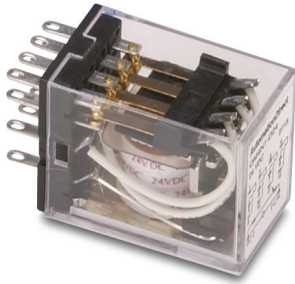


# QM Series Electromechanical Relay Selection Guide



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 Selection Guide								
Part Number	Price	Drawing Link	Coil Voltage	Configuration	Contact Rating	Relay Socket Part Number	Price	Drawing Link
<a href="#">QM2N1-A120</a>		<a href="#">PDF</a>	110/120VAC	2PDT	5A	<a href="#">SQM08D</a>		<a href="#">PDF</a>
<a href="#">QM2N1-A220</a>		<a href="#">PDF</a>	220VAC	2PDT	5A	<a href="#">SQM08D</a>		<a href="#">PDF</a>
<a href="#">QM4N1-A220</a>		<a href="#">PDF</a>		4PDT	3A	<a href="#">SQM14D</a>		<a href="#">PDF</a>
<a href="#">QM2N1-D24</a>		<a href="#">PDF</a>	24VDC	2PDT	5A	<a href="#">SQM08D</a>		<a href="#">PDF</a>
<a href="#">QM2X1-D24</a>		<a href="#">PDF</a>		2PDT	5A	<a href="#">SQM08D</a>		<a href="#">PDF</a>
<a href="#">QM4N1-D24</a>		<a href="#">PDF</a>		4PDT	3A	<a href="#">SQM14D</a>		<a href="#">PDF</a>
<a href="#">QM4X1-D24</a>		<a href="#">PDF</a>		4PDT	3A	<a href="#">SQM14D</a>		<a href="#">PDF</a>

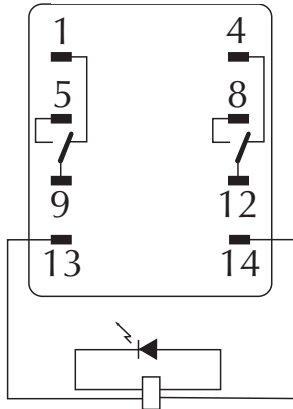
# QM Series Electromechanical Relay Specifications

QM Series Specifications Table							
Part Numbers	QM2N1-A120	QM2N1-A220	QM4N1-A220	QM2N1-D24	QM2X1-D24	QM4N1-D24	QM4X1-D24
Contact Specifications							
Current Rating	5A		3A	5A		3A	
Contact Type	DPDT		4PDT	DPDT		4PDT	
Terminal Type	Spade plug-in socket						
Rated Max. Resistive Load	5A @ 220VAC/ 5A @ 24VDC		3A @ 220VAC/ 3A @ 24VDC	5A @ 220VAC/ 5A @ 24VDC		3A @ 220VAC/ 3A @ 24VDC	
Rated Max. Inductive Load	2A @ 220VAC/ 2A @ 24VDC		1.5 A @ 220VAC/ 0.8 A @ 24VDC	2A @ 220VAC/ 2A @ 24VDC		1.5A @ 220VAC/ 0.8 A @ 24VDC	
Minimum Recommended Load	1mA @ 1VDC						
Max. Switching Cap. (Resistive Load)	1,100VA/120W		660VA/72W	1,100VA/120W		660VA/72W	
Max. Switching Cap. (Inductive Load)	440VA/48W		176VA/36W	440VA/48W		176VA/36W	
Max. Contact Rating	250VAC/125VDC			250VAC/125VDC			
Coil Specifications							
Options	LED Indicator				LED Indicator/ Diode Protection	LED Indicator	LED Indicator/ Diode Protection
Coil Input Voltage	110/120 VAC	220/240 VAC	220/240 VAC	24VDC			
Rated Current at 50Hz	9.9 /10.8 mA	6.2/6.8 mA	6.2/6.8 mA	36.9 mA			
Rated Current at 60Hz	8.4/ 9.2 mA	5.3/5.8 mA	5.3/5.8 mA				
Coil Resistance	4.43 kΩ	12.95 kΩ	12.95 kΩ	650Ω			
Power Consumption	Approx. 0.9 W to 1.1 W (at 60Hz)			Approx. 0.9 W			
Dropout Voltage (% of rated voltage)	Min. 30%			Min. 10%			
Pick-Up Voltage (Must operate voltage)	Max. 80% of the rated coil voltage						
Max. Voltage (Max. continuous voltage)	110% of the rated coil voltage						
Min. Operating 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)						
	Electrical: DPDT: Min. 500k operations; 4PDT: Min. 200k operations (at operating frequency of 1,800 operations/hour)						
Operate Time	20ms max						
Release Time	20ms max						
Ambient Temperature	-25° C to 75° C (-13° F to 167° F)						
Ambient Humidity	45% RH to 85% RH						
Contact Material	Fine Silver		Gold-plated Silver	Fine Silver		Gold-plated Silver	
Contact Resistance	50mΩ max						
Operating Frequency	Mechanical: 18,000 operations/hour; Electrical: 1,800 operations/hour						
Vibration Resistance	10Hz to 55Hz at double amplitude of 1.0mm						
Shock Resistance	1,000m/s² (approx. 100G)						
Weight	35g (1.24oz.)						
Agency Approvals and Standards	UL Recognized (#E222847), CE Certified (9667186-9811), CSA Certified (218218)						

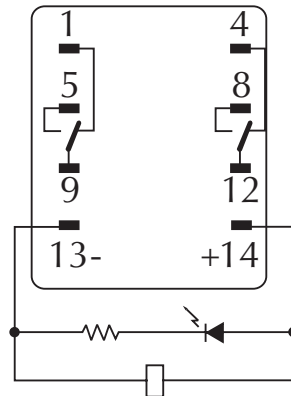
# QM Series Wiring Diagrams and Derating Curves

## Wiring diagrams

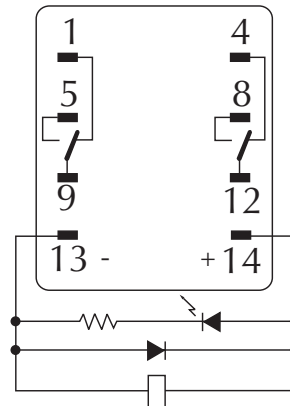
QM2N1-A120  
QM2N1-A220



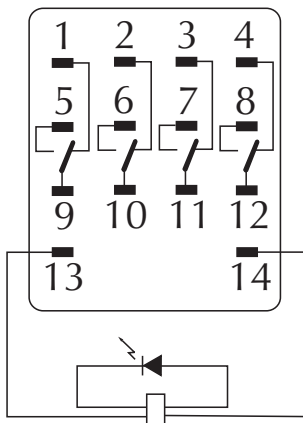
QM2N1-D24



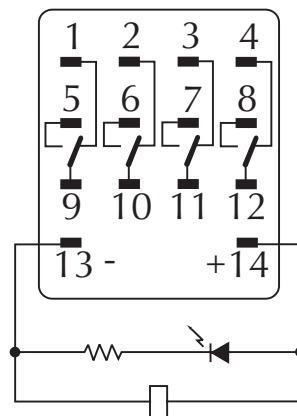
QM2X1-D24



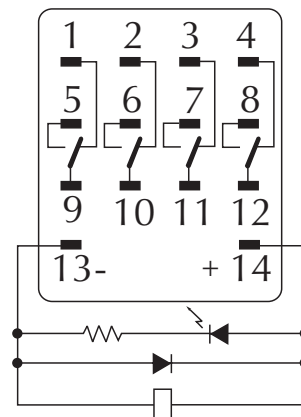
QM4N1-A220



QM4N1-D24

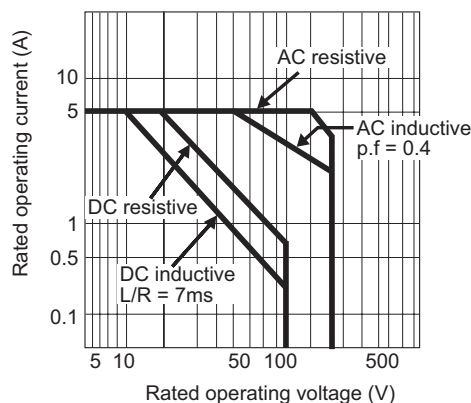


QM4X1-D24



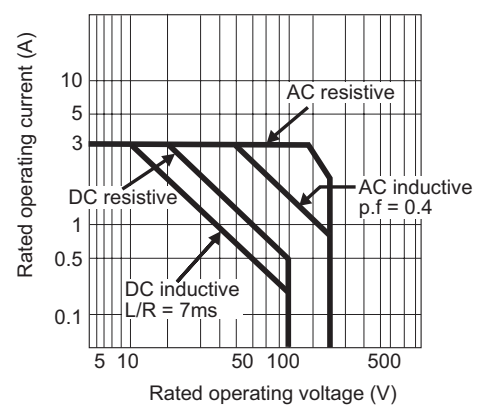
## Derating curves

Max. Switching capacity



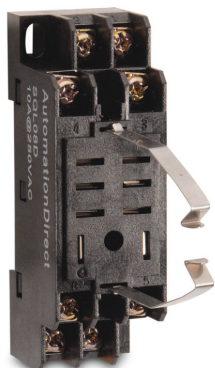
DPDT

Max. Switching capacity



4PDT

# Sockets for QL/QM Series Relays

**SQL08D****SQL14D****SQM08D****SQM14D**

Sockets for QL/QM Series Relays			
Part Number	Price	Description	Drawing Link
<a href="#"><u>SQL08D</u></a>		AutomationDirect relay socket, 35mm DIN rail or panel mount. For use with QL2 series relays.	<a href="#"><u>PDF</u></a>
<a href="#"><u>SQL14D</u></a>		AutomationDirect relay socket, 35mm DIN rail or panel mount. For use with QL4 series relays.	<a href="#"><u>PDF</u></a>
<a href="#"><u>SQM08D</u></a>		AutomationDirect relay socket, 35mm DIN rail or panel mount. For use with QM2 series relays.	<a href="#"><u>PDF</u></a>
<a href="#"><u>SQM14D</u></a>		AutomationDirect relay socket, 35mm DIN rail or panel mount. For use with QM4 series relays.	<a href="#"><u>PDF</u></a>

## Holding Clips

Holding clips for the QL2, QL4, QM2 and QM4 series relays can be removed by pushing the side of the inserting hole with a sharp object.

**Note:** Order sockets separately; holding clips are included with sockets.

Insert holding clip into the slots provided on the socket.

