

## 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

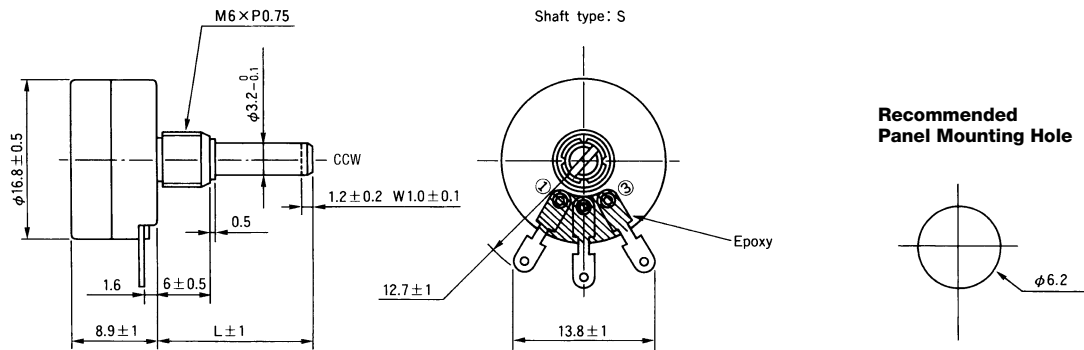
<b>Temperature Range</b> .....	-10°C to +85°C
<b>Temperature Characteristics</b> .....	+80°C, 5 hours ΔT/R ≤ ±12%
<b>Temperature Cycle</b> .....	-10°C, +85°C, 30 minutes each, 5 cycles ΔT/R ≤ ±10%
<b>Load Life</b> .....	+40°C, 0.1 watt, 1,000 hours ΔT/R ≤ ±15%
<b>Moisture and Load Life</b> .....	+40°C,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