

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

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 $I_e (=I_m)$ 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 ⁶			
	DC Operated with Economy Resistor	10 x 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 U_s 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 _e (=I _{th}) 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 ²)	0.75 - 6.0	0.75 - 2.5
Flexible Strand (mm ²)	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

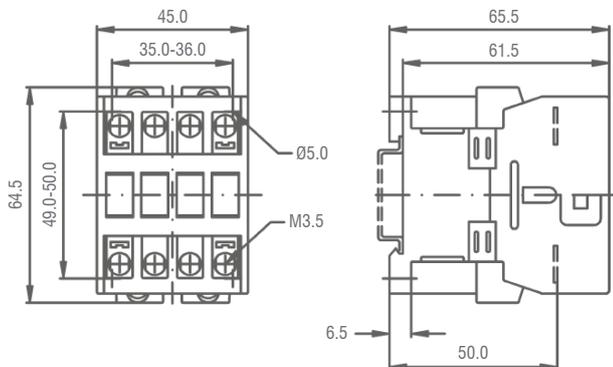
	AC Operated	DC Operated
Single Unit (inc. packaging)	0.23kg	0.25kg
Dimensions	67 x 46 x 67mm	70 x 47 x 85mm

Resistance to Climatic Conditions acc. to IEC60068

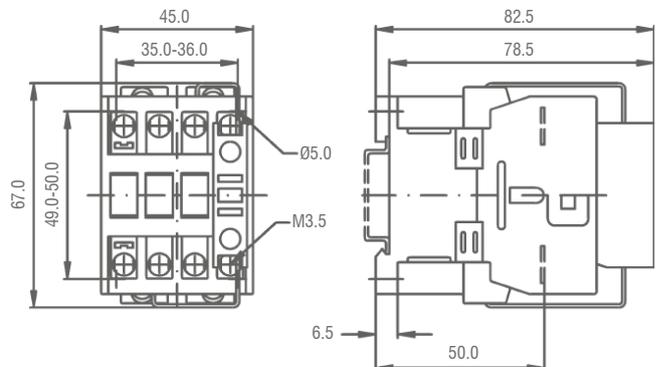
Open-type devices are climate-resistant in the constant climate according to IEC60068-2-78 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%). Enclosed devices are climate-resistant in an alternating climate according to IEC 68-2-30 (this is a moist alternating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

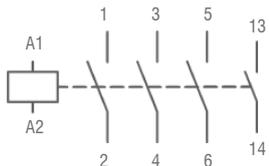


DC Operated

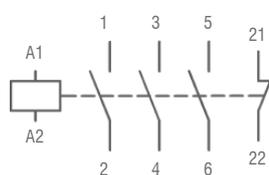


Wiring Diagrams

AC Operated

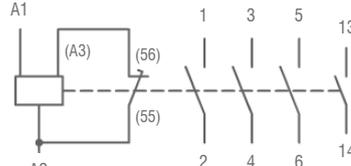


13-14 Normally Open (NO) Auxiliary

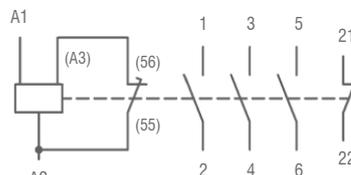


21-22 Normally Closed (NC) Auxiliary

DC Operated

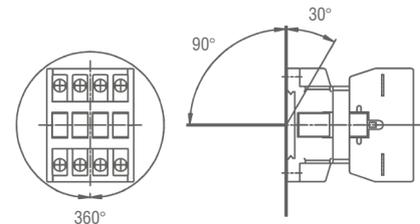


13-14 Normally Open (NO) Auxiliary



21-22 Normally Closed (NC) Auxiliary

Mounting Position



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 24 - S - 00 - 24

Series	Standard Contactor	MC
AC3 Rating	11kW / 24A	24
	15kW / 32A	32
	18.5kW / 40A	40
Switching Type	Standard	S
Aux. Contact Configuration	00	
Coil Voltage*	24 (24AC)	= 24 (24DC)
	110 (110AC)	
	230 (230AC)	
	400 (400AC)	



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

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

Part Number	MC24-S-00	MC32-S-00	MC40-S-10	
Main Contact Ratings	AC1 I _e (=I _m) open at 40°C	50A	65A	80A
	AC2, AC3, 380-440V	11kW / 24A	15kW / 32A	18.5kW / 40A
	AC2, AC3, 500-690V	15kW	18.5kW	18.5kW
	DC1 / 3 / 5, 24VDC	50A	65A	80A
	Fuse "Typ1" gl. (gG)	80A max.	80A max.	80A max.
	Rated Insulation Voltage U _i *4	690V~	690V~	690V~
	Making Capacity I _{eff} at U _e = 690V~	400A	500A	500A
	Breaking Capacity I _{br} 400V~	380A	400A	400A
cosθ = 0.35 500V~	300A	370A	370A	
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	7,000		
	AC3, I _e	600		
	AC4, I _e	120		
Switching Time at Control Voltage Us ± 10%*2, *3	AC Operated	Make Time	10 - 25ms	
		Release Time	8 - 15ms	
		Arc Duration	10 - 15ms	
	DC Operated	Make Time	10 - 20ms	
		Release Time	10 - 15ms	
		Arc Duration	10 - 15ms	
Mech. Life	AC Operated	10 x 10 ⁶		
	DC Operated with Economy Resistor	10 x 10 ⁶		
Curr. Heat Loss	Power Loss Per Pole (I _e /AC3 400V)	0.7W	1.3W	2.0W
	Contact Resistance Per Pole	1.2mΩ	1.2mΩ	1.2mΩ
Shock Resistance acc. to IEC68-2-27 - 20ms Sine Wave NO		8g		
Shock Resistance acc. to IEC68-2-27 - 20ms Sine Wave NC		0g		

*1 With reduced control voltage range 0.9 up to 1.0 x Us 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 Data continued acc. to IEC / EN 60947-4-1

Part Number	MC24-S-00..+MCA..	MC32-S-00..+MCA..	MC40-S-00..+MCA..
Aux Contact Ratings			
MCA10 (NO)	AC1 I _e (=I _{th}) open at 40°C	10A	10A
MCA01 (NC)	AC15, 220-240V	3A	3A
	AC15, 380-440V	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 ²)	1.5 - 25.0	0.75 - 2.5
Flexible Strand (mm ²)	2.5 - 16.0	0.5 - 1.5
Solid Strand (AWG)	16 - 10	14 - 12
Flexible Strand (AWG)	14 - 4	18 - 12
Cables per Clamp	1	2
Terminal Screws	M5	M3.5
Screwdriver	Pozidrive Pz2	Pozidrive Pz2
Tightening Torque (Nm)	2.5 - 3.0	0.8 - 1.4
Tightening Torque (lb.inch)	22 - 26	7 - 12

Coil

	AC Operated	DC Operated
Operation Range	0.85 - 1.1	0.8 - 1.1
Inrush	90 - 115VA	140W
Sealed	9 - 13VA	2W

Weights & Dimensions

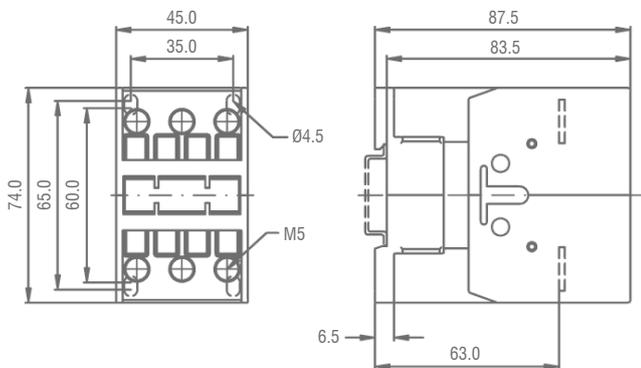
	AC Operated	DC Operated
Single Unit (inc. packaging)	0.48kg	0.55kg
Dimensions	75 x 46 x 88mm	83 x 46 x 105mm

Resistance to Climatic Conditions acc. to IEC60068

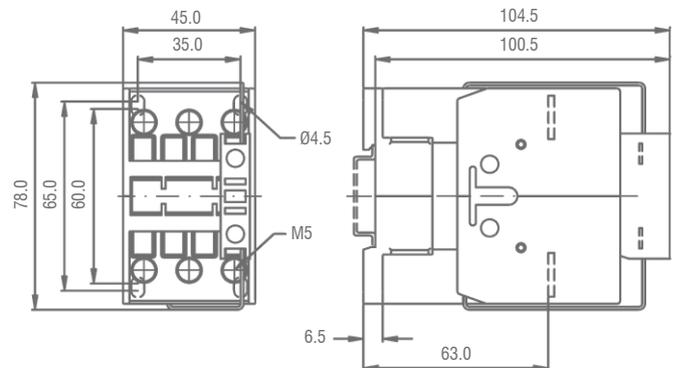
Open-type devices are climate-resistant in the constant climate according to IEC60068-2-78 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%). Enclosed devices are climate-resistant in an alternating climate according to IEC 68-2-30 (this is a moist alternating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

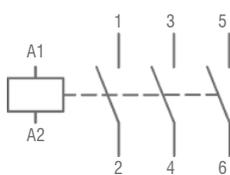


DC Operated

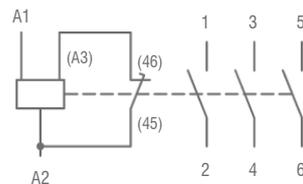


Wiring Diagrams

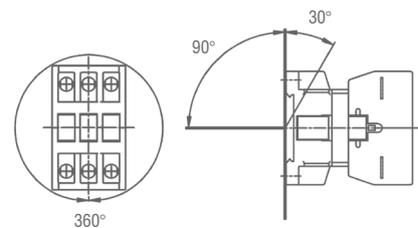
AC Operated



DC Operated



Mounting Position



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 50 - S - 00 - 24

Series: Standard Contactor **MC**

AC3 Rating:

22kW / 50A	50
30kW / 62A	62
37kW / 74A	74

Switching Type: Standard **S**

Aux. Contact Configuration: **00**

Coil Voltage* **24 (24AC) = 24 (24DC)**

110 (110AC)
230 (230AC)
400 (400AC)

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

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

Part Number	MC50-S-00	MC62-S-00	MC74-S-10	
Main Contact Ratings	AC1 I _e (=I _m) open at 40°C	110A	120A	130A
	AC2, AC3, 380-440V	22kW / 50A	30kW / 62A	37kW / 74A
	AC2, AC3, 500-690V	30kW	37kW	45kW
	DC1 / 3 / 5, 24VDC	110A	120A	130A
	Fuse "Typ1" gl. (gG)	160A max.	160A max.	160A max.
	Rated Insulation Voltage U _i *4	690V~	690V~	690V~
	Making Capacity I _{eff} at U _e = 690V~	700A	900A	900A
	Breaking Capacity I _{br} 400V~	600A	800A	800A
cosθ = 0.35 500V~	500A	700A	700A	
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	7,000		
	AC3, I _e	400		
	AC4, I _e	120		
Switching Time at Control Voltage Us ±10% (z, *3)	AC Operated	Make Time	12 - 28ms	
		Release Time	8 - 15ms	
		Arc Duration	10 - 15ms	
	DC Operated	Make Time	12 - 23ms	
		Release Time	10 - 18ms	
Mech. Life	AC Operated	10 x 10 ⁶		
	DC Operated with Economy Resistor	10 x 10 ⁶		
Curr. Heat Loss	Power Loss Per Pole (I _e /AC3 400V)	2.2W	3.9W	5.5W
	Contact Resistance Per Pole	1.0mΩ	1.0mΩ	1.0mΩ
Shock Resistance acc. to IEC68-2-27 - 20ms Sine Wave NO		8g		
Shock Resistance acc. to IEC68-2-27 - 20ms Sine Wave NC		-g		

*1 With reduced control voltage range 0.9 up to 1.0 x Us 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	MC50-S-00.. + MCA..	MC62-S-00.. + MCA..	MC74-S-00.. + MCA..	
Aux Contact Ratings	AC1 I _e (=I _{th}) open at 40°C	10A	10A	10A
MCA10 (NO)	AC15, 220-240V	3A	3A	3A
MCA01 (NC)	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 ²)	4.0 - 50.0	0.75 - 2.5
Flexible Strand (mm ²)	10.0 - 35.0	0.5 - 2.5
Solid Strand (AWG)	12 - 10	14 - 12
Flexible Strand (AWG)	10 - 0	18 - 12
Cables per Clamp	1	2
Terminal Screws	M6	M3.5
Screwdriver	Pozidrive Pz3	Pozidrive Pz2
Tightening Torque (Nm)	3.5 - 4.5	0.8 - 1.4
Tightening Torque (lb.inch)	31 - 40	7 - 12

Coil

	AC Operated	DC Operated
Operation Range	0.85 - 1.1	0.8 - 1.1
Inrush	140 - 165VA	200W
Sealed	13 - 18VA	6W

Weights & Dimensions

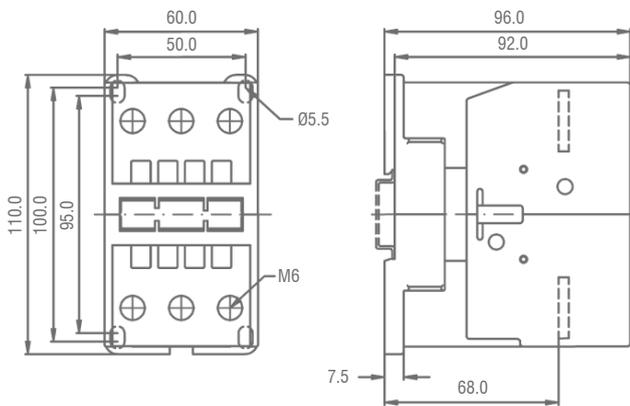
	AC Operated	DC Operated
Single Unit (inc. packaging)	0.85kg	0.90kg
Dimensions	112 x 63 x 99mm	112 x 62 x 115mm

Resistance to Climatic Conditions acc. to IEC60068

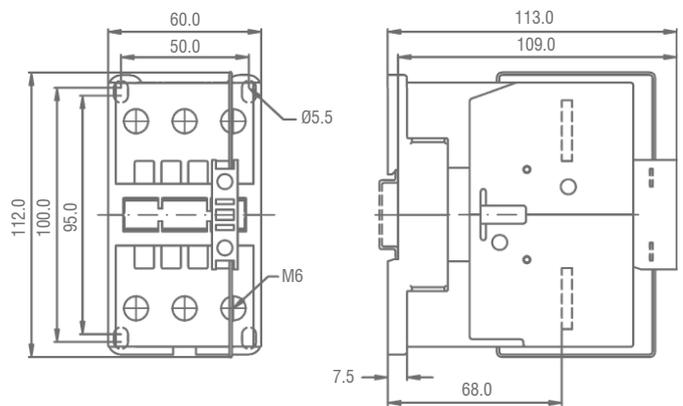
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Dimensions (mm)

AC Operated

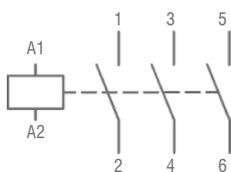


DC Operated

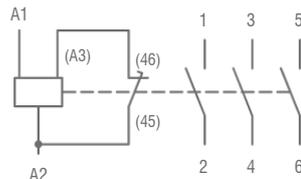


Wiring Diagrams

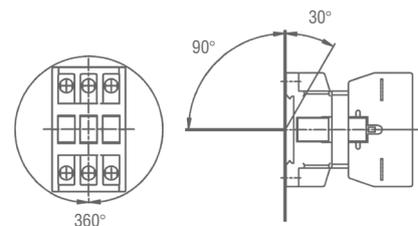
AC Operated



DC Operated



Mounting Position

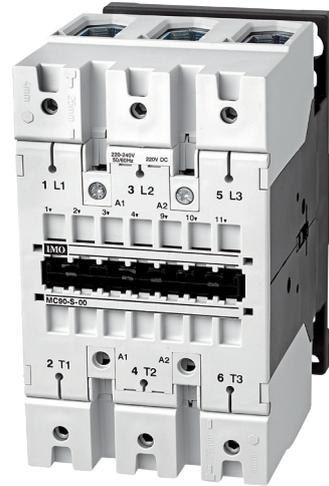


MC Contactors

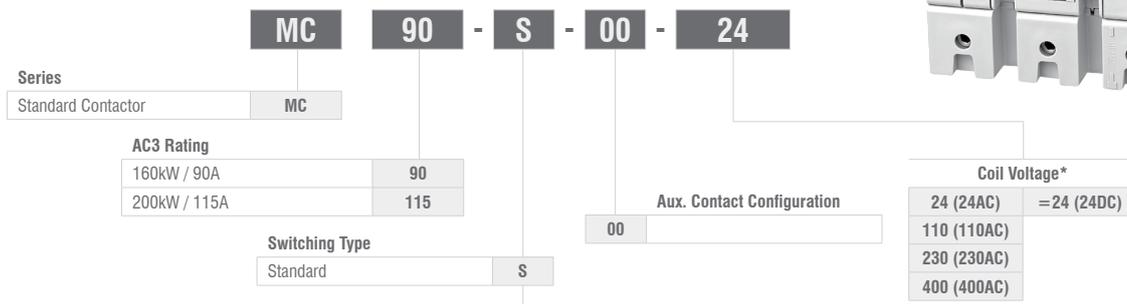


Key Features

- 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



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

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

Part Number	MC90-S-00	MC115-S-00	
Main Contact Ratings	AC1 $I_e (=I_{th})$ open at 40°C	160A	200A
	AC2, AC3, 380-440V	45kW / 90A	55kW / 115A
	AC2, AC3, 500-690V	55kW	55kW
	Fuse "Typ1" gl. (gG)	250A max.	250A max.
	Rated Insulation Voltage U_i^{*4}	1000V~	1000V~
	Making Capacity I_{eff} at $U_e=690V\sim$	1100A	1200A
	Breaking Capacity I_{br} 400V~	950A	1100A
	$\cos\theta=0.35$ 500V~	850A	1000A
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	3,000	
	AC3, I_e	300	
	AC4, I_e	120	
	DC3, I_e	300	
Switching Time at Control Voltage $U_c \pm 10\%^{*2,*3}$	AC Operated	Make Time	20 - 35ms
		Release Time	35 - 50ms
		Arc Duration	10 - 15ms
	DC Operated	Make Time	20 - 35ms
		Release Time	35 - 50ms
		Arc Duration	10 - 15ms
Mech. Life	AC Operated	5 x 10 ⁶	
	DC Operated with Economy Resistor	5 x 10 ⁶	
Curr. Heat Loss	Power Loss Per Pole (I_e /AC3 400V)	4.8W	7.9W
	Contact Resistance Per Pole	0.6mΩ	0.5mΩ
Shock Resistance acc. to IEC68-2-27 - 20ms Sine Wave NO		7g	
Shock Resistance acc. to IEC68-2-27 - 20ms Sine Wave NC		5g	

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

Part Number	MC90-S-00.. + MCA..	MC115-S-00.. + MCA..
Aux Contact Ratings		
MCA10 (NO)	10A	10A
MCA01 (NC)	3A	3A
	2A	2A
Fuse "Typ1" gl. (gG)	20A max.	20A max.

Cable Cross Sections

	Contacts	Coils
Solid Strand (mm ²)	0.5 - 95.0 + 10.0 - 120.0	0.75 - 2.5
Flexible Strand (mm ²)	0.5 - 70.0 + 25.0 - 95.0	0.5 - 2.5
Solid Strand (AWG)	18 - 10	14 - 12
Flexible Strand (AWG)	-	18 - 12
Cables per Clamp	1	2
Terminal Screws	M8	M3.5
Screwdriver	4mm-Inbus	Pozidrive Pz2
Tightening Torque (Nm)	4.0 - 6.5	0.8 - 1.4
Tightening Torque (lb.inch)	35 - 57	7 - 12

Coil

	AC Operated	DC Operated
Operation Range	0.85 - 1.1	0.8 - 1.1
Inrush	165 - 220VA	250W
Sealed	2.5 - 5VA	5W

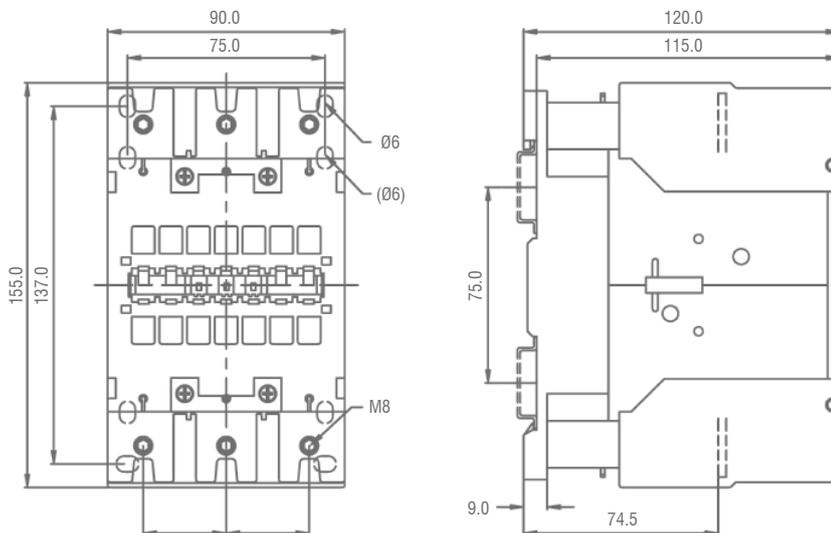
Weights & Dimensions

Single Unit (inc. packaging)	2.20kg
Dimensions	157 x 92 x 155mm

Resistance to Climatic Conditions acc. to IEC60068

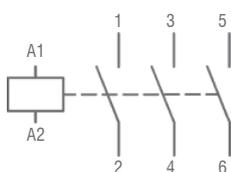
Open-type devices are climate-resistant in the constant climate according to IEC60068-2-78 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%). Enclosed devices are climate-resistant in an alternating climate according to IEC 68-2-30 (this is a moist alternating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

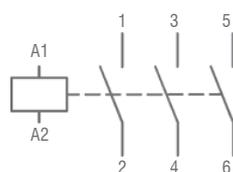


Wiring Diagrams

AC Operated



DC Operated



Mounting Position

