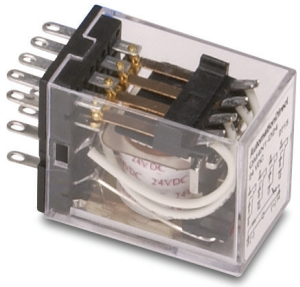
QM Series Electromechanical Relays Selection Guide



QM series relays are general purpose relays designed for a wide range of applications, from power to sequence controls in various factory machines and control panels. They are ideal for electric control panels requiring stable and reliable relays.

Features

- Small package design
- DPDT has a fine silver contact with 5A capability
- 4PDT has a gold-plated silver contact with 3A capability
- High dielectric strength (1,800 VAC)
- High reliability and long life
- Ultra-high sensitivity with quick response time (20 ms max.)
- High vibration and shock resistance
- LED indicator on all models, so you can easily see if relay is working properly without using a voltmeter
- Diode protection on some 24 VDC models protects contacts and electronic components from back EMF
- UL recognized, CE certified, CSA certified (218218)

Note: Order socket separately

QM Series								
Part Number	***Price***	***Drawing Link***	***Coil Voltage***	***Configuration***	***Contact Rating***	***Relay Socket Part Number***	***Price***	***Drawing Link***
QM2N1-A220	Retired	PDF	220VAC	2PDT	5A	***Retired***	–	–
QM4N1-A220	Retired	PDF		4PDT	3A	***Retired***	–	–
QM2N1-D24	Retired	PDF	24VDC	2PDT	5A	***Retired***	–	–

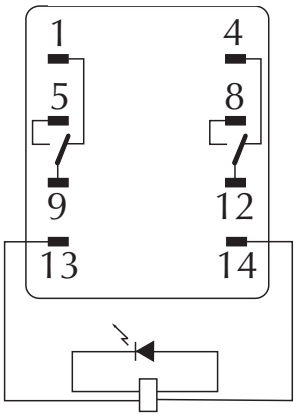
QM Series Electromechanical Relays Specifications

QM Series Specifications Table			
Part Numbers	***QM2N1-A220***	***QM4N1-A220***	***QM2N1-D24***
Contact Specifications			
Current Rating	5A	3A	5A
Contact Type	DPDT	4PDT	DPDT
Terminal Type	Spade plug-in socket	Spade plug-in socket	Spade plug-in socket
Rated Max. Resistive Load	5A @ 220VAC/ 5A @ 24VDC	3A @ 220VAC/ 3A @ 24VDC	5A @ 220VAC/ 5A @ 24VDC
Rated Max. Inductive Load	2A @ 220VAC/ 2A @ 24VDC	1.5 A @ 220VAC/ 0.8 A @ 24VDC	2A @ 220VAC/ 2A @ 24VDC
Minimum Recommended Load	1mA @ 1VDC	1mA @ 1VDC	1mA @ 1VDC
Max. Switching Cap. (Resistive Load)	1,100VA/120W	660VA/72W	1,100VA/120W
Max. Switching Cap. (Inductive Load)	440VA/48W	176VA/36W	440VA/48W
Max. Contact Rating	250VAC/125VDC	250VAC/125VDC	250VAC/125VDC
Coil Specifications			
Options	LED Indicator	LED Indicator	LED Indicator
Coil Input Voltage	220/240 VAC	220/240 VAC	24VDC
Rated Current at 50Hz	6.2/6.8 mA	6.2/6.8 mA	36.9 mA
Rated Current at 60Hz	5.3/5.8 mA	5.3/5.8 mA	
Coil Resistance	12.95 kΩ	12.95 kΩ	650Ω
Power Consumption	Approx. 0.9 W to 1.1 W (at 60Hz)	Approx. 0.9 W to 1.1 W (at 60Hz)	Approx. 0.9 W
Dropout Voltage (% of rated voltage)	Min. 30%	Min. 30%	Min. 10%
Pick-Up Voltage (Must operate voltage)	Max. 80% of the rated coil voltage	Max. 80% of the rated coil voltage	Max. 80% of the rated coil voltage
Max. Voltage (Max. continuous voltage)	110% of the rated coil voltage	110% of the rated coil voltage	110% of the rated coil voltage
Min. Operating Voltage	80% of the rated coil voltage	80% of the rated coil voltage	80% of the rated coil voltage
General Specifications			
Service Life	Mechanical: AC: Min. 50 million operations; DC: Min. 100 million operations (at operating frequency of 18,000 operations/hour)	Mechanical: AC: Min. 50 million operations; DC: Min. 100 million operations (at operating frequency of 18,000 operations/hour)	Mechanical: AC: Min. 50 million operations; DC: Min. 100 million operations (at operating frequency of 18,000 operations/hour)
	Electrical: DPDT: Min. 500k operations; 4PDT: Min. 200k operations (at operating frequency of 1,800 operations/hour)	Electrical: DPDT: Min. 500k operations; 4PDT: Min. 200k operations (at operating frequency of 1,800 operations/hour)	Electrical: DPDT: Min. 500k operations; 4PDT: Min. 200k operations (at operating frequency of 1,800 operations/hour)
Operate Time	20ms max	20ms max	20ms max
Release Time	20ms max	20ms max	20ms max
Ambient Temperature	-25 to 75°C (-13 to 167°F)	-25 to 75°C (-13 to 167°F)	-25 to 75°C (-13 to 167°F)
Ambient Humidity	45% RH to 85% RH	45% RH to 85% RH	45% RH to 85% RH
Contact Material	Fine Silver	Gold-plated Silver	Fine Silver
Contact Resistance	50mΩ max	50mΩ max	50mΩ max
Operating Frequency	Mechanical: 18,000 operations/hour; Electrical: 1,800 operations/hour	Mechanical: 18,000 operations/hour; Electrical: 1,800 operations/hour	Mechanical: 18,000 operations/hour; Electrical: 1,800 operations/hour
Vibration Resistance	10Hz to 55Hz at double amplitude of 1.0 mm	10Hz to 55Hz at double amplitude of 1.0 mm	10Hz to 55Hz at double amplitude of 1.0 mm
Shock Resistance	1,000m/s^2 (approx. 100G)	1,000m/s^2 (approx. 100G)	1,000m/s^2 (approx. 100G)
Weight g (oz)	35 (1.24)	35 (1.24)	35 (1.24)
Agency Approvals and Standards	UL Recognized (#E222847), CE Certified (9667186-9811), CSA Certified (218218)	UL Recognized (#E222847), CE Certified (9667186-9811), CSA Certified (218218)	UL Recognized (#E222847), CE Certified (9667186-9811), CSA Certified (218218)

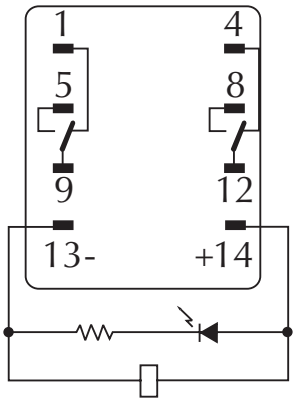
QM Series Wiring Diagrams and Derating Curves

Wiring diagrams

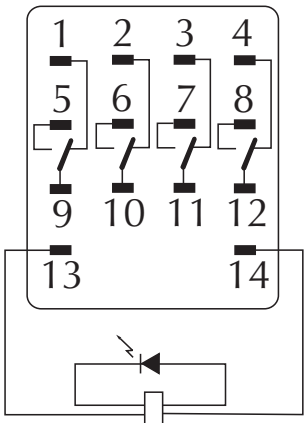
QM2N1-A120
QM2N1-A220



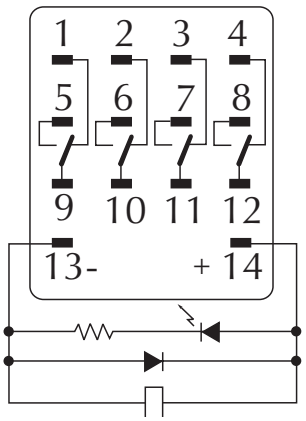
QM2N1-D24



QM4N1-A220

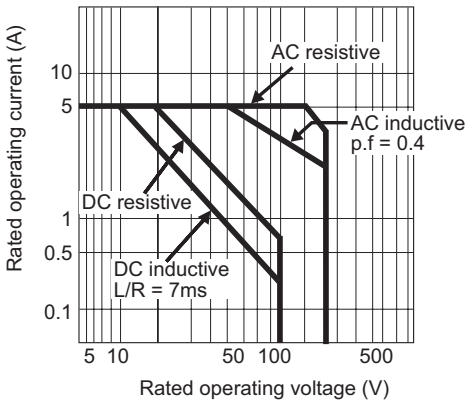


QM4X1-D24



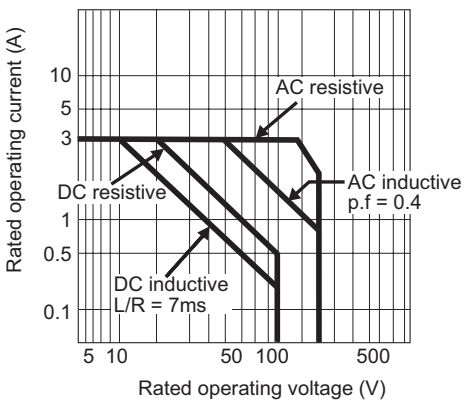
Derating curves

Max. Switching capacity



DPDT

Max. Switching capacity



4PDT