - 13ms			
		Arc Duration	10 - 15ms			
Mech. Life	AC Operated		10×10^6			
	DC Operated with Economy Resistor		10×10^6			
Curr. Heat Loss	Power Loss Per Pole (I_e/AC3 400V)		0.21W	0.35W	0.5W	0.75W
	Contact Resistance Per Pole		2.1mΩ	1.8mΩ	1.5mΩ	1.5mΩ
Shock Resistance acc. to IEC68-2-27 - 20ms Sine Wave NO			10g			
Shock Resistance acc. to IEC68-2-27 - 20ms Sine Wave NC			6g			

*1 With reduced control voltage range 0.9 up to 1.0 x Us and with reduced rated current Ie / AC1 according to Ie / AC3
*2 Total breaking time = release time + arc duration
*3 Values for delay of the release time of the make contact and the make time of the break contact will be increased if magnet coils are protected against voltage peaks with integrated suppressor
*4 Suitable at 690V for earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard industry): U_{imp}=8kV. Data for other conditions upon request

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Technical Datasheet

Technical Data continued acc. to IEC / EN 60947-4-1

Part Number		MC10N-S-10..+MCA..	MC14N-S-10..+MCA..	MC18N-S-10..+MCA..	MC22N-S-10..+MCA..
Aux Contact Ratings MCA10 (NO) MCA01 (NC)	AC1 I_e (=I_{th}) open at 40°C	10A	10A	10A	10A
	AC15, 220-240V	3A	3A	3A	3A
	AC15, 380-440V	2A	2A	2A	2A
	Fuse "Typ1" gl. (gG)	20A max.	20A max.	20A max.	20A max.

NOTE: Maximum number of auxiliaries that can be added to AC operated contactors is 4. Maximum that can be added to DC operated contactors is 3.

Cable Cross Sections

	Contacts	Coils
Solid Strand (mm²)	0.75 - 6.0	0.75 - 2.5
Flexible Strand (mm²)	1.0 - 4.0	0.5 - 2.5
Solid Strand (AWG)	18 - 10	14 - 12
Flexible Strand (AWG)	18 - 10	18 - 12
Cables per Clamp	1	2
Terminal Screws	M3.5	M3.5
Screwdriver	Pozidrive Pz2	Pozidrive Pz2
Tightening Torque (Nm)	0.8 - 1.4	0.8 - 1.4
Tightening Torque (lb.inch)	7 - 12	7 - 12

Coil

	AC Operated	DC Operated
Operation Range	0.85 - 1.1	0.8 - 1.1
Inrush	33 - 45VA	75W
Sealed	7 - 10VA	2W

Weights & Dimensions

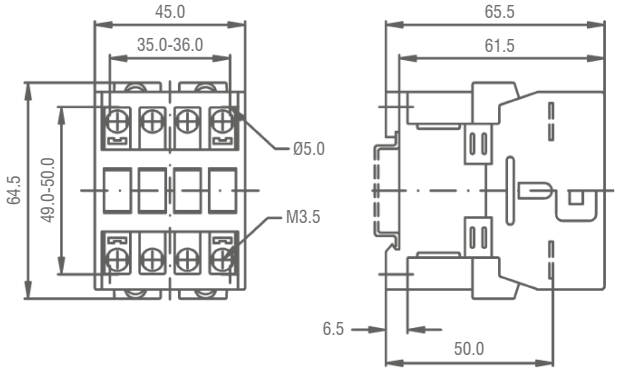
	AC Operated	DC Operated
Single Unit (inc. packaging)	0.23kg	0.25kg
Dimensions	67 x 46 x 67mm	70 x 47 x 85mm

Resistance to Climatic Conditions acc. to IEC60068

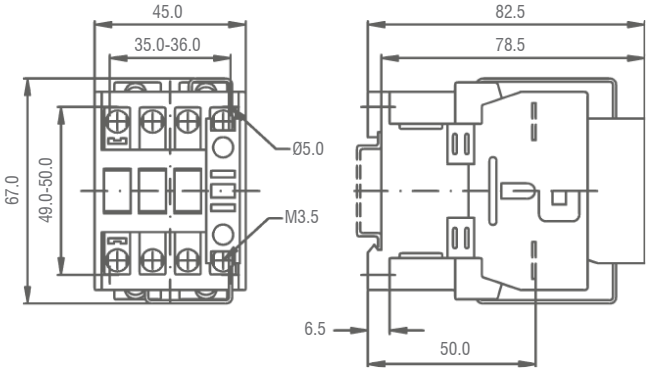
Open- type devices are climate-resistant in the constant climate according to IEC60068-2-78 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%). Enclosed devices are climate-resistant in an alternating climate accordingto IEC 68-2-30 (this is a moist alternating climate with a 24-hour cycle between climates with an ambient temperature of 25°C, and an atmospheric humidity of 95 to 100% and an ambient temperature of 40°C, and an atmospheric humidity of 90 to 96% in the presence of condensation during rises in temperature). Note: Maximum operating altitude of 2000m above sea level.

Dimensions (mm)

AC Operated

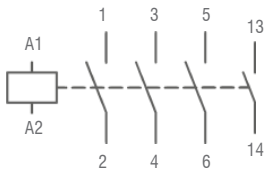


DC Operated

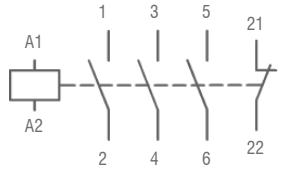


Wiring Diagrams

AC Operated

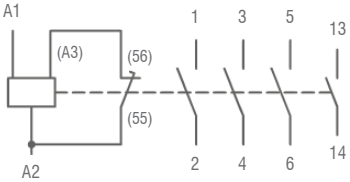


13-14 Normally Open (NO) Auxiliary

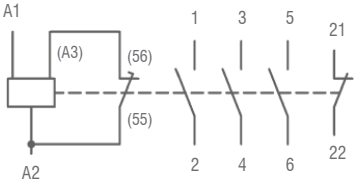


21-22 Normally Closed (NC) Auxiliary

DC Operated

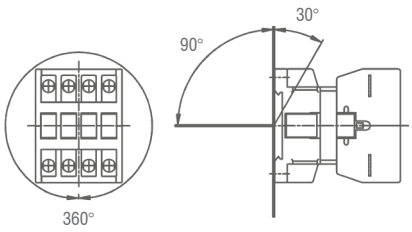


13-14 Normally Open (NO) Auxiliary



21-22 Normally Closed (NC) Auxiliary

Mounting Position



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