

## Long Life 16mm Diameter, Single-Turn, Carbon Panel Controls



### Features

- Long life 16mm diameter, single-turn industrial panel controls
- Carbon film element
- 100,000 cycle rotational life
- Single unit, single shaft
- Linear taper
- Metal shaft and bushing
- Suitable for automotive applications
- 3.2mm diameter metal shafts in slot, flat or round end styles
- Wide total resistance range of 1kΩ to 500kΩ
- Standard 10mm or 15mm shaft length
- Panel mount style
- Right angle ear-lug terminals

### Specifications

#### Electrical

|  |  |
|--|--|
| <b>Standard Resistance Range</b> ..... | 1kΩ to 500kΩ                                 |
| <b>Resistance Tolerance</b> .....      | ±10% standard                                |
| <b>End Resistance</b> .....            | 10Ω max.                                     |
| <b>Resistance Taper</b> .....          | B = linear                                   |
| <b>Independent Linearity</b> .....     | ±4% max.                                     |
| <b>Peak Noise (C.R.V.)</b> .....       | 3% max.                                      |
| <b>Power Rating</b> .....              | 0.1 watt at +40°C, 0 watt at +85°C           |
| <b>Maximum Input Voltage</b> .....     | 224VDC or power rating, whichever is smaller |
| <b>Insulation Resistance</b> .....     | 100MΩ minimum at 500VDC                      |
| <b>Dielectric Strength</b> .....       | 500VAC, 1 minute                             |
| <b>Adjustment Travel</b> .....         | 220°   |

#### Mechanical

|                                       |  |
|---------------------------------------|--|
| <b>Mechanical Travel</b> .....        | 260° ±10°  |
| <b>Shaft Torque</b> .....             | 50 gf•cm (0.693 oz•in) max.  |
| <b>Stop Strength</b> .....            | 3 kgf•cm (41.59 oz•in) min.  |
| <b>Shaft Strength (push)</b> .....    | 50 N (5.1 kgf) min.  |
| <b>Shaft Strength (tensile)</b> ..... | 50 N (5.1 kgf) min.  |
| <b>Shaft End Play</b> .....           | ±0.4 × (shaft length/30) mm max.   |
| <b>Mounting Nut Torque</b> .....      | 15 kgf•cm (0.208 oz•in) min.   |
| <b>Marking</b> .....                  | Model type, taper, resistance code, shaft type, terminal identification, date code |

#### Environmental

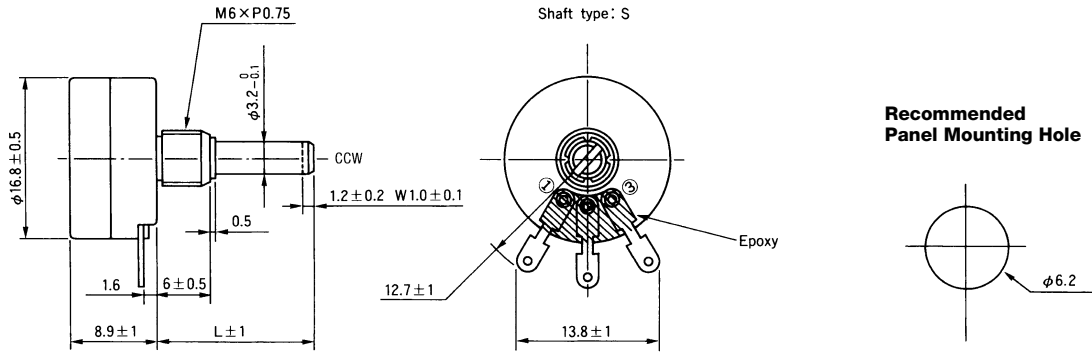
|  |   |
|--|---|
| <b>Temperature Range</b> .....           | -10°C to +85°C  |
| <b>Temperature Characteristics</b> ..... | +80°C, 5 hours<br>ΔT/R ≤ ±12%                                 |
| <b>Temperature Cycle</b> .....           | -10°C, +85°C,<br>30 minutes each, 5 cycles<br>ΔT/R ≤ ±10%     |
| <b>Load Life</b> .....                   | +40°C, 0.1 watt, 1,000 hours<br>ΔT/R ≤ ±15%                   |
| <b>Moisture and Load Life</b> .....      | +40°C, 90-95% RH,<br>0.1 watt, 500 hours<br>ΔT/R ≤ +20%, -10% |
| <b>Vibration</b> .....                   | 10-55Hz, 1.5mm amplitude, 3 directions<br>ΔT/R ≤ ±5%          |
| <b>Soldering Heat Resistance</b> .....   | 350°C ±5°C, 3 seconds<br>ΔT/R ≤ ±2%                           |
| <b>Rotational Life</b> .....             | 100,000 cycles without load<br>ΔT/R ≤ ±10%                    |

ΔT/R = Total Resistance Change

Note: A long life panel control should only be used in a circuit as a potentiometer (3-terminal voltage divider).

**RVQ16YN**  
**Panel Mount, Single Unit, Single Shaft**  
**Right Angle Ear-Lug Terminals**

Unit: mm



**Part Numbering System**

**RV Q 16 Y N 15 S B 103 K**

NOTE: FMS = From Mounting Surface

- **Resistance Tolerance: K** =  $\pm 10\%$  (standard).
- **Resistance Code:** Expressed in ohms. A three digit code where the first two digits are significant figures, and the third digit indicates the number of zeros that follow these figures (i.e., 100 = 10 $\Omega$ ; 101 = 100 $\Omega$ ; 102 = 1,000 $\Omega$ ; 103 = 10,000 $\Omega$ ; 104 = 100,000 $\Omega$ ). See table for standard resistance values.
- **Resistance Taper: B** = Linear.
- **Shaft End Style: S** = Slotted.  
**F** = Flatted.  
**R** = Round.
- **Standard Shaft Length: 10** = 10mm FMS.  
**15** = 15mm FMS.  
 Up to 30mm shaft length available (special order).
- **Style: N** = Panel Mount, Single Unit, Single Shaft, Right Angle Ear-Lug Terminals.
- **Operating Temperature Range: Y** = -10°C to +85°C.
- **Size: 16** = 16mm Diameter.
- **Rotational Life: Q** = Long Life, 100,000 cycles.
- **TOCOS Series Name: RV** = Carbon Film Element.

**Standard Resistance Values and Part Numbering Codes**

**Standard Nominal Total Resistance Values and Part Numbering Codes**

| Resistance ( $\Omega$ ) | Code | Resistance ( $\Omega$ ) | Code | Resistance ( $\Omega$ ) | Code |
|-------------------------|------|-------------------------|------|-------------------------|------|
| 1,000                   | 102  | 10,000                  | 103  | 100,000                 | 104  |
| 2,000                   | 202  | 20,000                  | 203  | 200,000                 | 204  |
| 5,000                   | 502  | 50,000                  | 503  | 500,000                 | 504  |

Refer to Shaft End Styles Specifications and Hardware Specifications for details and availability.  
 For additional information, refer to Guidelines and Precautions for Using Panel Controls.