



Screw terminal (4a)



Fasten terminal type



PCB terminal type

FEATURES

- Suitable for AC3 and AC11 loads
- Low noise
- Forced operation contacts
- Low power consumption, hence ideal as interface module

TÜV, UL, C-UL RATINGS

Type No.		DC coil type	MC-SM, MC-SA	MC-SMF, MC-SAF	MC-SMP, MC-SAP	
		AC coil type	MC-NM, MC-NA	MC-NMF, MC-NAF	MC-NMP, MC-NAP	
Terminal form			Screw terminal	Fasten terminal	PCB terminal	
TÜV rating	Rated switching voltage		400 VAC			
	Rated current		15 A		8 A	
	Motor load (IEC AC3)	Single phase	120 VAC	0.4 kW 9.5 A		0.37 kW 8 A
			240 VAC	0.75 kW 8 A		0.75 kW 8 A
		Three phase	240 VAC	2.5 kW 11 A		2.2 kW 8 A
400 VAC			4.0 kW 9 A		3.8 kW 8 A	
Auxiliary contact rating	AC15	6A 120 VAC, 6 A 240 VAC, 4A 380 VAC				
	AC12	10A 120 VAC, 10 A 240 VAC, 10A 380 VAC				
UL / C-UL rating	"a" contact	Motor load	Single phase	120 VAC	F.L.A.* 10 A, L.R.A.** 60 A	
				240 VAC	F.L.A. 10 A, L.R.A. 60 A	
		Three phase	240 VAC	F.L.A. 10 A, L.R.A. 60 A		
	"b" contact	General use		15 A, 120 VAC, 10 A 240 VAC		
		Tungsten lamp		6 A 240 VAC		
		Pilot duty		A300		

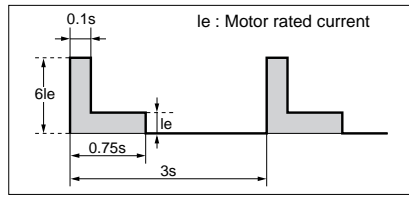
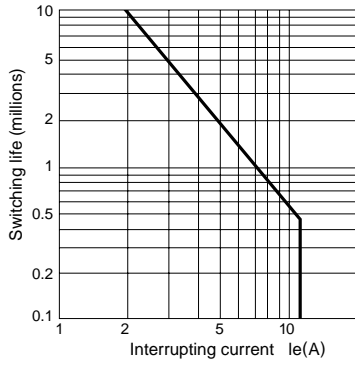
*F.L.A. = Full load amperage

**L.R.A. = Locked rotor amperage

SPECIFICATIONS

	DC coil type	AC coil type
Mechanical life	> 10 ⁷	> 5 x 10 ⁶
Insulation resistance	More than 10Ω by 500 VDC megger (initial)	
Dielectric strength	2,500 VAC for more than 1 minute (initial)	
Coil surge voltage	< 50 V	--
Impulse resistance of surge absorption circuit	> 500 V	--
Usable range of coil voltage	80% to 120% V (cold) 85% to 120% V (hot)	80% to 110% V (cold) 85% to 110% V (hot)
Usable temp. & humidity	-10°C to +60°C 14°F to +140°F, < 85% R.H.	
Permissible mounting direction		
Weight	Screw: 150g, Fasten/PCB: 140g	Screw: 130g, Fasten/PCB: 120g

AC3 220 V LIFE CURVE (Average) for Screw and Fasten Types



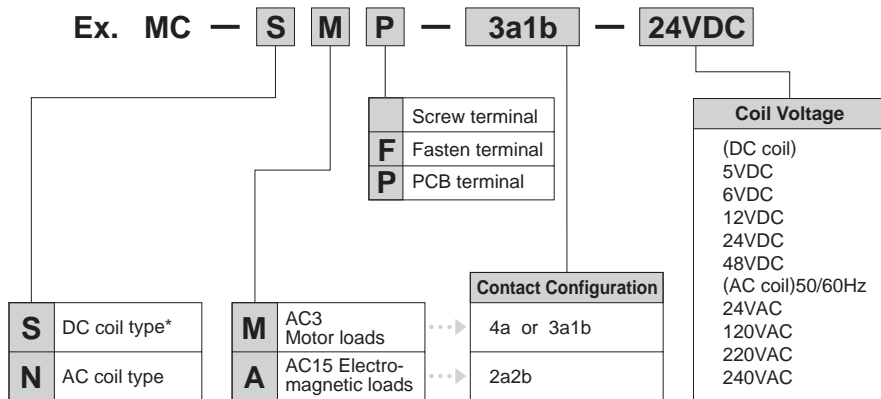
3 φ 220V 60Hz COS φ = 0.35
Switching frequency : 20 cycles/minute

COIL SPECIFICATIONS

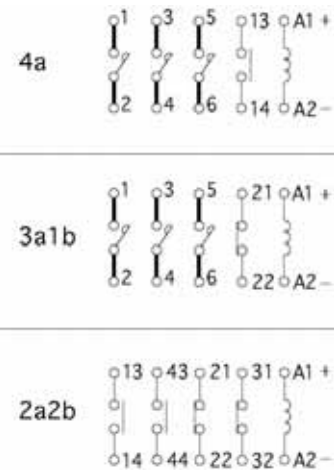
Rated coil voltage	Pick-up voltage (at 20°C)	Drop-out voltage (at 20°C)	Rated energized current (at 20°C)	Rated power consumption	Operating speed	
					Making	Breaking
12 VDC	Max. 9.6 VDC	Min. 1.2 VDC	42 mA	500 mW	< 100 ms	< 30 ms
24 VDC	Max. 19.2 VDC	Min. 2.4 VDC	21 mA	500 mW	< 100 ms	< 30 ms

Coil voltage	Frequency	Pick-up voltage (at 20°C)	Drop-out voltage (at 20°C)	Power capacity		Operating speed	
				Inrush	Sealed	Making	Breaking
120 VAC	60 Hz	Max. 96 VAC	Min. 24 VAC	Max. 22 VA	Max. 5 VA	< 30 ms	< 30 ms
240 VAC	50 Hz	Max. 176 VAC	Min. 44 VAC	Max. 24 VA	Max. 7 VA	< 30 ms	< 30 ms

ORDERING INFORMATION

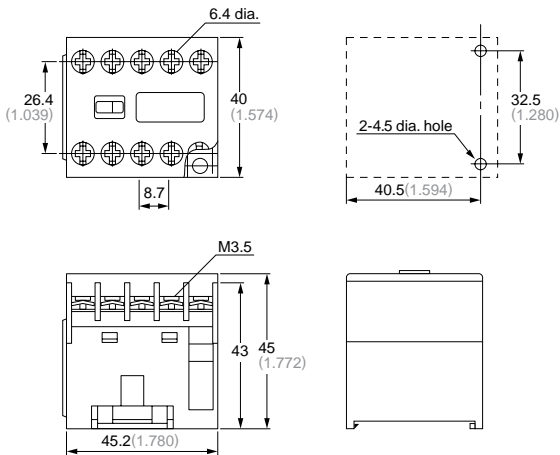


COIL CONFIGURATION

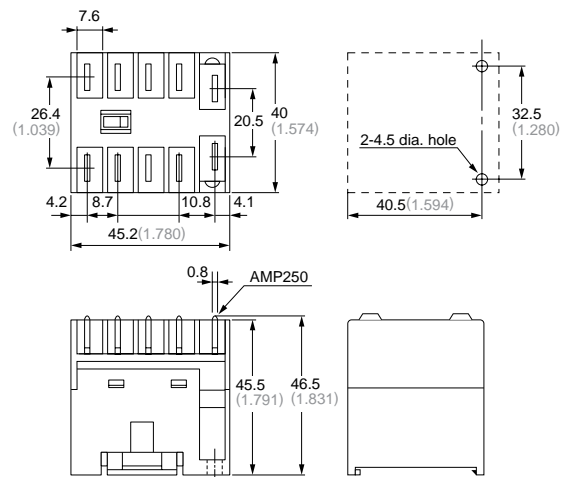


DIMENSIONS

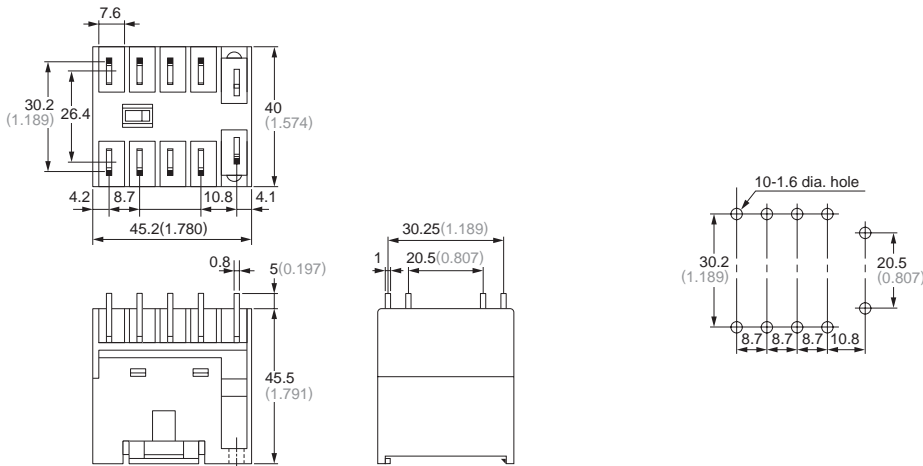
(1) Screw type



(2) Fasten type



(3) PCB type



WIRING

1) Connection to Screw terminals

Terminal screw	Wire size, max.	Compatible solderless terminal	Standard tightening torque N/m
M3.5	diameter 1.6, 2mm ² AWG14	2-3.5 2Y-3.5	approx. 0.8 - 1.2 N•m

2) Connection to Fasten terminals

- Applicable receptacles are AMP 250 Series (Straight type, Flag type) and AMP's positive lock (17207).
- Firmly insert the receptacles so that they cannot be easily pulled out. Do not attempt to pull out two or more receptacles at one time.

3) Connection to PCB terminals

- Hand soldering is recommended to avoid flux penetration. Especially the use of rosin-flux is recommended since this type of flux makes cleaning unnecessary.
- Since the materials of cover is polycarbonate resin, use an alcohol solvent for cleaning.
- Since MC is not a sealed contactor, be careful the cleaning solvent does not get inside.

INSTALLATION ENVIRONMENT

- Handle the device with care. Excessive physical impact may cause malfunction.
 - Do not install the device in a location where it will be exposed to extreme temperatures or humidity, excessive dust, corrosive gases, vibration, physical impact, direct sunlight or water.
 - Please avoid using in an area where external magnetic field is large.
 - For the DC coil type, the contactor will not move when coil connection plus and minus is incorrect, because the device is polarized.
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TIPS FOR SAFE OPERATION

- The life of the contactor may be reduced under extreme operating conditions (high temperature or humidity, exposure to oil vapor, etc.). Choose a model with sufficient operating margin to withstand such conditions.
- The MC contactor is not suitable for applications involving jogging (inching) or plug breaking (plugging).
- The MC contactor is factory-adjusted and should not be disassembled. Do not attempt to replace the contacts or the coil.