

QL Series Electromechanical Relay Specifications

QL Series Specification Table								
Part Numbers	QL2N1-A120	QL2N1-A220	QL4N1-A120	QL4N1-A220	QL2N1-D24	QL2X1-D24	QL4N1-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	7.5A@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	LED Indicator/Diode Protection
Coil Input Voltage	110/120VAC	220/240VAC	110/120VAC	220/240VAC	24VDC			
Rated Current at 50Hz	9.9 /10.8mA	6.2/6.8mA	17/19mA	11.5/13.1mA	36.9mA		69mA	
Rated Current at 60Hz	8.4/9.2mA	5.3/5.8mA	18/16.4mA	9.8/11.2mA	36.9mA		69mA	
Coil Resistance	4.43kΩ	12.95kΩ	2.2kΩ	6.7kΩ	650Ω		350Ω	
Power Consumption	Approx. 0.9W to 1.1W (at 60Hz)				Approx. 0.9W			
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	-25° C to 70° C (-13° F 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 1.0mm							
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)							

PLC Overview

DL05/06 PLC

DL105 PLC

DL205 PLC

DL305 PLC

DL405 PLC

Field I/O

Software

C-more HMIs

Other HMI

AC Drives

Motors

Steppers/Servos

Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Current Sensors

Pushbuttons/Lights

Process

Relays/Timers

Comm.

TB's & Wiring

Power

Circuit Protection

Enclosures

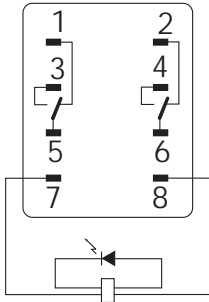
Appendix

Part Index

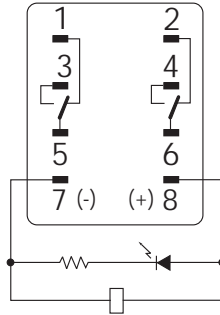
QL Series Wiring Diagrams and Derating Curves

Wiring Diagrams

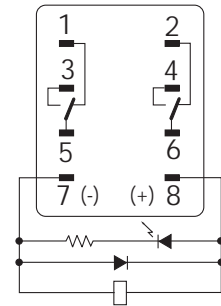
QL2N1-A120
QL2N1-A220



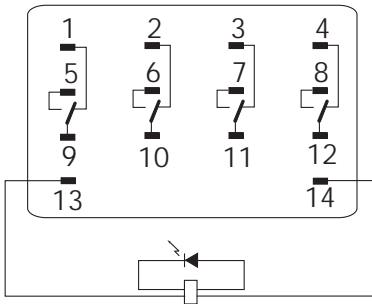
QL2N1-D24



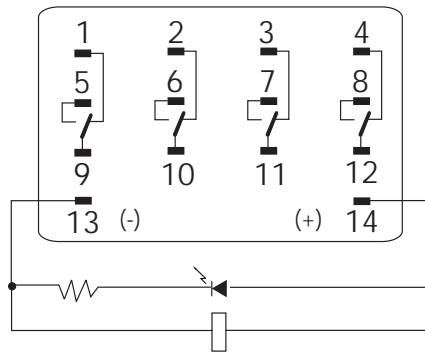
QL2X1-D24



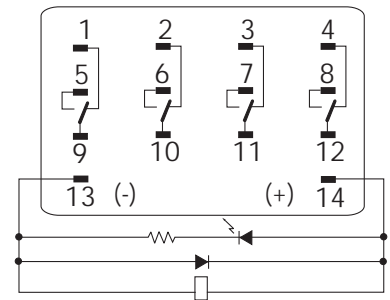
QL4N1-A120
QL4N1-A220



QL4N1-D24



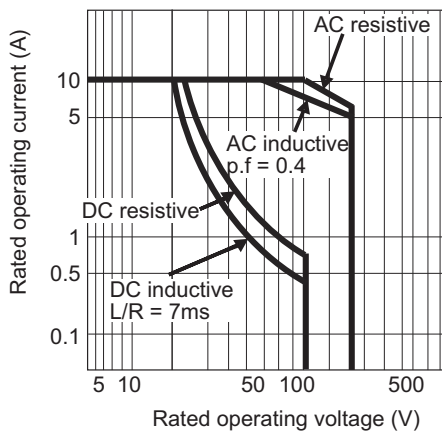
QL4X1-D24



Derating Curves

2PDT

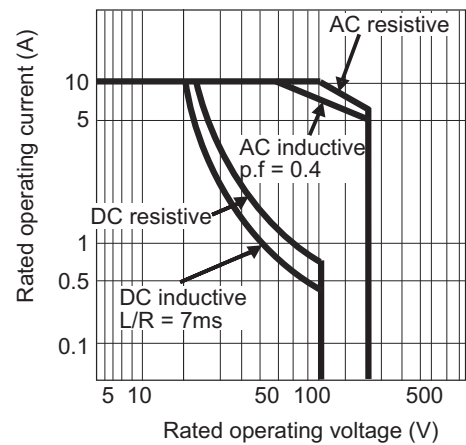
Max. Switching capacity



QL 2PDT

4PDT

Max. Switching capacity



QL 4PDT

QL Series Dimensional Drawings

Mounting dimensions (mm/in)

Figure 1
QL2 Dimensions

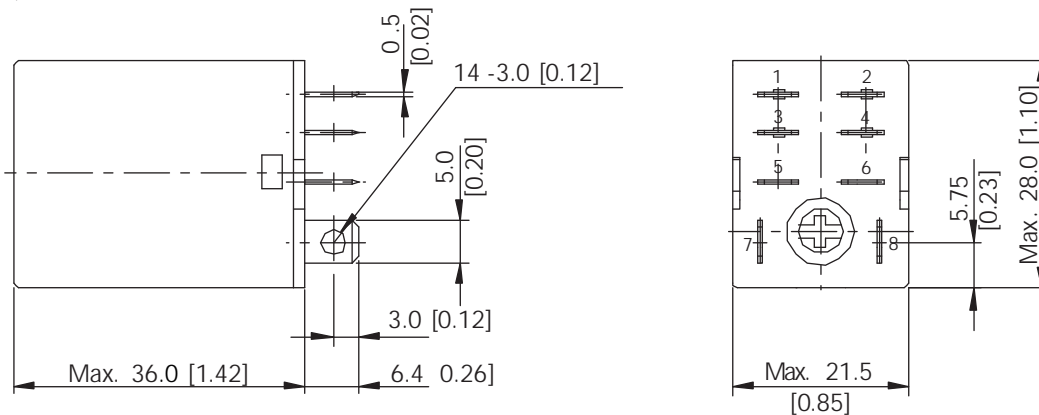
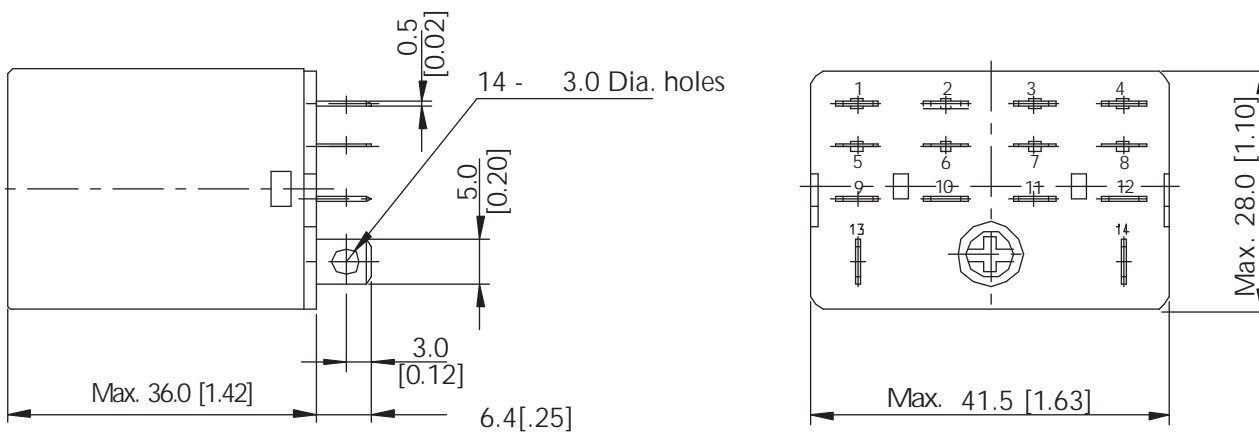


Figure 2
QL4 Dimensions



PLC
Overview

DL05/06
PLC

DL105
PLC

DL205
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DL305
PLC

DL405
PLC

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