

## **Key Features**

- Up to 22A AC3
- Up to 32A AC1
- · DIN Rail Mounting
- International Approvals
- Data according to IEC 947 / EN 60947



## **Options & Ordering Codes**



Series	M	C 10N	S	- 10	- 24AC	1.2.	11 4 12
Standard Contactor	M						
ACS	3 Rating						
4kV	V / 10A	10N				Coil Vo	oltage*
5.51	kW / 14A	14N			Aux. Contact Configuration	24AC	24DC
7.51	kW / 18A	18N		10	Normally Open (NO)	110AC	48DC
11k	W / 22A	22N		01	Normally Closed (NC)	230AC	110DC
	Swite	ching Type				400AC	
	Stand	dard	S		* Other and	voltagos available. Di	

<sup>\*</sup> Other coil voltages available. Please contact IMO for more information.

Part Numbei	r		MC10N-S-10	MC14N-S-10	MC18N-S-10	MC22N-S-10	
	AC1 690V I <sub>e</sub> (=I <sub>th</sub> )	open at 40°C	25A	25A	32A	32A	
	AC2, AC3, 380-440	OV	4kW / 10A	5.5kW / 14A	7.5kW / 18A	11kW / 22A	
ings	AC2, AC3, 500-690V		5.5kW	7.5kW	10kW	10kW	
. Rat	DC1 / 3 / 5, 24VDC (1 pole/3 poles in series)		20A	25A	32A	32A	
Main Contact Ratings	Fuse "Typ1" gl. (gG)		63A max.	63A max.	63A max.	63A max.	
1001	Rated Insulation Vo	Itage U <sub>i</sub> *4	690V~	690V~	690V~	690V~	
Main	Making Capacity I <sub>eff</sub>	, at U <sub>e</sub> =690V~	200A	200A	200A	200A	
	Breaking Capacity I	eff 400V~	180A	180A	200A	200A	
	cosθ= 0.65 500V-	~	150A	150A	180A	180A	
	Operation Open			-40 to +60	°C (+90°C)*1		
Max. Ambient Temp	Operation Enclosed			-40 to	+40°C		
Amb Temp	with Thermal Overlo	oad Relay Open		-25 to	+60°C		
Мах.	with Thermal Overlo	oad Relay Enclosed	-25 to +40°C				
_	Storage		-50 to +90°C				
)† Z	Switching Without I	Load	10,000				
ions ions i/hr	AC3, I <sub>e</sub>		600				
Freqency of Operations z Ops/hr	AC4, I <sub>e</sub>		120				
<u> </u>	DC3, I <sub>e</sub>			6	00		
0		Make Time		8 -	16ms		
ne at Je Us	AC Operated	Release Time		5 -	13ms		
g Tin oltaç 6*2, 3		Arc Duration		10 -	15ms		
chin rol V		Make Time		8 -	12ms		
Switching Time at Control Voltage Us ± 10%*2. *3	DC Operated	Release Time		8 -	13ms		
		Arc Duration		10 -	15ms		
Mech. Life	AC Operated			10	x 10 <sup>6</sup>		
Me	DC Operated with D	Oual-Wound Coils		10	x 10 <sup>6</sup>		
Curr. Heat Loss	Power Loss Per Po	le (I <sub>e</sub> /AC3 400V)	0.21W	0.35W	0.5W	0.75W	
2 ¥ 3	Contact Resistance Per Pole $2.1 \text{m}\Omega$ $1.5 \text{m}\Omega$ $1.5 \text{m}\Omega$				1.5mΩ		
Shock Resistance acc. to IEC60068-2-27 - 20ms Sine Wave NO							
Shock Resis	tance acc. to IEC6006	68-2-27 - 20ms Sine Wave NC			6g		

<sup>\*1</sup> With reduced control voltage range 0.9 up to 1.0 x Us and with reduced rated current le / AC1 according to le / AC3

<sup>\*\*</sup> Total breaking time = release time + arc duration

\*\* 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

\*\* Suitable at 690V for earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard industry): U<sub>mp</sub> = 8kV. Data for other conditions upon request



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
t 66	AC1 690V $I_e$ (= $I_{th}$ ) open at 40°C	10A	10A	10A	10A
ontact ngs 0 (NO) 1 (NC)	AC15, 220-240V	3A	3A	3A	3A
Aux Co Ratin MCA10 MCA01	AC15, 380-440V	2A	2A	2A	2A
M M	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
		110-120V	hp	1.5	2	2	3
		200V	hp	3	3	5	5
		220-240V	hp	3	3	7.5	7.5
Motor DOL 3-Phase at 60Hz	Rated Operational Power	277V	hp	3	5	7.5	7.5
00112		380-415V	hp	5	5	10	10
		440-480V	hp	5	7.5	10	15
		550-600V	hp	7.5	10	15	20
		110-120V	hp	0.5	0.75	1	1.5
	Rated Operational Power AC Motors at 60Hz (1ph)	200V	hp	1	1.5	2	3
		220-240V	hp	1.5	2	3	3
Motor DOL 1-Phase at 60Hz		277V	hp	2	3	3	5
OUTIZ		380-415V	hp	3	3	5	5
		440-480V	hp	3	5	5	7.5
		550-600V	hp	3	5	7.5	10
	Rated Operational Current	600V	А	-	-	-	-
		110-120V	hp	-	-	-	-
	Rated Operational Power	200V	hp	-	-	-	-
	3-phase Motors for Elevators	220-240V	hp	-	-	-	-
lotor DOL 3-phase acc. to	(500,000 Operations)	440-480V	hp	-	-	-	-
ASME A17.5		550-600V	hp	-	-	-	-
	Rated Current 2 Series Contacts	600V	Α	-	-	-	-
	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
uxiliary Contacts (cULus)				A600	A600	A600	A600

### **Cable Cross Sections**

	Contacts	Coils
Solid Strand (mm <sup>2</sup> )	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

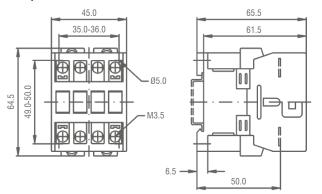
### Resistance to Climatic Conditions acc. to IEC60068

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 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.

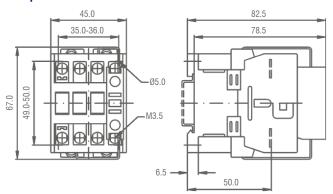


Technical Datasheet

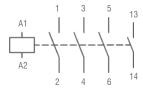
## Dimensions (mm) AC Operated



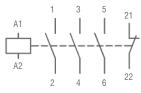
### DC Operated



### Wiring Diagrams AC Operated

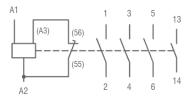


13-14 Normally Open (NO) Auxiliary

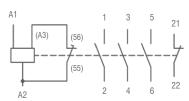


21-22 Normally Closed (NC) Auxiliary

### **DC Operated**

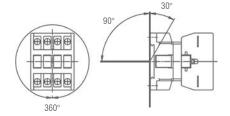


13-14 Normally Open (NO) Auxiliary



21-22 Normally Closed (NC) Auxiliary

## **Mounting Position**

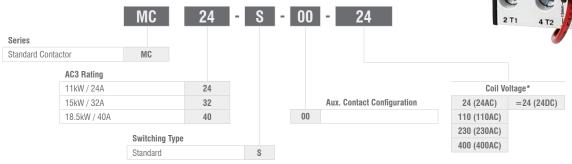


### **Key Features**

- Up to 40A AC3
- Up to 80A AC1
- · DIN Rail Mounting
- International Approvals
- Data according to IEC 947 / EN 60947



## **Options & Ordering Codes**



<sup>\*</sup> Other coil voltages available. Please contact IMO for more information.

MC24-S-

Technical Datasheet

Part Number			MC24-S-00	MC32-S-00	MC40-S-10		
	AC1 690V I <sub>e</sub> (=I <sub>th</sub> )	open at 40°C	50A	65A	80A		
	AC2, AC3, 380-44	0V	11kW / 24A	15kW / 32A	18.5kW / 40A		
ings	AC2, AC3, 500-690V		15kW	18.5kW	18.5kW		
Rat	DC1 / 3 / 5, 24VD	C (1 pole/3 poles in series)	50A	65A	80A		
Main Contact Ratings	Fuse "Typ1" gl. (g	G)	100A max.	100A max.	100A max.		
1 00	Rated Insulation V	oltage U <sub>i</sub> *4	690V~	690V~	690V~		
Mair	Making Capacity I	$_{\rm eff}$ at U $_{\rm e}$ =690V $\sim$	400A	500A	500A		
	Breaking Capacity	I <sub>eff</sub> 400V~	380A	400A	400A		
	cosθ= 0.35 500V	~	300A	370A	370A		
	Operation Open			-40 to +60°C (+90°C)*1			
bieni	Operation Enclose	d		-40 to +40°C			
Max. Ambient Temp	with Thermal Over	load Relay Open		-25 to +60°C			
Max.	with Thermal Over	load Relay Enclosed		-25 to +40°C			
_	Storage			-50 to +90°C			
of Z	Switching Without	Load	7,000				
Freqency of Operations z Ops/hr	AC3, I <sub>e</sub>		600				
reqer peral Ops	AC4, I <sub>e</sub>			120	120		
F 0	DC3, I <sub>e</sub>			600			
+ · · · ·		Make Time		10 - 25ms			
ne a Je U	AC Operated	Release Time	8 - 15ms				
Switching Time at Control Voltage Us ±10%*2. *3		Arc Duration		10 - 15ms			
chin rol V		Make Time		10 - 20ms			
Swit Cont	DC Operated	Release Time		10 - 15ms			
		Arc Duration		10 - 15ms			
Mech. Life	AC Operated			10 x 10 <sup>6</sup>			
Me	DC Operated with	Dual-Wound COils	10 x 10 <sup>6</sup>				
Curr. Heat Loss	Power Loss Per Po	ole (I <sub>e</sub> /AC3 400V)	0.7W	1.3W	2.0W		
5 ± 3	Contact Resistanc	e Per Pole	1.2mΩ	1.2mΩ	1.2mΩ		
Shock Resis	tance acc. to IEC600	68-2-27 - 20ms Sine Wave NO	8g				
Shock Resis	tance acc. to IEC600	68-2-27 - 20ms Sine Wave NC		-			

<sup>\*1</sup> With reduced control voltage range 0.9 up to 1.0 x Us and with reduced rated current le / AC1 according to le / AC3

<sup>\*2</sup> 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<sub>mp</sub> = 8kV. Data for other conditions upon request



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
t 66	AC1 690V $I_e$ (= $I_{th}$ ) open at 40°C	10A	10A	10A
S S S	AC15, 220-240V	3A	3A	3A
Rat SA1	AC15, 380-440V	2A	2A	2A
MC AL	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

art Number				MC24	MC32	MC40
Main Contact Ratings	Rated Operational Current "General Use"			50A	65A	80A
		110-120V	hp	5	5	7.5
		200V	hp	7.5	10	10
		220-240V	hp	10	10	15
Motor DOL 3-Phase at 60Hz	Rated Operational Power	277V	hp	7.5	10	15
OOTIZ		380-415V	hp	10	15	20
		440-480V	hp	15	20	25
		550-600V	hp	20	25	30
		110-120V	hp	1.5	2	3
	Rated Operational Power AC Motors at 60Hz (1ph)	200V	hp	3	5	7.5
Motor DOL 1-Phase at 60Hz		220-240V	hp	5	5	7.5
		277V	hp	5	7.5	10
		380-415V	hp	5	7.5	10
		440-480V	hp	7.5	10	15
		550-600V	hp	10	15	20
	Rated Operational Current	600V	А	15	22	-
		110-120V	hp	2	3	-
	Rated Operational Power	200V	hp	3	5	-
	3-phase Motors for Elevators	220-240V	hp	5	7.5	-
Notor DOL 3-phase acc. to	(500,000 Operations)	440-480V	hp	10	15	-
ASME A17.5		550-600V	hp	10	20	-
	Rated Current 2 Series Contacts	600V	А	22	27	-
	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
uxiliary Contacts (cULus)				-	-	-

### **Cable Cross Sections**

	Contacts	Coils
Solid Strand (mm²)	1.5 - 25.0	0.75 - 2.5
Flexible Strand (mm²)	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	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

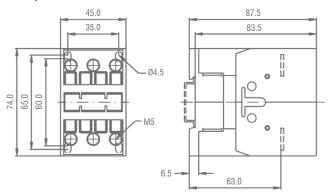
### Resistance to Climatic Conditions acc. to IEC60068

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.

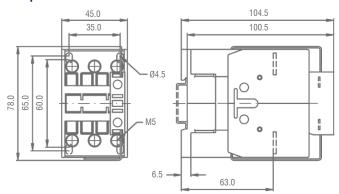


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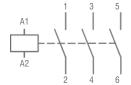
## Dimensions (mm) AC Operated



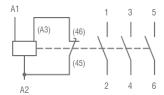
### **DC** Operated



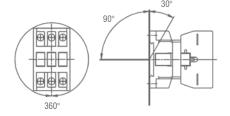
## Wiring Diagrams AC Operated



### **DC** Operated



## **Mounting Position**

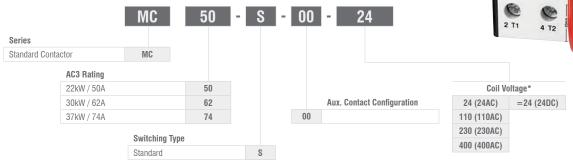


### **Key Features**

- Up to 74A AC3
- Up to 130A AC1
- · DIN Rail Mounting
- International Approvals
- Data according to IEC 947 / EN 60947



## **Options & Ordering Codes**



<sup>\*</sup> Other coil voltages available. Please contact IMO for more information.

Technical Datasheet

Part Number			MC50-S-00	MC62-S-00	MC74-S-10	
	AC1 690V I <sub>e</sub> (=I <sub>th</sub> )	open at 40°C	110A	120A	130A	
	AC2, AC3, 380-44	10V	22kW / 50A	30kW / 62A	37kW / 74A	
ings	AC2, AC3, 500-690V		30kW	37kW	45kW	
Rat	DC1 / 3 / 5, 24VDC (1 pole/3 poles in series)		110A	120A	130A	
ntact	Fuse "Typ1" gl. (gl	G)	160A max.	160A max.	160A max.	
Main Contact Ratings	Rated Insulation Vo	oltage U <sub>i</sub> *4	830V~	830V~	830V~	
Mair	Making Capacity I	$_{\rm eff}$ at U $_{\rm e}$ =690V $\sim$	700A	900A	900A	
	Breaking Capacity	I <sub>eff</sub> 400V~	600A	800A	800A	
	cosθ= 0.35 500V	~	500A	700A	700A	
	Operation Open			-40 to +60°C (+90°C)*1		
Max. Ambient Temp	Operation Enclose	d		-40 to +40°C		
k. Ambi Temp	with Thermal Overload Relay Open		-25 to +60°C			
Max.	with Thermal Overload Relay Enclosed		-25 to +40°C			
_	Storage		-50 to +90°C			
of Z	Switching Without Load		7,000			
Freqency of Operations z Ops/hr	AC3, I <sub>e</sub>		400			
reqel pera Ops	AC4, I <sub>e</sub>		120			
<u> </u>	DC3, I <sub>e</sub>		400			
+ · · ·		Make Time		12 - 28ms		
ne a ye U	AC Operated	Release Time	8 - 15ms			
g Tir oltaç 6*2.,		Arc Duration		10 - 15ms		
chin rol V		Make Time	12 - 23ms			
Switching Time at Control Voltage Us ±10%*2,*3)	DC Operated	Release Time		10 - 18ms		
	Arc Duration		10 - 15ms			
Mech. Life	AC Operated		10 x 10°			
M	DC Operated with Dual-Wound Coils			10 x 10 <sup>6</sup>		
Curr. Heat Loss	Power Loss Per Pole (I <sub>e</sub> /AC3 400V)		2.2W	3.9W	5.5W	
S ± 3	Contact Resistance Per Pole		1.0mΩ	1.0mΩ	1.0mΩ	
Shock Resistance acc. to IEC60068-2-27 - 20ms Sine Wave NO			8g			
Shock Resist	tance acc. to IEC600	68-2-27 - 20ms Sine Wave NC		-		

<sup>\*1</sup> With reduced control voltage range 0.9 up to 1.0 x Us and with reduced rated current le / AC1 according to le / AC3

<sup>\*2</sup> 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<sub>mp</sub> = 8kV. Data for other conditions upon request



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
t 66	AC1 690V $I_e$ (= $I_{th}$ ) open at 40°C	10A	10A	10A
S S S	AC15, 220-240V	3A	3A	3A
Rat SA1	AC15, 380-440V	2A	2A	2A
MC AL	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
		110-120V	hp	10	10	10
		200V	hp	15	20	25
		220-240V	hp	20	25	30
Motor DOL 3-Phase at 60Hz	Rated Operational Power	277V	hp	20	25	30
OUTE		380-415V	hp	25	30	40
		440-480V	hp	30	40	50
		550-600V	hp	40	10 10 20 25 25 30 25 30 30 40	
		110-120V	hp	3	5	7.5
		200V	hp	7.5	10	15
14 L DOL 4 DL	B 1 10 15 1B	220-240V	hp	10	15	15
Motor DOL 1-Phase at 60Hz	Rated Operational Power AC Motors at 60Hz (1ph)	277V	hp	10	15	15
00112		380-415V	hp	15	20	20
		440-480V	hp	20	25	25
		550-600V	hp	25	30	30
	Rated Operational Current	600V	А	27	37	-
		110-120V	hp	3	5	-
	Rated Operational Power	200V	hp	7.5	10	-
	3-phase Motors for Elevators	220-240V	hp	7.5	10	-
otor DOL 3-phase acc. to	(500,000 Operations)	440-480V	hp	20	25	-
ASME A17.5		550-600V	hp	25	30	-
	Rated Current 2 Series Contacts	600V	А	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
ixiliary 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	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

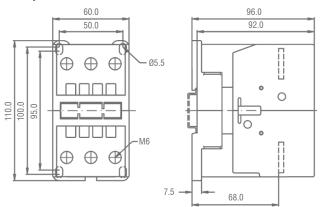
### Resistance to Climatic Conditions acc. to IEC60068

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.

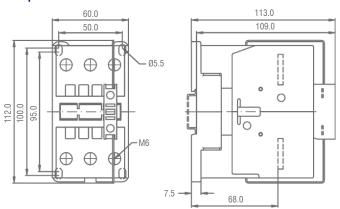


Technical Datasheet

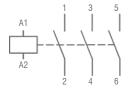
## Dimensions (mm) AC Operated



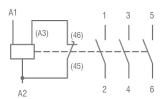
### **DC** Operated



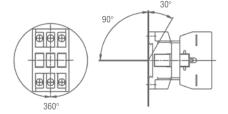
## Wiring Diagrams AC Operated



### **DC** Operated



## **Mounting Position**





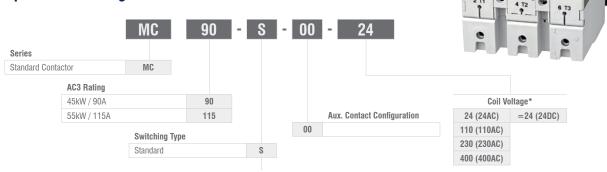
Technical Datasheet

## **Key Features**

- Up to 115A AC3
- Up to 200A AC1
- International Approvals
- · Data according to IEC 947 / EN 60947



## **Options & Ordering Codes**



<sup>\*</sup> Other coil voltages available. Please contact IMO for more information.

Part Numbe	r		MC90-S-00	MC115-S-00	
	AC1 690V I <sub>e</sub> (=I <sub>th</sub> )	open at 40°C	160A	200A	
S	AC2, AC3, 380-44	0V	45kW / 90A	55kW / 115A	
atinç	AC2, AC3, 500-69	0V	55kW	55kW	
ict B	Fuse "Typ1" gl. (gl	G)	250A max.	250A max.	
onta	Rated Insulation Vo	oltage U <sub>i</sub> *4	1000V~	1000V~	
Main Contact Ratings	Making Capacity I	<sub>ff</sub> at U <sub>e</sub> =690V~	1100A	1200A	
Ž	Breaking Capacity	I <sub>eff</sub> 400V~	950A	1100A	
	cosθ= 0.35 500V	~	850A	1000A	
	Operation Open		-40 to +60°C (	+90°C)*1	
bient	Operation Enclose	d	-40 to +4	l0°C	
Max. Ambient Temp	with Thermal Over	oad Relay Open	-25 to +6	0°C	
Max.	with Thermal Over	oad Relay Enclosed	-25 to +40°C		
_	Storage		-50 to +90°C		
JC Z	Switching Without	Load	3,000		
eqency ( erations Ops/hr	AC3, I <sub>e</sub>		300		
Fregency of Operations z Ops/hr	AC4, I <sub>e</sub>		120		
F 0	DC3, I <sub>e</sub>		300		
		Make Time	20 - 35ms		
Switching Time at Control Voltage Us ±10%*2. *3	AC Operated	Release Time	35 - 50ms		
y Tin oltag 6*2.,		Arc Duration	10 - 15ms		
ching ol V		Make Time	20 - 35ms		
Swite Sonti	DC Operated	Release Time	35 - 50r	ms	
0		Arc Duration	10 - 15ms		
Mech. Life	AC Operated		5 x 10	6	
Me	DC Operated		5 x 10	6	
Curr. Heat Loss	Power Loss Per Po	le (I <sub>e</sub> /AC3 400V)	4.8W	7.9W	
2 # 3	Contact Resistanc	e Per Pole	0.6mΩ	$0.5 m\Omega$	
Shock Resis	stance acc. to IEC600	68-2-27 - 20ms Sine Wave NO	7g		
Shock Resis	tance acc. to IEC600	68-2-27 - 20ms Sine Wave NC	5g		

 $<sup>^{\</sup>star1}$  With reduced control voltage range 0.9 up to 1.0 x Us and with reduced rated current le / AC1 according to le / AC3

<sup>\*\*</sup> Total predates to the 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



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

Part Number		MC90-S-00+MCA	MC115-S-00+MCA
ntact gs (NO) (NC)	AC1 690V $I_e$ (= $I_{th}$ ) open at 40°C	10A	10A
ontact ngs 0 (NO) 1 (NC)	AC15, 220-240V	3A	3A
Rati CA10	AC15, 380-440V	2A	2A
Au; MC MC	Fuse "Typ1" gl. (gG)	20A max.	20A max.

## Technical Data acc. to UL508

ırt Number				MC90	MC115
Main Contact Ratings	Rated Operational Current "General Use"			160A	200A
		110-120V	hp	15	20
		200V	hp	25	35
		220-240V	hp	35	40
Motor DOL 3-Phase at 60Hz	Rated Operational Power	277V	hp	-	-
00112		380-415V	hp	50	60
		440-480V	hp	65	75
		550-600V	hp	85	100
Motor DOL 1-Phase at Rated Operational Power 60Hz AC Motors at 60Hz (1ph)		110-120V	hp	8	10
		200V	hp	15 20	20
		220-240V hp 20	20	25	
	Hated Operational Power AC Motors at 60Hz (1ph)	277V	hp	20	25
OOTIZ		380-415V	hp	30	40
		440-480V	hp	40	50
		550-600V	hp	50	60
	Rated Operational Current	600V	А	-	-
		110-120V	hp	-	-
	Rated Operational Power	200V	hp	-	-
	3-phase Motors for Elevators	220-240V	hp	-	-
lotor DOL 3-phase acc. to	(500,000 Operations)	440-480V	hp	-	-
ASME A17.5		550-600V	hp	-	-
	Rated Current 2 Series Contacts	600V	А	-	-
	Fuse Class RK5 / Short-circuit current		A/kA	300/10	300/10
	Fuse Class T / Short-circuit current		A/kA	300/10*	300/10*
	Rated voltage		V	600	600
uxiliary Contacts (cULus)				-	-

<sup>\*</sup> Class T and Class RK1

### **Cable Cross Sections**

	Contacts	Coils
Solid Strand (mm²)	0.5 - 95.0 + 10.0 - 120.0	0.75 - 2.5
Flexible Strand (mm²)	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 Allen Key	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**

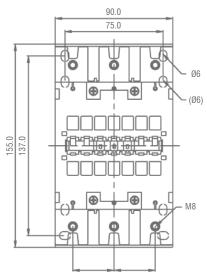
Single Unit (inc. packaging)	2.20kg
Dimensions	157 x 92 x 155mm

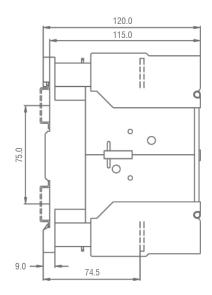
### Resistance to Climatic Conditions acc. to IEC60068

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.

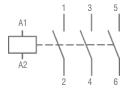


## **Dimensions (mm)**

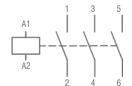




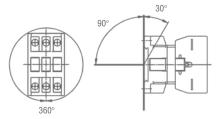
### Wiring Diagrams AC Operated



### **DC** Operated



## **Mounting Position**



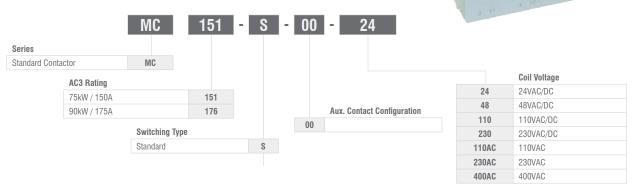


### **Key Features**

- Up to 175A AC3
- Up to 300A AC1
- 3 Pole
- · International Approvals
- Data according to IEC 947 / EN 60947



## **Options & Ordering Codes**



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

art Number			MC151-S-00	MC176-S-00	
	AC1 690V I <sub>e</sub> (=I <sub>th</sub> )	open at 40°C	250A	300A	
	AC2, AC3, 380-44	0V	75kW / 150A	90kW / 175A	
	AC2, AC3, 500-69	0V	90kW	110kW	
Main Contact Ratings	Fuse "Typ1" gl. (g0	G)	250A max.	315A max.	
t Rat	Rated Insulation Voltage U <sub>i</sub> *1		1000VAC	1000VAC	
ntaci	Making Capacity I <sub>e</sub>	<sub>ff</sub> at U <sub>e</sub> =690V∼	1500A	2000A	
00 [	Making Capacity I <sub>e</sub>	$_{\rm ff}$ at U $_{\rm e}$ =1000V $\sim$	720A	840A	
Mair	Breaking Capacity	I <sub>eff</sub> 400V~	1200A	1500A	
	Breaking Capacity cosθ= 0.65 500V~		1200A	1500A	
	Breaking Capacity cosθ= 0.35 690V~		1000A	A008	
	Breaking Capacity cosθ= 0.35 1000V∼		500A	600A	
_	Operation Open		-25 to +55°C (+70°C)*2		
bien o	Operation Enclosed	i	-25 to +40°C		
Max. Ambient Temp	with Thermal Overload Relay Open		-25 to +55°C		
Max.	with Thermal Overload Relay Enclosed		-25 to +	40°C	
_	Storage		-55 to +	80°C	
ncy of ions z /hr	Switching Without Load		1200	0	
Frequency of Operations z Ops/hr	AC3, I <sub>e</sub>		300	)	
at Us	AC Operated	Make Time	30 - 60	Oms	
g Time oltage 6*3, *4	AG Operated	Release Time	30 - 80ms		
Switching Time at Control Voltage Us ±10%*3.*4	DC Operated	Make Time	30 - 60	Oms	
SOI	DO Operated	Release Time	30 - 80	Oms	
Mech. Life	AC Operated		10 x 1	06	
Me	DC Operated		10 x 1	06	
Curr. Heat Loss	Power Loss Per Po	le (I <sub>g</sub> /AC3 400V)	9W	11W	
C. He	Contact Resistance	Per Pole	0.4mΩ	0.35mΩ	

Technical Datasheet

MC151-S-00 230

<sup>\*</sup>¹ Suitable at 690V for earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard industry): U<sub>mp</sub>=8kV. Data for other conditions upon request
\*² With reduced control voltage range 0.9 up to 1.0 x Us and with reduced rated current le / AC1 according to le / AC3
\*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 (varistor, RC unit, diode unit)

<sup>\*4</sup> Total breaking time = release time + arc duration



Technical Datasheet

### Technical Data acc. to UL508

art Number				MC151	MC176
Main Contact Ratings	Rated Operational Current "General Use"			180A	220A
		110-120V	hp	-	-
		200V	hp	40	50
		220-240V	hp	50	60
Motor DOL 3-Phase at 60Hz	Rated Operational Power	277V	hp	-	-
OOTIZ		380-415V	hp	-	-
		440-480V	hp	100	125
		550-600V	hp	125	150
		110-120V	hp	15	25
	Rated Operational Power AC Motors at 60Hz (1ph)	200V	hp	-	-
		220-240V	hp	25	30
Motor DOL 1-Phase at 60Hz		277V	hp	-	-
OULE		380-415V	hp	-	-
		440-480V	hp	-	-
		550-600V	hp	-	-
	Rated Operational Current	600V	А	-	-
		110-120V	hp	-	-
	Rated Operational Power	200V	hp	-	-
	3-phase Motors for Elevators	220-240V	hp	-	-
Notor DOL 3-phase acc. to	(500,000 Operations)	440-480V	hp	-	-
ASME A17.5		550-600V	hp	-	-
	Rated Current 2 Series Contacts	600V	А	-	-
	Fuse Class RK5 / Short-circuit current		A/kA	300/10	350-10
	Fuse Class T / Short-circuit current		A/kA	-	-
	Rated voltage		V	600	600
uxiliary Contacts (cULus)				-	-

### **Cable Cross Sections**

	Contacts	Coils
Solid Strand (mm²)		1.0 - 2.5
Flexible Strand (mm²)	Busbar	1.0 - 2.5
Solid Strand (AWG)	18 x 4	16 - 12
Flexible Strand (AWG)	screw M8	16 - 12
Cables per Clamp		2

### Coil

	AC Operated	DC Operated
Operation Range	0.85 - 1.1	0.85 - 1.1
Inrush	350VA	350W
Sealed	5W	5W

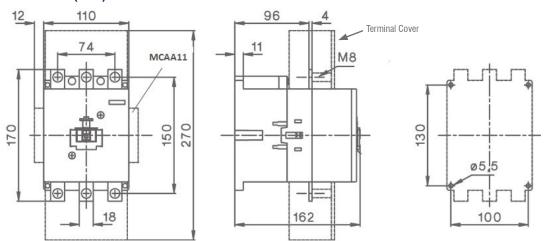
## **Weights & Dimensions**

Single Unit (inc. packaging)	4.0kg
Dimensions	170 x 110 x 162mm

### 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)**





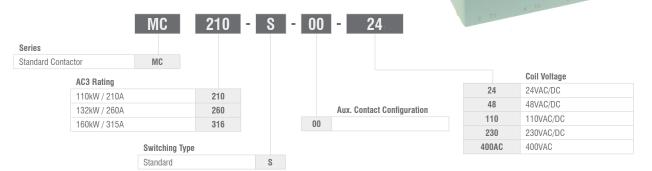
Technical Datasheet

## **Key Features**

- Up to 315A AC3
- Up to 600A AC1
- 3 Pole
- International Approvals
- Data according to IEC 947 / EN 60947



## **Options & Ordering Codes**



art Number			MC210-S-00	MC260-S-00	MC316-S-00		
	AC1 690V I <sub>e</sub> (=I <sub>th</sub> )	open at 40°C	350A	450A	600A		
	AC2, AC3, 380-44	0V	110kW / 210A	132kW / 260A	160kW / 315A		
	AC2, AC3, 500-69	0V	132kW	160kW	210kW		
Main Contact Ratings	Fuse "Typ1" gl. (gG)		400A max. 450A max. 500A				
t Rat	Rated Insulation Voltage U <sub>i</sub> *1		1000VAC				
ntaci	Making Capacity I <sub>eff</sub> at U <sub>e</sub> =690V∼		2100A	2600A	3200A		
0) ر	Making Capacity I <sub>eff</sub> at U <sub>e</sub> =1000V~		1020A	1200A	1500A		
Mair	Breaking Capacity I <sub>eff</sub> 400V~		1600A	2100A	2600A		
	Breaking Capacity cosθ= 0.65 500V~		1600A	2100A	2600A		
	Breaking Capacity $cos\theta = 0.35 690V$ ~		1200A	1900A	2300A		
	Breaking Capacity $\cos\theta = 0.35\ 1000V$ ~		700A 850A 1000A				
_	Operation Open		-25 to +55°C (+70°C)*2				
bien o	Operation Enclosed		-25 to +40°C				
Max. Ambient Temp	with Thermal Overload Relay Open		-25 to +55°C				
Max	with Thermal Overload Relay Enclosed		-25 to +40°C				
	Storage		-55 to +80°C				
Frequency of Operations z Ops/hr	Switching Without	Load	1200				
Freque Operat Ops	AC3, I <sub>e</sub>		150				
s at Us	AC Operated	Make Time	40 - 60ms				
g Time oltage %*2, *3	Release Time		15 - 45ms				
Switching Time at Control Voltage Us ±10%*2.*3	DC Operated Make Time		40 - 60ms				
S) CO	Do operated	Release Time		15 - 45ms			
Mech. Life	AC Operated			5 x 10 <sup>6</sup>			
Me Li	DC Operated			5 x 10 <sup>6</sup>			
Curr. Heat Loss	Power Loss Per Po	ole (I <sub>e</sub> /AC3 400V)	8W	11W	14.9W		
Z Ž S	Contact Resistanc	e Per Pole	0.18mΩ	0.16mΩ	$0.15 m\Omega$		

<sup>\*</sup>¹ 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 \*² With reduced control voltage range 0.9 up to 1.0 x Us and with reduced rated current le / AC1 according to le / AC3



Technical Datasheet

### Technical Data acc. to UL508

Part Number				MC210	MC260	MC316
Main Contact Ratings	Rated Operational Current "General Use"			250A	300A	350A
		110-120V	hp	-	-	-
		200V	hp	60	75	100
	Rated Operational Power	220-240V	hp	75	100	125
Motor DOL 3-Phase at 60Hz		277V	hp	-	-	-
00112		380-415V	hp	-	-	-
		440-480V	hp	150	200	250
		550-600V	hp	200	250	300
		110-120V	hp	-	-	-
	Rated Operational Power AC Motors at 60Hz (1ph)	200V	hp	-	-	-
		220-240V	hp	40	50	50
Motor DOL 1-Phase at 60Hz		277V	hp	-	-	-
00112	No Motors at Ooriz (Tpir)	380-415V	hp	-	-	-
		440-480V	hp	-	-	-
		550-600V	hp	-	-	-
	Rated Operational Current	600V	А	-	-	-
		110-120V	hp	-	-	-
	Rated Operational Power	200V	hp	-	-	-
	3-phase Motors for Elevators	220-240V	hp	-	-	-
otor DOL 3-phase acc. to	(500,000 Operations)	440-480V	hp	-	-	-
ASME A17.5		550-600V	hp	-	-	-
	Rated Current 2 Series Contacts	600V	А	-	-	-
	Fuse Class RK5 / Short-circuit current		A/kA	400/18	500/18	500/18
	Fuse Class T / Short-circuit current		A/kA	-	-	-
	Rated voltage		V	600	600	600
uxiliary Contacts (cULus)				-	-	-

### **Cable Cross Sections**

	Contacts	Coils
Solid Strand (mm²)		1.0 - 2.5
Flexible Strand (mm²)	Busbar	1.0 - 2.5
Solid Strand (AWG)	25 x 6	16 - 12
Flexible Strand (AWG)	screw M10	16 - 12
Cables per Clamp		2

### Coil

	AC Operated	DC Operated
Operation Range	0.85 - 1.1	0.85 - 1.1
Inrush	360VA	360W
Sealed	5W	5W

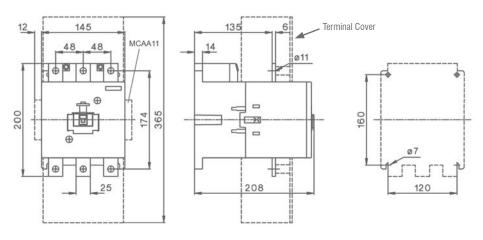
## **Weights & Dimensions**

Single Unit (inc. packaging)	7.2kg
Dimensions	200 x 145 x 208mm

### 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)**





Technical Datasheet

## **Key Features**

- Up to 860A AC3
- Up to 1100A AC1
- 3 Pole
- International Approvals
- Data according to IEC 947 / EN 60947



## **Options & Ordering Codes**



S S						
dard Contactor	MC					
AC3 Rating						Coil Voltage
250kW / 450A		450			24	24VAC/DC
300kW / 550A		550	Aux. Contact Configuration		48	48VAC/DC
400kW / 700A		700	00	ix. contact configuration	110	110VAC/DC
			00		230	230VAC/DC
500kW / 860A		860			400AC	400VAC

Part Number			MC450-S-00	MC550-S-00	MC700-S-00	MC860-S-00		
	AC1 690V I <sub>e</sub> (=I <sub>th</sub> )	open at 40°C	700A	800A	1000A	1100A		
	AC2, AC3, 380-44	0V	250kW / 450A	300kW / 550A	400kW / 700A	500kW / 860A		
	AC2, AC3, 500-(600-690V)		300/375kW	325/500kW	500/630kW	600/700kW		
ings	Fuse "Typ1" gl. (g0	à)	630A max.	630A max.	800A max.	1000A max.		
r Rat	Rated Insulation Vo	ltage U <sub>i</sub> *1	1000	OVAC	690	VAC		
Main Contact Ratings	Making Capacity I <sub>ef</sub>	f at Ue=690V~	4500A	5500A	7000A	8600A		
١ ٥٥	Making Capacity I <sub>ef</sub>	$_{\rm f}$ at U $_{\rm e}$ =1000V $\sim$	2400A	3000A	-	-		
Mair	Breaking Capacity	l <sub>eff</sub> 400V∼	4500A	5500A	7000A	8000A		
	Breaking Capacity	cosθ= 0.65 500V~	4500A	5500A	7000A	8000A		
	Breaking Capacity	cosθ= 0.35 690V~	3200A	4400A	5600A	6900A		
	Breaking Capacity	cosθ= 0.35 1000V~	-	-	-	-		
_	Operation Open		-25 to +55°C (+70°C)*2					
bien:	Operation Enclosed	i		-25 to +40°C				
Max. Ambient Temp	with Thermal Overl	oad Relay Open		-25 to +55°C				
Max	with Thermal Overl	oad Relay Enclosed	-25 to +40°C					
	Storage		-55 to +80°C					
/ of	Switching Without	Load	1200					
Frequency of Operations z Ops/hr	AC3, I <sub>e</sub>		50					
Freq Ope	AC4, I <sub>e</sub>		25					
Switching Time at Control Voltage Us ±10%*2.*3	AC Operated	Make Time		50 - 100ms				
Switch Tim Con Voltaç	AO Operateu	Release Time	150 - 200ms / 500 - 1000ms *³					
ch.	ದ್ದ a AC Operated			5 x 10 <sup>6</sup>				
Mech. Life	DC Operated			5 x 10 <sup>6</sup>				
Curr. Heat Loss	Power Loss Per Pole (I <sub>e</sub> /AC3 400V)		26.3W	33.3W	49.0W	59.2W		

<sup>\*</sup>¹ Suitable at 690V for earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard industry): U<sub>mp</sub>=8kV. Data for other conditions upon request \*² With reduced control voltage range 0.9 up to 1.0 x Us and with reduced rated current le / AC1 according to le / AC3 \*3 Normal or delayed drop is adjustable



Technical Datasheet

### Technical Data acc. to UL508

Part Number				MC450	MC550	MC700	MC860
Main Contact Ratings	Rated Operational Current "General Use"			420A	520A	700A	810A
		110-120V	hp	-	-	-	-
		200V	hp	125	150	200	250
		220-240V	hp	125	150	250	300
Motor DOL 3-Phase at 60Hz	Rated Operational Power	277V	hp	-	-	-	-
00112		380-415V	hp	-	-	-	-
		440-480V	hp	250	350	500	600
		550-600V	hp	250	350	500	600
		110-120V	hp	-	-	-	-
		200V	hp	-	-	-	-
	Rated Operational Power AC Motors at 60Hz (1ph)	220-240V	hp	-	-	-	-
Motor DOL 1-Phase at 60Hz		277V	hp	-	-	-	-
00112		380-415V	hp	-	-	-	-
		440-480V	hp	-	-	-	-
		550-600V	hp	-	-	-	-
	Rated Operational Current	600V	А	-	-	-	-
		110-120V	hp	-	-	-	-
	Rated Operational Power	200V	hp	-	-	-	-
	3-phase Motors for Elevators	220-240V	hp	-	-	-	-
Notor DOL 3-phase acc. to	(500,000 Operations)	440-480V	hp	-	-	-	-
ASME A17.5		550-600V	hp	-	-	-	-
	Rated Current 2 Series Contacts	600V	А	-	-	-	-
	Fuse Class RK5 / Short-circuit current		A/kA	1200/18	1200/18	2000/30	2000/30
	Fuse Class T / Short-circuit current		A/kA	-	-	-	-
	Rated voltage		V	600	600	600	600
Auxiliary Contacts (cULus)				A600	A600	A600	A600

### **Cable Cross Sections**

	Contacts				Coils
	MC450	MC550	MC700	MC860	
Solid Strand (mm²)	Busbar 30 x 5 screw M12	Busbar 40 x 6 screw M12	Busbar 50 x 8		1.0 - 2.5
Flexible Strand (mm²)				Busbar	1.0 - 2.5
Solid Strand (AWG)				50 x 8	16 - 12
Flexible Strand (AWG)			screw M12	screw M14	16 - 12
Cables per Clamp					2

### Coil

		AC Operated			DC Operated				
	MC450	MC550	MC700	MC860	MC450	MC550	MC700	MC860	
Operation Range		0.85 - 1.1							
Inrush	800 -	800 - 950VA		1350 - 1600VA		700 - 850W		1300 - 1550W	
Sealed	9 -	9 - 11W		21 - 25W		8 - 10W		22W	

## **Weights & Dimensions**

	MC450	MC550	MC700	MC860
Single Unit (inc. packaging)	13.0kg	13.5kg	26.5kg	27.6kg

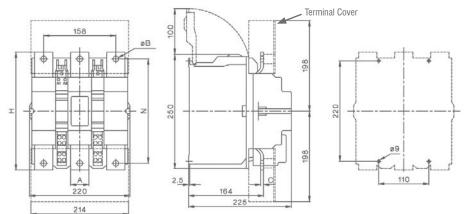
### Resistance to Climatic Conditions acc. to IEC60068

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.

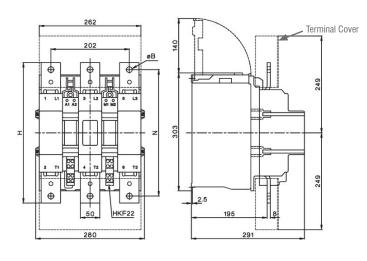


Technical Datasheet

## **Dimensions (mm)**



Туре	Α	В	C	Н	N
MC450	40	10.5	4	233	206
MC550	40	12.5	6	258	228



Туре	В	Н	N
MC700	13	310	277
MC860	15	361	325

Technical Datasheet

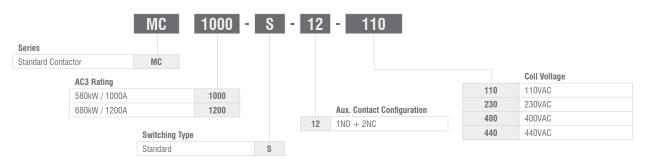
## **Key Features**

- Up to 1200A AC3
- Up to 1350A AC1
- 3 Pole
- · International Approvals
- Data according to IEC 947 / EN 60947





## **Options & Ordering Codes**



Part Number			MC1000-S-12	MC1200-S-12	
	AC1 690V $I_e$ (= $I_{th}$ ) ope	n at 40°C	1200A	1350A	
	AC2, AC3, 380-440V		580kW / 1000A	680kW / 1200A	
	AC2, AC3, 500-(600-690V)		720/850kW	850/1000kW	
ıngs	Fuse "Typ1" gl. (gG)		1000A max.	1250A max.	
Main Contact Ratings	Rated Insulation Voltag	e U <sub>i</sub> *1	690VA	AC	
ntact	Making Capacity I <sub>eff</sub> at I	J <sub>e</sub> =690V~	10000A	12000A	
Col	Making Capacity I <sub>eff</sub> at I	J <sub>e</sub> =1000V~	-	-	
Mair	Breaking Capacity I <sub>eff</sub> 4	00V~	8000A	10000A	
	Breaking Capacity cost	)= 0.65 500V~	8000A	10000A	
	Breaking Capacity cost	)= 0.35 690V~	7000A	A0008	
	Breaking Capacity cosθ= 0.35 1000V~		-	-	
	Operation Open		-25 to +55°C (+70°C)*2		
bient	Operation Enclosed		-25 to +40°C		
. Amb Temp	with Thermal Overload	Relay Open	-25 to +55°C		
Max. Ambient Temp	with Thermal Overload	Relay Enclosed	-25 to +40°C		
_	Storage		-55 to +80°C		
Frequency of Operations z Ops/hr	Switching Without Load	i	300		
Freque Operat Ops	AC3, I <sub>e</sub>		20		
Switching Time at Control Voltage Us ±10%*2.*3	AC Operated	Make Time	50 - 100	Oms	
Switc Tim Con Voltag	Release Time		25 - 50ms		
ch.	AC Operated		5 x 10 <sup>6</sup> * <sup>4</sup>		
Mech. Life	DC Operated		5 x 10 <sup>6</sup> *4		
Curr. Heat Loss	Power Loss Per Pole (I <sub>e</sub> /AC3 400V)		60W	72W	

<sup>\*</sup>¹ Suitable at 690V for earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard industry): U<sub>emp</sub>=8kV. Data for other conditions upon request \*² With reduced control voltage range 0.9 up to 1.0 x Us and with reduced rated current le / AC1 according to le / AC3
\*³ Normal or delayed drop is adjustable

<sup>\*4</sup> After each 1x106 operations magentic core and built-in auxiliary contact block must be changed



Technical Datasheet

### Technical Data acc. to UL508

Part Number				MC1000	MC1200
Main Contact Ratings	Rated Operational Current "General Use"			-	1215A
		110-120V	hp	-	-
		200V	hp	-	450
		220-240V	hp	-	450
Motor DOL 3-Phase at 60Hz	Rated Operational Power	277V	hp	-	-
OUTE		380-415V	hp	-	-
		440-480V	hp	-	900
		550-600V	hp	-	900
		110-120V	hp	-	-
	Rated Operational Power AC Motors at 60Hz (1ph)	200V	hp	-	-
		220-240V	hp	-	-
Motor DOL 1-Phase at 60Hz		277V	hp	-	-
OUL		380-415V	hp	-	-
		440-480V	hp	-	-
		550-600V	hp	-	-
	Rated Operational Current	600V	А	-	-
		110-120V	hp	-	-
	Rated Operational Power	200V	hp	-	-
	3-phase Motors for Elevators	220-240V	hp	-	-
Motor DOL 3-phase acc. to	(500,000 Operations)	440-480V	hp	-	-
ASME A17.5		550-600V	hp	-	-
	Rated Current 2 Series Contacts	600V	А	-	-
	Fuse Class RK5 / Short-circuit current		A/kA	-	2000/42
	Fuse Class T / Short-circuit current		A/kA	-	-
	Rated voltage		V	-	600
Auxiliary Contacts (cULus)				-	A600

### **Cable Cross Sections**

	Contacts	Coils
Solid Strand (mm²)		1.0 - 2.5
Flexible Strand (mm²)	Busbar	1.0 - 2.5
Solid Strand (AWG)	50 x 10	16 - 12
Flexible Strand (AWG)	screw 2 x M12	16 - 12
Cables per Clamp		2

### Coil

	AC Operated	DC Operated
Operation Range	0.85 - 1.1	0.85 - 1.1
Inrush	2400VA	2100W
Sealed	70W	60W

## **Weights & Dimensions**

	MC1000	MC1200
Single Unit (inc. packaging)	49.0kg	53.0kg

### 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)**

