

# Plastic Sealed Relays: MYQ4

## Specifications

### Contact Ratings

| Item                                            | Type | Resistive load                                                            | Inductive load<br>( $\cos \phi = 0.4$ , $L/R = 7$ ms) |
|-------------------------------------------------|------|---------------------------------------------------------------------------|-------------------------------------------------------|
| Rated load                                      |      | 1 A at 220 VAC, 1 A at 24 VDC                                             | 0.5 A at 220 VAC, 0.5 A at 24 VDC                     |
| Rated carry current                             |      | 1 A                                                                       |                                                       |
| Maximum contact voltage                         |      | 250 VAC, 125 VDC                                                          |                                                       |
| Maximum contact current                         |      | 1 A                                                                       |                                                       |
| Maximum switching capacity<br>(reference value) |      | 220 VAC, 24 W                                                             | 110 VAC, 12 W                                         |
| Failure rate P value<br>(reference value)       |      | Single contacts: 1 mA at 1 VDC, Bifurcated contacts: 100 $\mu$ A at 1 VDC |                                                       |
| Contact form                                    |      | 4PDT, 4PDT (Bifurcated)                                                   |                                                       |
| Contact materials                               |      | Au plating + Ag                                                           |                                                       |

\* This value was measured at a switching frequency of 120 operations per minute.

|                               |               |
|-------------------------------|---------------|
| Ambient operating temperature | -55 to 60° C* |
| Ambient operating humidity    | 5% to 85%     |

\* With no icing or condensation.

### Characteristics

|                             |                                        |                                                                                                                                        |
|-----------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Contact resistance*1        |                                        | 50 mΩ max.                                                                                                                             |
| Operation time*2            |                                        | 20 ms max.                                                                                                                             |
| Release time*2              |                                        | 20 ms max.                                                                                                                             |
| Maximum operating frequency | Mechanical                             | 18,000 operations/h                                                                                                                    |
|                             | Rated load                             | 1,800 operations/h                                                                                                                     |
| Dielectric strength         | Between coil and contacts              | 1,500 VAC at 50/60 Hz for 1 min.                                                                                                       |
|                             | Between contacts of different polarity | 1,500 VAC at 50/60 Hz for 1 min.                                                                                                       |
|                             | Between contacts of the same polarity  | 1,000 VAC at 50/60 Hz for 1 min.                                                                                                       |
| Insulation resistance*3     |                                        | 100 MΩ min.                                                                                                                            |
| Vibration resistance        | Destruction                            | 10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)                                                                   |
|                             | Malfunction                            | 10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)                                                                   |
| Shock resistance            | Destruction                            | 1,000 m/s <sup>2</sup>                                                                                                                 |
|                             | Malfunction                            | 200 m/s <sup>2</sup>                                                                                                                   |
| Endurance                   | Mechanical                             | AC: 50,000,000 operations (5,000,000*4) min., DC: 100,000,000 operations (5,000,000*4) min. (switching frequency: 18,000 operations/h) |
|                             | Electrical*5                           | 200,000 operations min. (100,000 operations*4) (rated load, switching frequency: 1,800 operations/h)                                   |
| Weight                      |                                        | Approx. 35 g                                                                                                                           |

**Note:** The values at the left are initial values.

\*1. Measurement conditions: 1 A at 5 VDC using the voltage drop method

\*2. Measurement conditions: With rated operating power applied, not including contact bounce. Ambient temperature condition: 23° C

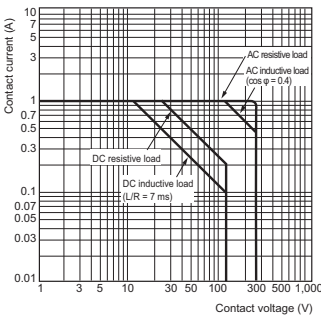
\*3. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.

\*4. This value is for bifurcated contacts.

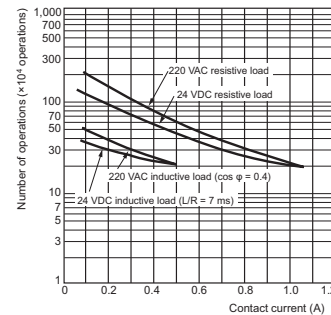
\*5. Ambient temperature condition: 23° C

## Engineering Data

### Maximum Switching Capacity MYQ4(Z)

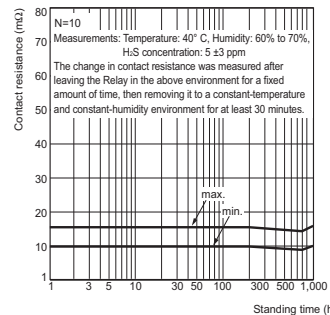


### Endurance Curve MYQ4

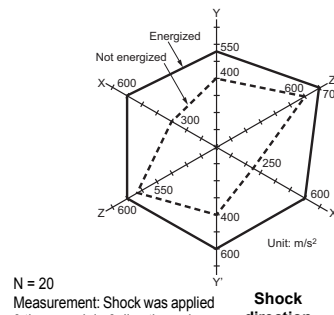


**Note:** The durability of bifurcated contacts is one-half that of single contacts.

### H<sub>2</sub>S Gas Data MYQ4



### Malfunctioning Shock MYQ4



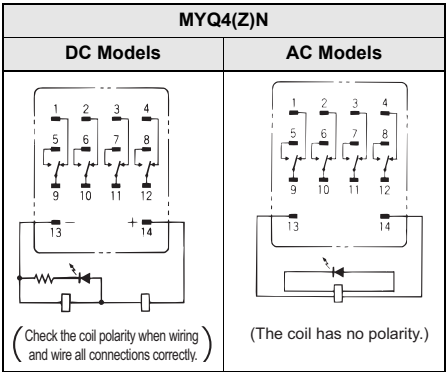
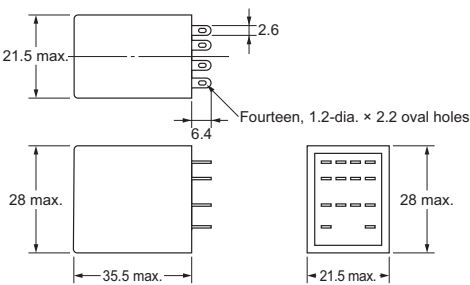
N = 20  
Measurement: Shock was applied 3 times each in 6 directions along 3 axes with the Relay energized and not energized to check the shock values that cause the Relay to malfunction.  
Criteria: Non-energized: 200 m/s<sup>2</sup>  
Energized: 200 m/s<sup>2</sup>

MY(S)

Dimensions

(Unit: mm)

Relays with Plug-in Terminals or Soldered Terminals  
MYQ4(Z)(N)



**Note:** 1. An AC model has coil disconnection self-diagnosis.  
2. For the DC models, check the coil polarity when wiring and wire all connections correctly.

Safety Precautions

- For models with built-in operation indicators, check the coil polarity when wiring and wire all connections correctly (DC operation).
- Use only combinations of OMRON Relays and Sockets.

Relay Replacement

To replace the Relay, turn OFF the power supply to the load and Relay coil sides to prevent unintended operation and possible electrical shock.