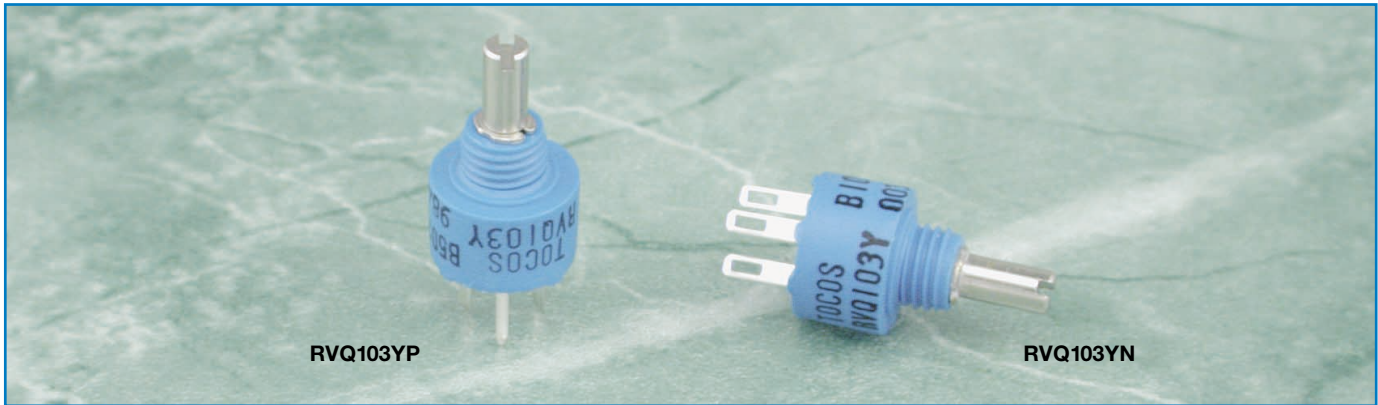


## Long Life 10mm Diameter, Single-Turn, Carbon Panel Controls



### 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

**Standard Resistance Range** ..... 5k $\Omega$  and 10k $\Omega$   
**Resistance Tolerance** .....  $\pm 20\%$  standard  
**End Resistance** ..... Not applicable  
**Resistance Taper** ..... B = linear  
**Independent Linearity** .....  $\pm 3\%$  max.  
**Peak Noise (C.R.V.)** ..... 1% or 2 $\Omega$ , whichever is greater  
**Power Rating** ..... 0.125 watt at +40°C, 0 watt at +85°C  
**Maximum Input Voltage** ..... 35VDC or power rating, whichever is smaller  
**Insulation Resistance** ..... 100M $\Omega$  minimum at 500VDC  
**Dielectric Strength** ..... 500VAC, 1 minute  
**Adjustment Travel** ..... 320° nominal

#### Mechanical

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

#### Environmental

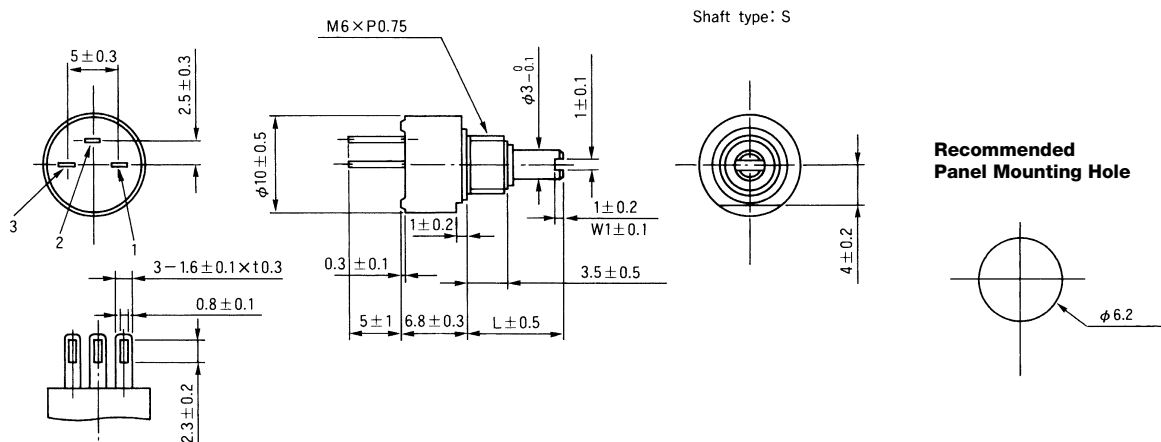
**Temperature Range** ..... -10°C to +85°C  
**Temperature Characteristics** ..... +85°C, 5 hours  
 $\Delta T/R \leq \pm 10\%$   
**Temperature Cycle** ..... -10°C, +85°C,  
 30 minutes each, 5 cycles  
 $\Delta T/R \leq \pm 10\%$   
**Load Life** ..... +40°C, 0.125 watt, 1,000 hours  
 $\Delta T/R \leq \pm 10\%$   
**Moisture and Load Life** ..... +40°C, 90-95% RH,  
 0.125 watt, 500 hours  
 $\Delta T/R \leq \pm 10\%$   
**Vibration** ..... 10-55Hz, 1.5mm amplitude, 3 directions  
 $\Delta T/R \leq \pm 5\%$   
**Soldering Heat Resistance** ..... 350°C  $\pm 5^\circ$ C, 3 seconds  
 $\Delta T/R \leq \pm 2\%$   
**Rotational Life** ..... 200,000 cycles without load  
 $\Delta T/R \leq \pm 5\%$

$\Delta T/R$  = 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**

Unit: mm



**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.