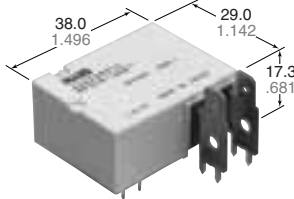


Panasonic
ideas for life

**30A POWER LATCHING
RELAY**

**DQ RELAYS
(ADQ)**



FEATURES

1. **30A capacity in small size**
2. **Latching type**
3. **High insulation**
 - 4,000V AC (between contacts and coil)
 - Surge 10,000V (between contacts and coil)
4. **Sealed construction**

SPECIFICATIONS

Contact

Arrangement	1 Form A	
Initial contact resistance, max. (By voltage drop 6 V DC 1 A)	30 mΩ	
Contact material	Silver alloy	
Rating (resistive load)	Nominal switching capacity	30 A 250V AC
	Max. switching power	7,500 V A
	Max. switching voltage	250V AC
	Max. switching current	30 A
	Min. switching capacity*1	100 mA, 5 V DC
Expected life (min. operations)	Mechanical (at 180 cpm)	10 ⁶
	Electrical (Resistive load)	10 ⁴ *1

Coil

	Nominal operating power
1 coil latching	500 mW
2 coil latching	1,000 mW

#1 This value can change due to the switching frequency, environmental conditions, and desired reliability level, therefore it is recommended to check this with the actual load.

Remarks

- * Specifications will vary with foreign standards certification ratings.
- *1 At nominal switching capacity, operating frequency: 3s ON, 3s OFF
- *2 Measurement at same location as "Initial breakdown voltage" section.
- *3 Detection current: 10mA
- *4 Wave is standard shock voltage of $\pm 1.2 \times 50\mu\text{s}$ according to JEC-212-1981
- *5 Excluding contact bounce time.
- *6 By resistive method, max. switching current
- *7 Half-wave pulse of sine wave: 11 ms; detection time: 10 μs
- *8 Half-wave pulse of sine wave: 6 ms
- *9 Detection time: 10 μs
- *10 Refer to 6. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT
- *11 Under the packing condition, allowable temperature range is from -40 to $+65^\circ\text{C}$ -40°F to $+149^\circ\text{F}$.

Characteristics

Max. operating speed (at rated load)	10 cpm	
Initial insulation resistance*2	Min. 1,000 MΩ (at 500 V DC)	
Initial breakdown voltage*3	Between open contacts	1,500 Vrms for 1 min.
	Between contacts and coil	4,000 Vrms for 1 min.
Surge voltage between contact and coil*4	Min. 10,000 V (initial)	
Set time*5 (at 20°C) (at nominal voltage)	Max. 20ms	
Reset time*5 (at 20°C) (at nominal voltage)	Max. 20ms	
Temperature rise (at 65°C)*6	Max. 50°C (Coil; de-energized)	
Shock resistance	Functional*7	Min. 200 m/s ² {20 G}
	Destructive*8	Min. 1,000 m/s ² {100 G}
Vibration resistance	Functional*9	10 to 55Hz at double amplitude of 1.5mm
	Destructive	10 to 55Hz at double amplitude of 2.0mm
Conditions for operation, transport and storage*10 (Not freezing and condensing at low temperature)	Ambient temperature*11	-40°C to $+65^\circ\text{C}$ -40°F to $+149^\circ\text{F}$
	Humidity	5 to 75% R.H.
Unit weight	Approx. 35 g 1.23 oz	

TYPICAL APPLICATIONS

- Time switches
- Electric water heaters
- Remote control of electric power meters

ORDERING INFORMATION

ADQ	<input type="checkbox"/>	3	Q	0	<input type="checkbox"/>
Operating function	Contact capacity	Terminal shape	Contact characteristics	Coil voltage (DC)	
1: 1 coil latching 2: 2 coil latching	3: 30 A	Q: 250 Faston terminal	0: Standard contact	4H: 4.5 V	12: 12 V 06: 6 V 24: 24 V 09: 9 V

TYPES AND COIL DATA (at 20°C 68°F)

• 1 coil latching type

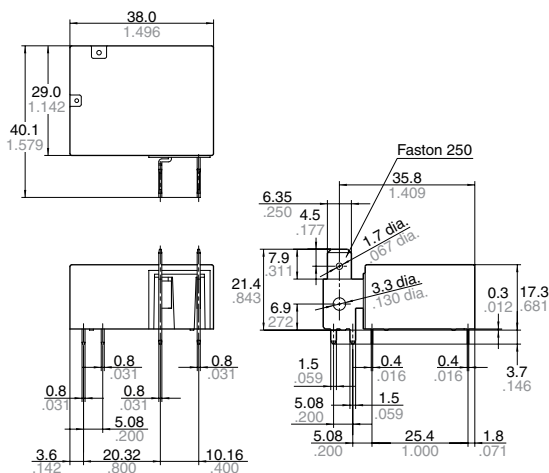
Contact arrangement	Part No.	Nominal voltage, V DC	Set voltage, max. V DC (initial)	Reset voltage, max. V DC (initial)	Coil resistance, Ω (±10%)	Nominal operating current, mA (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC
1 Form A	ADQ13Q04H	4.5	3.15	3.15	40.5	111.1	500	5.85
	ADQ13Q006	6	4.2	4.2	72	83.3	500	7.8
	ADQ13Q009	9	6.3	6.3	162	55.6	500	11.7
	ADQ13Q012	12	8.4	8.4	288	41.7	500	15.6
	ADQ13Q024	24	16.8	16.8	1,152	20.8	500	31.2

• 2 coil latching type

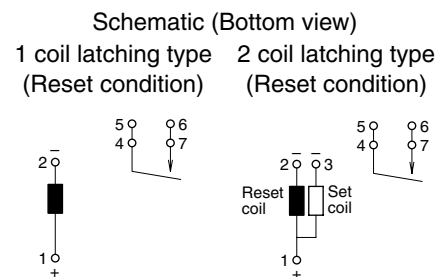
Contact arrangement	Part No.	Nominal voltage, V DC	Set voltage, max. V DC (initial)	Reset voltage, max. V DC (initial)	Coil resistance, Ω (±10%)		Nominal operating current, mA (±10%)		Nominal operating power, mW		Max. allowable voltage, V DC
					Set coil	Reset coil	Set coil	Reset coil	Set coil	Reset coil	
1 Form A	ADQ23Q04H	4.5	3.15	3.15	20.3	20.3	221.7	221.7	1,000	1,000	5.85
	ADQ23Q006	6	4.2	4.2	36	36	166.7	166.7	1,000	1,000	7.8
	ADQ23Q009	9	6.3	6.3	81	81	111.1	111.1	1,000	1,000	11.7
	ADQ23Q012	12	8.4	8.4	144	144	83.3	83.3	1,000	1,000	15.6
	ADQ23Q024	24	16.8	16.8	576	576	41.7	41.7	1,000	1,000	31.2

DIMENSIONS

mm inch

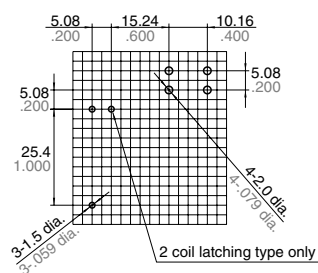


General tolerance: ±0.3 ±0.12



Note) Terminal No.3 is only for 2 coil latching type.

PC board pattern (Bottom view)



Tolerance: ±0.1 ±0.04

NOTES

If the relay is used over 20A current through plug-in terminal, plug-in terminal should be soldered on receptacle terminal for preventing the loose contact during long time using.

For Cautions for Use, see Relay Technical Information