

QL Series Electromechanical Relay Selection Guide



QL 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
- ARC Barrier equipped
- Silver Cadmium Oxide contact
- High dielectric strength (1,800 VAC)
- High reliability and long life
- Ultra-high sensitivity with quick response time (25 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 available on 24 VDC models, which protects contacts and electronic components from back EMF
- UL recognized, CE certified, CSA approval pending
- DPDT and 4PDT models

Note: Order socket separately

QL Series Selection Guide								
Part Number	Price	Drawing Link	Coil Voltage	Configuration	Contact Rating	Relay Socket Part Number	Price	Drawing Link
QL2N1-A120		PDF	110/120VAC	2PDT	10A	Retired		PDF
QL4N1-A120		PDF		4PDT	10A	Retired		PDF
QL4N1-A220		PDF	220VAC	4PDT	10A	Retired		PDF
QL2N1-D24		PDF	24VDC	2PDT	10A	Retired		PDF
QL2X1-D24		PDF		2PDT	10A	Retired		PDF
QL4X1-D24		PDF		4PDT	10A	Retired		PDF

QL Series Electromechanical Relays

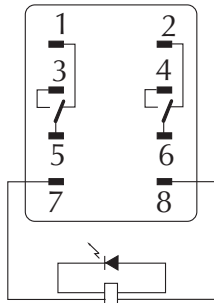
Specifications

QL Series Specifications Table						
Part Numbers	QL2N1-A120	QL4N1-A120	QL4N1-A220	QL2N1-D24	QL2X1-D24	QL4X1-D24
Contact Specifications						
Current Rating	10A					
Contact Type	DPDT	4PDT		DPDT		4PDT
Terminal Type	Spade Plug-In Socket					
Rated Max. Resistive Load	10A @110VAC/10A@24VDC					
Rated Max. Inductive Load	7.5 A @110VAC/ 5A@24VDC					
Minimum Recommended Load	1mA @ 5VDC					
Max. Switching Cap. (Resistive Load)	1,100VAC/240W					
Max. Switching Cap. (Inductive Load)	825VAC/120W					
Max. Contact Rating	250VAC/125VDC					
Coil Specifications						
Options	LED Indicator				LED Indicator/ Diode Protection	LED Indicator/Diode Protection
Coil Input Voltage	110/120VAC	110/120VAC	220/240VAC	24VDC		
Rated Current at 50Hz	9.9 /10.8 mA	17/19 mA	11.5/13.1 mA	36.9 mA		69mA
Rated Current at 60Hz	8.4/9.2 mA	18/16.4 mA	9.8/11.2 mA	36.9 mA		69mA
Coil Resistance	4.43 kΩ	2.2 kΩ	6.7 kΩ	650Ω		350Ω
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	25ms max					
Release Time	25ms max					
Ambient Temperature	-25C to 70° C (-13 to 158° F)					
Ambient Humidity	45% to 85% Relative Humidity					
Contact Material	Silver Cadmium Oxide					
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 1.0 mm					
Shock Resistance	1,000m/s ² (approx. 100G)					
Weight	35g (1.24oz.)					
Agency Approvals and Standards	UL Recognized (#E222847), CE Certified (9667186-9811), CSA Certified (218218)					

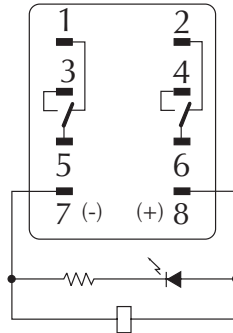
QL Series Wiring Diagrams and Derating Curves

Wiring Diagrams

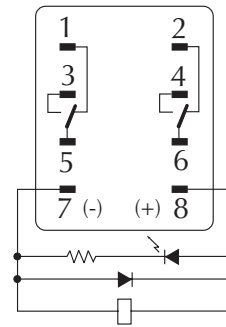
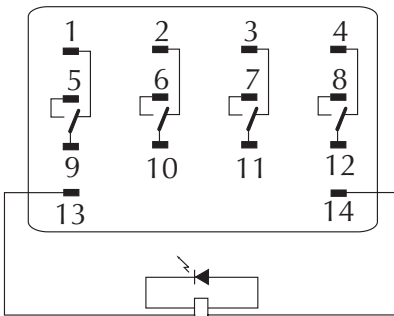
QL2N1-A120



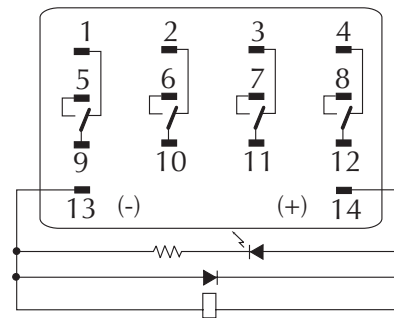
QL2N1-D24



QL2X1-D24

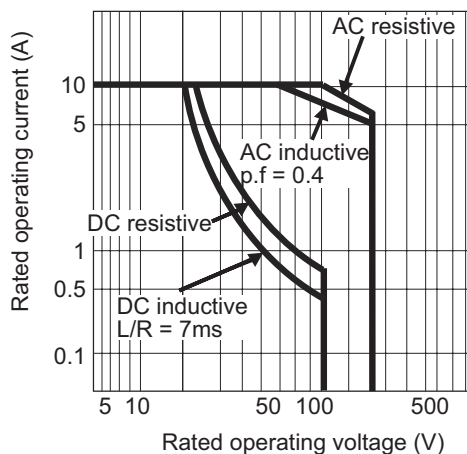
QL4N1-A120
QL4N1-A220

QL4X1-D24



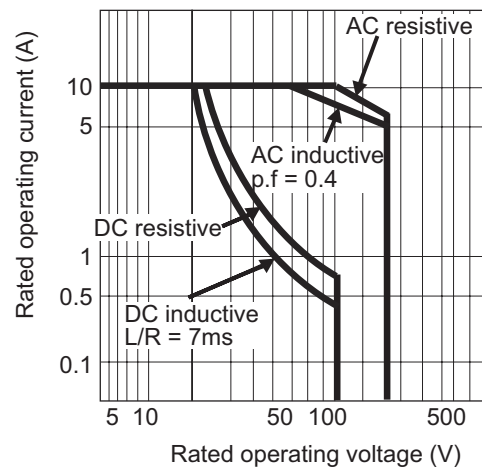
Derating Curves

Max. Switching capacity



QL 2PDT

Max. Switching capacity



QL 4PDT

Sockets for QL/QM Series Relays



SQM08D

Sockets for QL/QM Series Relays			
Part Number	Price	Description	Drawing Link
<u>SQM08D</u>		AutomationDirect relay socket, 35mm DIN rail or panel mount. For use with QM2 series relays.	PDF

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.

