

MC 3-Pole Contactors with Universal Coil

Key Features

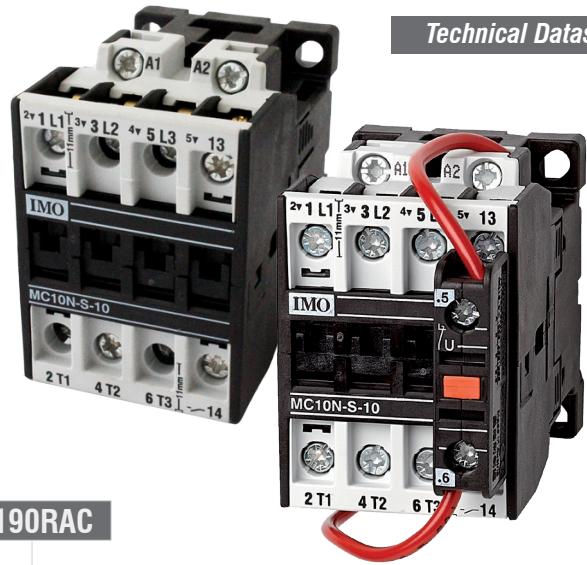
- Rated for both 50Hz & 60Hz
- Wider Voltage Range: 200-240V
- Designed in acc. EN 60947-4-1 & IEC 60335
- Up to 22A AC3
- Up to 32A AC1



Options & Ordering Codes

MC		10N		- S -		10 -		190RAC	
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*									
		200-240AC							

* 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 690V I _e (=I _{pn}) 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 / 3 / 5, 24VDC (1 pole/3 poles in series)		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			
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 Us ± 10%*2, *3	AC Operated	Make Time	8 - 16ms			
		Release Time	5 - 13ms			
		Arc Duration	10 - 15ms			
Mech. Life	AC Operated		10 x 10 ⁶			
	DC Operated with Dual-Wound Coils		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 IEC60068-2-27 - 20ms Sine Wave NO			10g			
Shock Resistance acc. to IEC60068-2-27 - 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 3-Pole Contactors

with Universal Coil



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 690V 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.

Technical Data acc. to UL508

Part Number				MC10N	MC14N	MC18N	MC22N	
Main Contact Ratings	Rated Operational Current "General Use"			25A	25A	25A	25A	
Motor DOL 3-Phase at 60Hz	Rated Operational Power	110-120V	hp	1.5	2	2	3	
		200V	hp	3	3	5	5	
		220-240V	hp	3	3	7.5	7.5	
		277V	hp	3	5	7.5	7.5	
		380-415V	hp	5	5	10	10	
		440-480V	hp	5	7.5	10	15	
		550-600V	hp	7.5	10	15	20	
Motor DOL 1-Phase at 60Hz	Rated Operational Power AC Motors at 60Hz (1ph)	110-120V	hp	0.5	0.75	1	1.5	
		200V	hp	1	1.5	2	3	
		220-240V	hp	1.5	2	3	3	
		277V	hp	2	3	3	5	
		380-415V	hp	3	3	5	5	
		440-480V	hp	3	5	5	7.5	
		550-600V	hp	3	5	7.5	10	
Motor DOL 3-phase acc. to ASME A17.5	Rated Operational Current		600V	A	-	-	-	
	Rated Operational Power 3-phase Motors for Elevators (500,000 Operations)	110-120V	hp	-	-	-	-	
		200V	hp	-	-	-	-	
		220-240V	hp	-	-	-	-	
		440-480V	hp	-	-	-	-	
		550-600V	hp	-	-	-	-	
	Rated Current 2 Series Contacts		600V	A	-	-	-	
	Fuse Class RK5 / Short-circuit current			A/kA	50/5	50/5	70/5	90/5
	Fuse Class T / Short-circuit current			A/kA	45/100	50/100	70/100	90/100
Rated voltage			V	600	600	600	600	
Auxiliary Contacts (cULus)				A600	A600	A600	A600	

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
Operation Range	0.85 - 1.1
Inrush	33 - 45VA
Sealed	7 - 10VA

Weights & Dimensions

	AC Operated
Single Unit (inc. packaging)	0.23kg
Dimensions	67 x 46 x 67mm

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.

MC 3-Pole Contactors

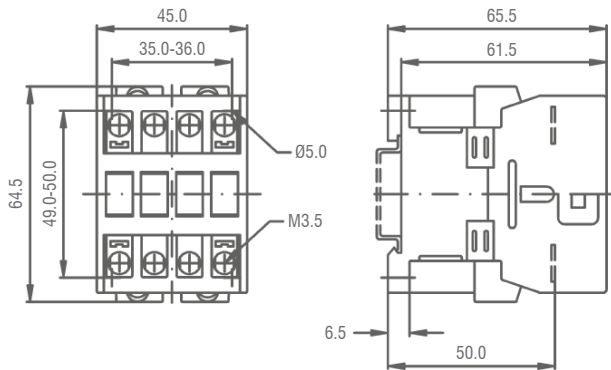
with Universal Coil

IMO

Technical Datasheet

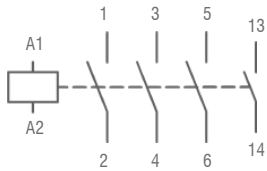
Dimensions (mm)

AC Operated

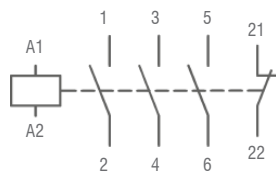


Wiring Diagrams

AC Operated

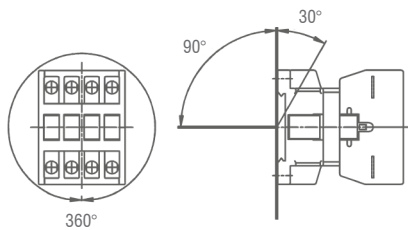


13-14 Normally Open (NO) Auxiliary



21-22 Normally Closed (NC) Auxiliary

Mounting Position



MC 3-Pole Contactors with Universal Coil

Key Features

- Rated for both 50Hz & 60Hz
- Wider Voltage Range: 200-240V
- Designed in acc. EN 60947-4-1 & IEC 60335
- Up to 40A AC3
- Up to 80A AC1



Options & Ordering Codes

MC		24	-	S	-	00	-	190RAC
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*								
200-240AC								

* 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 690V I _e (=I _{th}) 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 (1 pole/3 poles in series)		50A	65A	80A
	Fuse "Typ1" gl. (gG)		100A max.	100A max.	100A max.
	Rated Insulation Voltage U _i *4		690V~	690V~	690V~
	Making Capacity I _{eff} at U _e =690V~		400A	500A	500A
	Breaking Capacity I _{eff} 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		
	DC3, I _e		600		
Switching Time at Control Voltage Us ± 10%*2,*3	AC Operated	Make Time	10 - 25ms		
		Release Time	8 - 15ms		
		Arc Duration	10 - 15ms		
Mech. Life	AC Operated		10 x 10 ⁶		
	DC Operated with Dual-Wound COils		10 x 10 ⁶		
Curr. Heat Loss	Power Loss Per Pole (I _f /AC3 400V)		0.7W	1.3W	2.0W
	Contact Resistance Per Pole		1.2mΩ	1.2mΩ	1.2mΩ
Shock Resistance acc. to IEC60068-2-27 - 20ms Sine Wave NO			8g		
Shock Resistance acc. to IEC60068-2-27 - 20ms Sine Wave NC			-		

*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 3-Pole Contactors

with Universal Coil

IMO

Technical Datasheet

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) MCA01 (NC)	AC1 690V 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.

Technical Data acc. to UL508

Part Number				MC24	MC32	MC40
Main Contact Ratings		Rated Operational Current "General Use"		50A	65A	80A
Motor DOL 3-Phase at 60Hz	Rated Operational Power	110-120V	hp	5	5	7.5
		200V	hp	7.5	10	10
		220-240V	hp	10	10	15
		277V	hp	7.5	10	15
		380-415V	hp	10	15	20
		440-480V	hp	15	20	25
Motor DOL 1-Phase at 60Hz	Rated Operational Power AC Motors at 60Hz (1ph)	550-600V	hp	20	25	30
		110-120V	hp	1.5	2	3
		200V	hp	3	5	7.5
		220-240V	hp	5	5	7.5
		277V	hp	5	7.5	10
		380-415V	hp	5	7.5	10
Motor DOL 3-phase acc. to ASME A17.5	Rated Operational Current	440-480V	hp	7.5	10	15
		550-600V	hp	10	15	20
		600V	A	15	22	-
	Rated Operational Power 3-phase Motors for Elevators (500,000 Operations)	110-120V	hp	2	3	-
		200V	hp	3	5	-
		220-240V	hp	5	7.5	-
		440-480V	hp	10	15	-
		550-600V	hp	10	20	-
		600V	A	22	27	-
	Rated Current 2 Series Contacts					
Auxiliary Contacts (cULus)	Fuse Class RK5 / Short-circuit current		A/kA	90/5	125/5	175/5
	Fuse Class T / Short-circuit current		A/kA	110/100	150/100	150/100
	Rated voltage		V	600	600	600

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 - 2.5
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
Operation Range	0.85 - 1.1
Inrush	90 - 115VA
Sealed	9 - 13VA

Weights & Dimensions

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

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.

MC 3-Pole Contactors

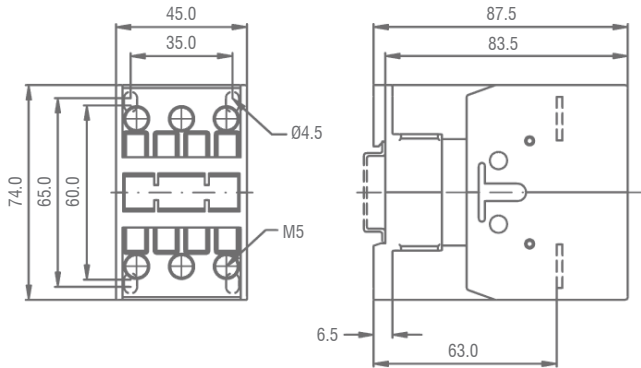
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Technical Datasheet

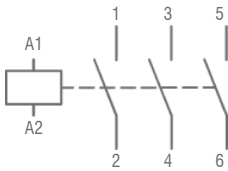
Dimensions (mm)

AC Operated

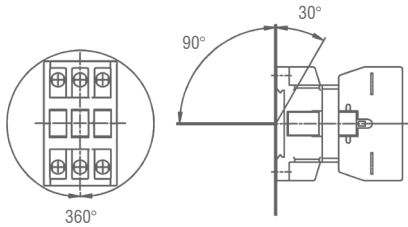


Wiring Diagrams

AC Operated



Mounting Position



MC 3-Pole Contactors with Universal Coil

Key Features

- Rated for both 50Hz & 60Hz
- Wider Voltage Range: 200-240V
- Designed in acc. EN 60947-4-1 & IEC 60335
- Up to 74A AC3
- Up to 130A AC1



Options & Ordering Codes

MC 50 - S - 00 - 190RAC

Series
Standard Contactor **MC**

AC3 Rating
22kW / 50A **50**
30kW / 62A **62**
37kW / 74A **74**

Aux. Contact Configuration
00

Coil Voltage*
200-240AC

Switching Type
Standard **S**

* 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 690V I _e (=I _{th}) 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 (1 pole/3 poles in series)		110A	120A	130A
	Fuse "Typ1" gl. (gG)		160A max.	160A max.	160A max.
	Rated Insulation Voltage U _i *4		830V~	830V~	830V~
	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		
	DC3, I _e		400		
Switching Time at Control Voltage Us ±10%*2,*3	AC Operated	Make Time	12 - 28ms		
		Release Time	8 - 15ms		
		Arc Duration	10 - 15ms		
Mech. Life	AC Operated		10 x 10 ⁶		
	DC Operated with Dual-Wound Coils		10 x 10 ⁶		
Curr. Heat Loss	Power Loss Per Pole (I/AC3 400V)		2.2W	3.9W	5.5W
	Contact Resistance Per Pole		1.0mΩ	1.0mΩ	1.0mΩ
Shock Resistance acc. to IEC60068-2-27 - 20ms Sine Wave NO			8g		
Shock Resistance acc. to IEC60068-2-27 - 20ms Sine Wave NC			-		

*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 3-Pole Contactors

with Universal Coil

IMO

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 MCA10 (NO) MCA01 (NC)	AC1 690V 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.

Technical Data acc. to UL508

Part Number				MC50	MC62	MC74	
Main Contact Ratings	Rated Operational Current "General Use"			110A	120A	130A	
Motor DOL 3-Phase at 60Hz	Rated Operational Power	110-120V	hp	10	10	10	
		200V	hp	15	20	25	
		220-240V	hp	20	25	30	
		277V	hp	20	25	30	
		380-415V	hp	25	30	40	
		440-480V	hp	30	40	50	
		550-600V	hp	40	50	50	
Motor DOL 1-Phase at 60Hz	Rated Operational Power AC Motors at 60Hz (1ph)	110-120V	hp	3	5	7.5	
		200V	hp	7.5	10	15	
		220-240V	hp	10	15	15	
		277V	hp	10	15	15	
		380-415V	hp	15	20	20	
		440-480V	hp	20	25	25	
		550-600V	hp	25	30	30	
Motor DOL 3-phase acc. to ASME A17.5	Rated Operational Current		600V	A	27	37	-
	Rated Operational Power 3-phase Motors for Elevators (500,000 Operations)	110-120V	hp	3	5	-	
		200V	hp	7.5	10	-	
		220-240V	hp	7.5	10	-	
		440-480V	hp	20	25	-	
		550-600V	hp	25	30	-	
	Rated Current 2 Series Contacts		600V	A	44	52	66
	Fuse Class RK5 / Short-circuit current			A/kA	200/5	250/5	300/5
	Fuse Class T / Short-circuit current			A/kA	175/100	175/100	175/100
Rated voltage			V	600	600	600	
Auxiliary Contacts (cULus)				-	-	-	

Cable Cross Sections

	Contacts	Coils
Solid Strand (mm²)	4.0 - 50.0	0.75 - 2.5
Flexible Strand (mm²)	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
Operation Range	0.85 - 1.1
Inrush	140 - 165VA
Sealed	13 - 18VA

Weights & Dimensions

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

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.

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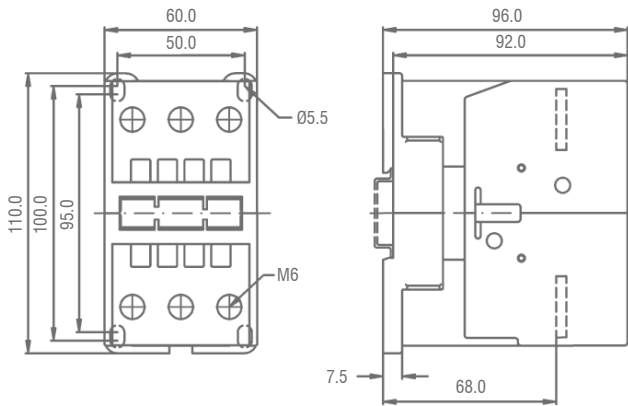
with Universal Coil

IMO

Technical Datasheet

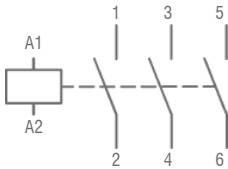
Dimensions (mm)

AC Operated



Wiring Diagrams

AC Operated



Mounting Position

