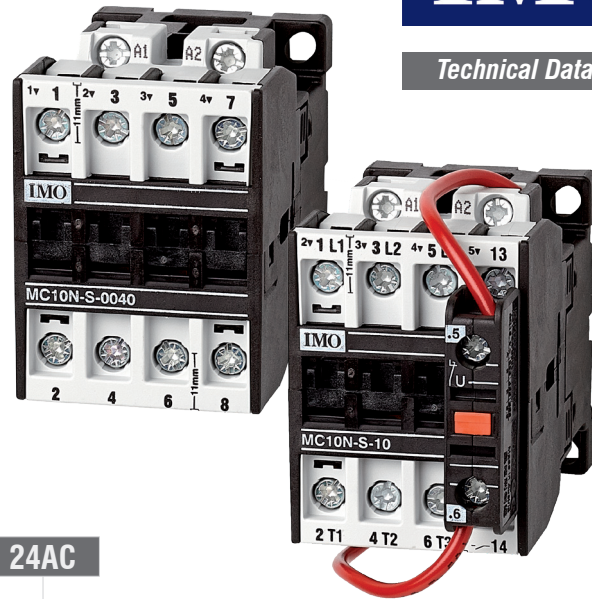


# MC Contactors



## 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

<b>10</b>	Normally Open (NO)
<b>01</b>	Normally Closed (NC)

### Coil Voltage\*

<b>24AC</b>	24DC
<b>110AC</b>	48DC
<b>230AC</b>	110DC
<b>400AC</b>	

\* 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 $I_e (=I_m)$ 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 $U_e = 690V\sim$	200A	200A	200A	200A
	Breaking Capacity $I_{br}$ 400V~	180A	180A	200A	200A
$\cos\theta = 0.65$ 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				
Frequency 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 $U_c \pm 10\%^{*2, *3}$	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 x 10 <sup>6</sup>			
	DC Operated with Economy Resistor	10 x 10 <sup>6</sup>			
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  $U_c$  and with reduced rated current  $I_e$  / AC1 according to  $I_e$  / 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

# MC Contactors



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 <sub>e</sub> (=I <sub>th</sub> ) open at 40°C	10A	10A	10A
	AC15, 220-240V	3A	3A	3A
	AC15, 380-440V	2A	2A	2A
	Fuse "Typ1" gl. (gG)	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 (mm <sup>2</sup> )	0.75 - 6.0	0.75 - 2.5
Flexible Strand (mm <sup>2</sup> )	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

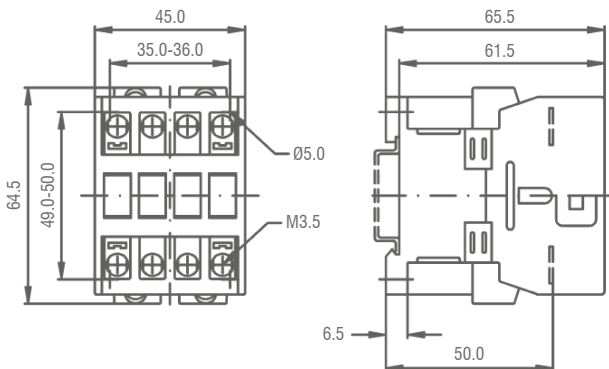
	AC Operated	DC Operated
Single Unit (inc. packaging)	0.23kg	0.25kg
Dimensions	67 x 46 x 67mm	70 x 47 x 85mm

## Resistance to Climatic Conditions acc. to IEC60068

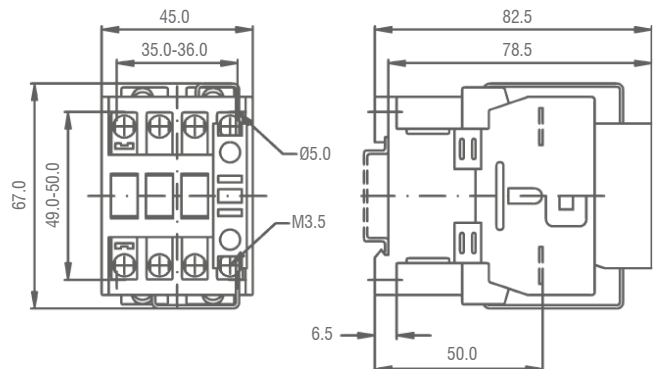
Open-type devices are climate-resistant in the constant climate according to IEC60068-2-78 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%). Enclosed devices are climate-resistant in an alternating climate according to IEC 68-2-30 (this is a moist alternating 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

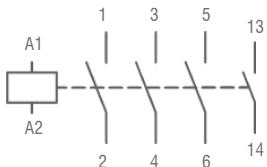


### DC Operated

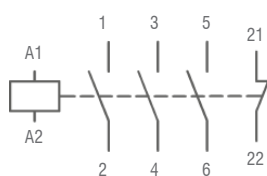


## Wiring Diagrams

### AC Operated

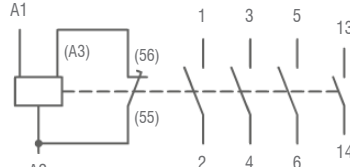


13-14 Normally Open (NO) Auxiliary

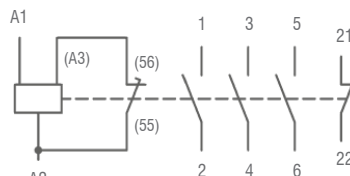


21-22 Normally Closed (NC) Auxiliary

### DC Operated



13-14 Normally Open (NO) Auxiliary



21-22 Normally Closed (NC) Auxiliary

## Mounting Position

