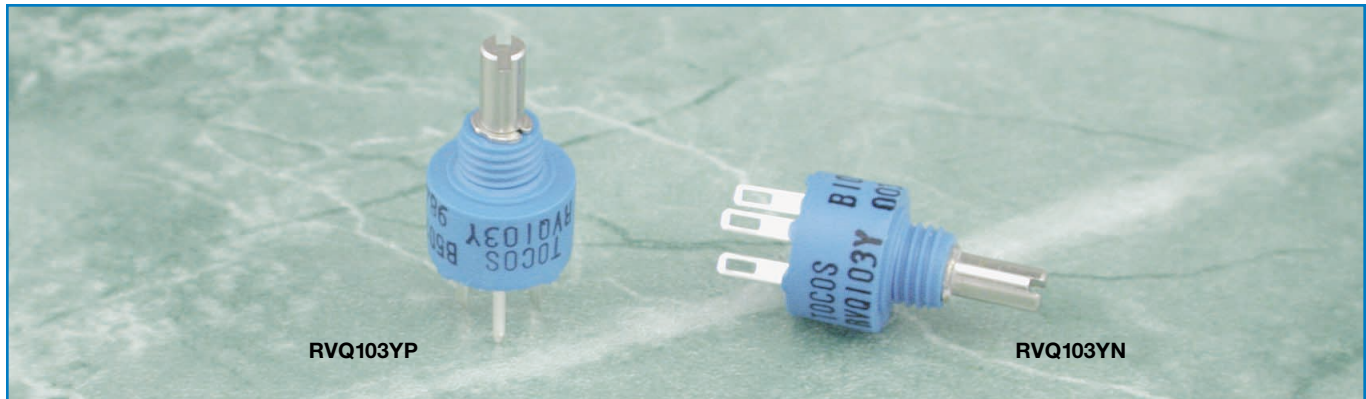


## Long Life 10mm Diameter, Single-Turn, Carbon Panel Controls



### Features

- Long life 10mm diameter, single-turn industrial panel controls
- Carbon film element
- 200,000 cycle rotational life
- Single unit, single shaft
- Linear taper
- Molded plastic construction for housing and bushing
- Lightweight
- 3mm diameter metal shafts in slot, flat or round end styles
- Standard 10mm or 15mm shaft length
- Panel mount style
- Rear exit vertical lug terminals
- PCB mounting style available as special order

### Specifications

#### Electrical

|                                  |   |
|----------------------------------|---|
| <b>Standard Resistance Range</b> | ..... 5kΩ and 10kΩ                                |
| <b>Resistance Tolerance</b>      | ..... ±20% standard                               |
| <b>End Resistance</b>            | ..... Not applicable                              |
| <b>Resistance Taper</b>          | ..... B = linear                                  |
| <b>Independent Linearity</b>     | ..... ±3% max.                                    |
| <b>Peak Noise (C.R.V.)</b>       | ..... 1% or 2Ω, whichever is greater              |
| <b>Power Rating</b>              | ..... 0.125 watt at +40°C, 0 watt at +85°C        |
| <b>Maximum Input Voltage</b>     | ..... 35VDC 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>         | ..... 320° nominal                                |

#### Mechanical

|                                 |   |
|---------------------------------|---|
| <b>Mechanical Travel</b>        | ..... 360°  |
| <b>Shaft Torque</b>             | ..... 15 gf•cm (0.208 oz•in) max.                   |
| <b>Stop Strength</b>            | ..... Continuous, no stop                           |
| <b>Shaft Strength (push)</b>    | ..... 29.4 N (3 kgf) min.                           |
| <b>Shaft Strength (tensile)</b> | ..... 29.4 N (3 kgf) min.                           |
| <b>Shaft End Play</b>           | ..... ±0.3×(shaft length/15) mm max.                |
| <b>Mounting Nut Torque</b>      | ..... 3.5 kgf•cm (48.52 oz•in) min.                 |
| <b>Marking</b>                  | ..... Model type, taper, resistance code, date code |

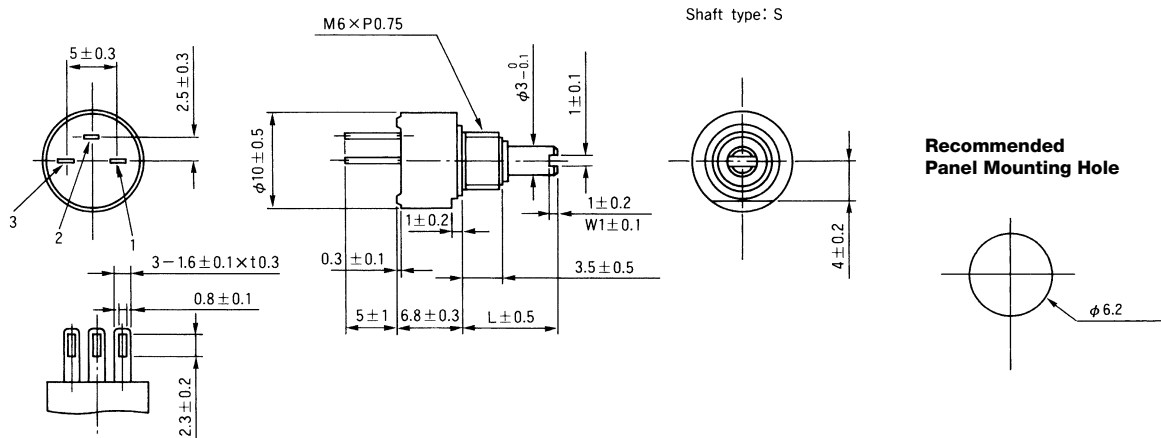
#### Environmental

|                                    |   |
|------------------------------------|---|
| <b>Temperature Range</b>           | ..... -10°C to +85°C  |
| <b>Temperature Characteristics</b> | ..... +85°C, 5 hours<br>ΔT/R ≤ ±10%                             |
| <b>Temperature Cycle</b>           | ..... -10°C, +85°C,<br>30 minutes each, 5 cycles<br>ΔT/R ≤ ±10% |
| <b>Load Life</b>                   | ..... +40°C, 0.125 watt, 1,000 hours<br>ΔT/R ≤ ±10%             |
| <b>Moisture and Load Life</b>      | ..... +40°C, 90-95% RH,<br>0.125 watt, 500 hours<br>ΔT/R ≤ ±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>             | ..... 200,000 cycles without load<br>ΔT/R ≤ ±5%                 |

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).

**RVQ103YN**  
**Panel Mount, Single Unit, Single Shaft**  
**Rear Exit Vertical Lug Terminals, 3-Lug Triangular Pattern**



**Part Numbering System**

**RV Q 103 Y N 15 S B 103 M**

NOTE: FMS = From Mounting Surface

- **Resistance Tolerance: M** = ±20% (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 = 10Ω; 101 = 100Ω; 102 = 1,000Ω; 103 = 10,000Ω). 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, Rear Exit Vertical Lug Terminals, 3-Lug Triangular Pattern (standard).  
**P** = PCB Mount, Single Unit, Single Shaft, Rear Exit Vertical Mount Pin Terminals, 3-Pin Triangular Pattern (special order).
- **Operating Temperature Range: Y** = -10°C to +85°C.
- **Size and Style: 10** = 10mm Diameter; **3** = Style of 10mm Size.
- **Rotational Life: Q** = Long Life, 200,000 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 (Ω) | Code | Resistance (Ω) | Code |
|----------------|------|----------------|------|
| 5,000          | 502  | 10,000         | 103  |

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.