

MB Series Mini Contactors

with Universal Coil



Key Features

- DIN Rail or PCB mounting
- Wider Voltage Range: 200-240V
- Less heat produced compared to standard contactors
- Rated for both 50Hz & 60Hz
- Temperature resistant, flame retardant plastic
- Designed acc. to EN 60947-4-1 & IEC 60335



Options & Ordering Codes

Series		Coil Voltage	
Contactor 9A AC3	MB09	190RAC	200-240V AC 50Hz / 60Hz
Contactor 12A AC3	MB12		

Mounting Type		Contact Arrangement	
DIN Rail mount screw terminal	S	10	3 NO + 1 NO auxiliary
PCB mount	P	01	3 NO + 1 NC auxiliary
Faston terminal 1 x 6.3mm or 2 x 2.8mm	F	0040	4 NO (not available in R-P)
Reversing, DIN Rail Mount* ²	R-S		
Reversing, PCB Mount* ³	R-P		

*¹ Voltage available on request. Additional coil voltages not shown above are also available on request. Contact IMO.
*² MB09, MB12 models only.
*³ MB09 models only.

Technical Data according to IEC, VDE and BS

Type		MB09-S MB09-R-S	MB09-P MB09-R-P	MB12-S MB12-R-S	MB12-P
Mounting		DIN	Printed Circuit	DIN	Printed Circuit
Main Contacts					
	Rated Insulation Volts	690	690	690	690
Max. Frequency of Operation	AC15 OPS/HR	-	-	-	-
	AC3 OPS/HR	600		700	
	Mechanical Life OPS	5 million		5 million	
	AC1 Amps	20	16	20	16
	AC3 Amps 230V	11.5		14.5	
	380-400V	9		12	
	KW 230V	3		4	
	380-400V	4		5.5	
Short Circuit Protection					
	Class gl. Highest Fuse Amps	20	16	20	
	Highest Fuse Amps (without welding)	10	10	10	
Auxiliary Contacts	AC15 Amps 230V	3		3	
Coil Operation					
	AC Range	0.85 - 1.1		0.85 - 1.1	
	AC Inrush VA	25		25	
	AC Sealed VA	5		5	
	AC Sealed W	1.2		1.2	
	DC Inrush and Sealed W	2.5		2.5	
Cable Cross Section	Solid mm ²	0.75 - 2.5	-	0.75 - 2.5	-
Contacts and Coil	Flexible mm ²	0.75 - 2.5	-	0.75 - 2.5	-
	Flexible with Cable End mm ²	0.5 - 2.5	-	0.5 - 2.5	-
	No. of Conductors	2	-	2	-
Maximum Temperature					
	Normal Use °C	-40 to +60		-40 to +60	
	Storage °C	-50 to +90		-50 to +90	

NOTE: Refer to IMO for UL and CSA ratings.

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IMO

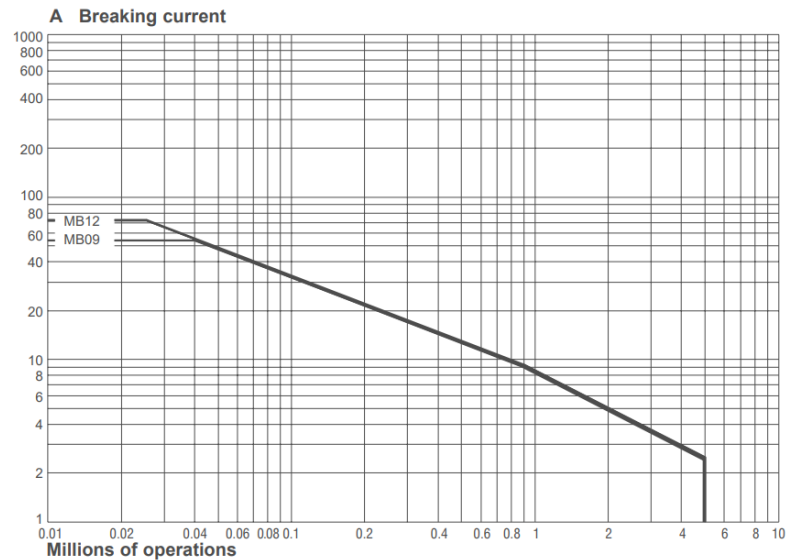
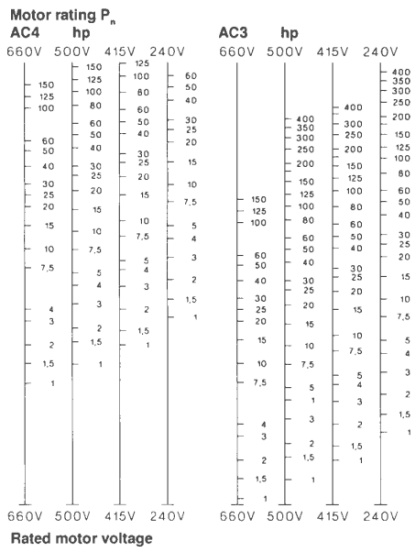
Technical Datasheet

Technical Data according to UL508

Type				MB09-S MB09-R-S	MB09-F	MB09-P	MB12 MB12-R-S	HK	MBA
Main Contact Ratings	Rated Operational Current "General Use"		A	15	15	20	20	10	
Motor 3-Phase at 60Hz	Rated Operational Power	110-120V	hp	1.5			2	-	
		200-208V	hp	3			3	-	
		220-240V	hp	3			3	-	
		440-480V	hp	5			7.5	-	
		550-600V	hp	7.5			10	-	
Motor 1-Phase at 60Hz	Rated Operational Power	110-120V	hp	0.5			0.75	-	
		200-208V	hp	1			1.5	-	
		220-240V	hp	1.5			2	-	
Fuse / Short Circuit Current			A/kA	30 / 5			30 / 5	-	
Rated Voltage			V AC	600		600*	600	600	
Auxiliary Contacts	Heavy Pilot Duty		AC	A600					
	Standard Pilot Duty		DC	Q600					

*Pollution Degree Ui	CTI - PWB	Ui
2	≥ 100	600V
3	≥ 400	480V
3	100 - 400	240V

Contact Life MB09/MB12



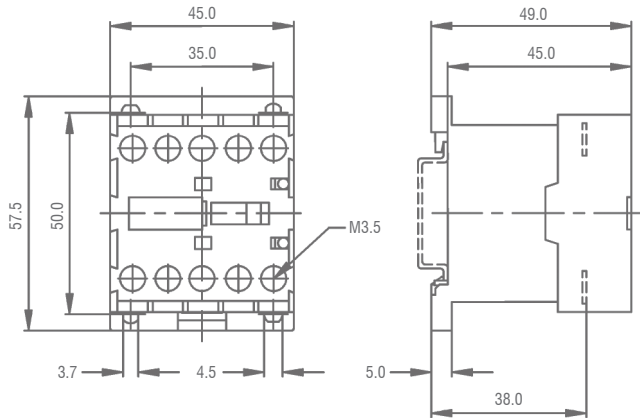
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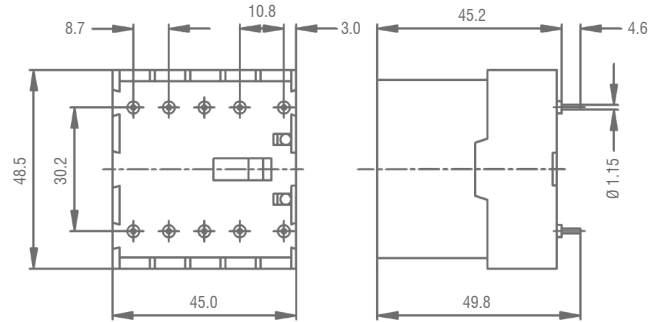


Dimensions (mm)

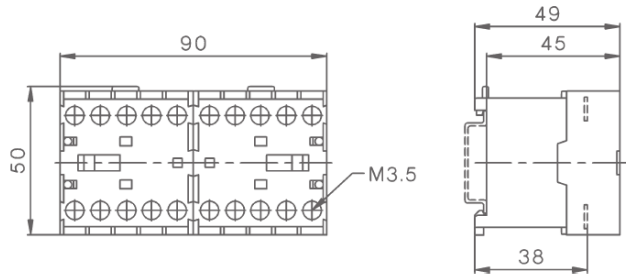
DIN Mount Screw Terminal



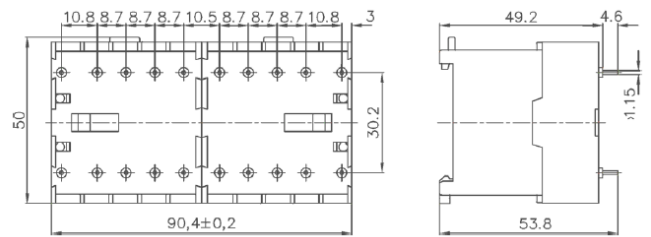
PCB Mount



Reversing DIN Mount Screw Terminal



Reversing PCB Mount



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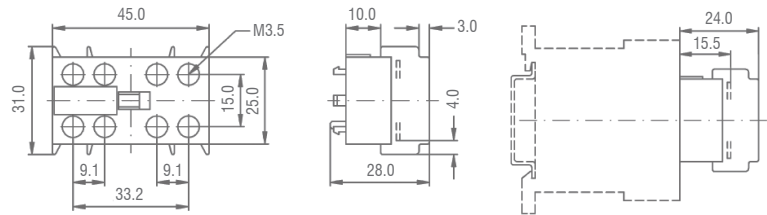
Auxiliary Contacts

Part	Contacts	For Use With	Fitting Directions
MBA-11	1NO + 1NC	MB09 / MB12	Top Fitting
MBA-22	2NO + 2NC	MB09 / MB12	Top Fitting
MBA-11V	1NO + 1NC	MB09-R-S-01	Left Side Fitting
MBA-11X	1NO + 1NC	MB09-R-S-01	Right Side Fitting



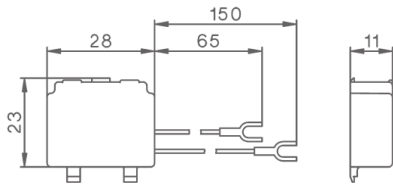
Auxiliary Contact Ratings

AC1 (I _B)	10A	690V AC
AC15	3A	230V AC
	2A	400V AC



Coil Suppressors

Part	Voltage Range	Capacitance / Resistance
RC-MB-24	12-48V AC/DC	1600nF / 22Ω
RC-MB-110	48-127V AC/DC	680nF / 270Ω
RC-MB-230	110-250V AC/DC	220nF / 2200Ω



Overloads

- Manual Reset
- Single Phase or Three Phase Protection
- Trip & Alarm Contacts
- Ambient Temperature Compensation -25 to +40°C

Part	Current Range
U12/16E0.18K1	0.12 - 0.18
U12/16E0.27K1	0.18 - 0.27
U12/16E0.4K1	0.27 - 0.4
U12/16E0.6K1	0.4 - 0.6
U12/16E0.9K1	0.6 - 0.9
U12/16E1.2K1	0.8 - 1.2
U12/16E1.8K1	1.2 - 1.8
U12/16E2.7K1	1.8 - 2.7
U12/16E4K1	2.7 - 4.0
U12/16E6K1	4.0 - 6.0
U12/16E9K1	6.0 - 9.0
U12/16E11K1	8.0 - 11.0
U12/16E14K1	10.0 - 14.0

