

Long Life 24mm Diameter, Single-Turn, Carbon Panel Controls



Features

- Long life 24mm diameter, single-turn industrial panel controls
- Carbon film element
- Single unit, single shaft
- High quality, 2,000,000 cycle rotational life
- Low cost
- Independent linearity, $\pm 3\%$ max.
- Metal shaft and bushing
- Linear taper
- 6mm diameter shafts in slot, flat or round end styles
- Standard 15mm or 20mm shaft length
- Panel mount style
- Right angle ear-lug terminals
- Continuous rotation units available as special order

Specifications

Electrical

Standard Resistance Range	1k Ω to 100k Ω
Resistance Tolerance	$\pm 10\%$ standard
End Resistance	3 Ω max.
Resistance Taper	B = linear
Independent Linearity	$\pm 3\%$ max.
Peak Noise (C.R.V.)	3% max.
Power Rating	0.5 watt at +40°C, 0 watt at +85°C
Maximum Input Voltage	200VDC or power rating, whichever is smaller
Insulation Resistance	100M Ω minimum at 1,000VDC
Dielectric Strength	1,000VAC, 1 minute
Adjustment Travel	280°

Mechanical

Mechanical Travel	300° $\pm 5^\circ$
Shaft Torque	100 gf•cm (1.386 oz•in) max.
Stop Strength	9 kgf•cm (124.76 oz•in) min.
Shaft Strength (push)	125 N (12.75 kgf) min.
Shaft Strength (tensile)	125 N (12.75 kgf) min.
Shaft End Play	$\pm 0.4 \times$ (shaft length/30) mm max.
Mounting Nut Torque	15 kgf•cm (207.94 oz•in) min.
Marking	Model type, taper, resistance code, shaft type, terminal identification, date code

Environmental

Temperature Range	-10°C to +85°C
Temperature Characteristics	+80°C, 5 hours $\Delta T/R \leq \pm 5\%$
Temperature Cycle	-10°C, +80°C, 30 minutes each, 5 cycles $\Delta T/R \leq \pm 10\%$
Load Life	+40°C, 0.5 watt, 1,000 hours $\Delta T/R \leq \pm 10\%$
Moisture and Load Life	+40°C, 90-95% RH, 0.5 watt, 500 hours $\Delta T/R \leq \pm 20\%$
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	2,000,000 cycles without load $\Delta T/R \leq \pm 15\%$

$\Delta T/R$ = Total Resistance Change

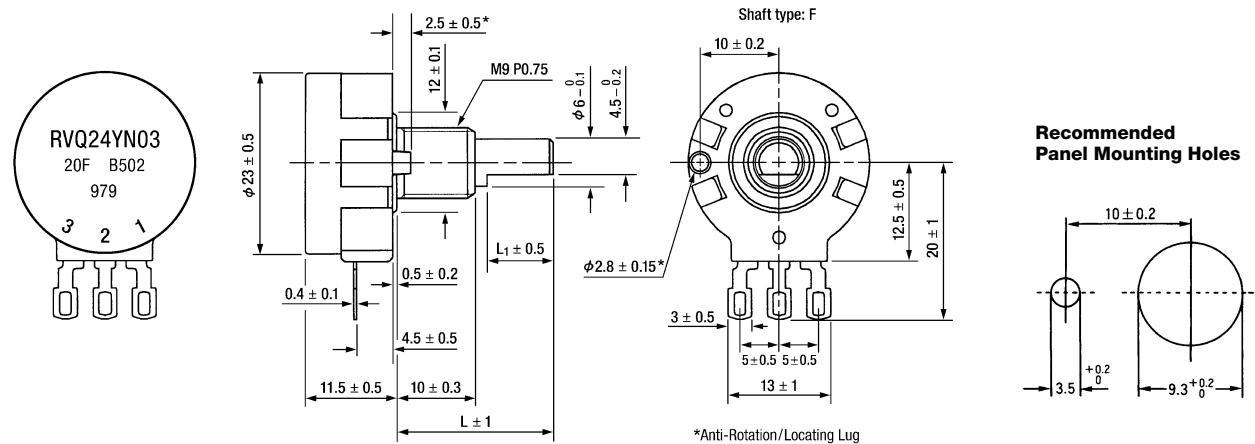
Note: A long life panel control should only be used in a circuit as a potentiometer (3-terminal voltage divider).

Dimensions

Unit: mm

RVQ24YN03

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



Part Numbering System

RV Q 24 Y N 03 15 S B 104 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 = 10Ω; 101 = 100Ω; 102 = 1,000Ω; 103 = 10,000Ω; 104 = 100,000Ω). See table for standard resistance values.

Resistance Taper: B = Linear.

Shaft End Style: **S** = Slotted.
F = Flatted.
R = Round.

Standard Shaft Length: 15 = 15mm FMS.
20 = 20mm FMS.
Up to 50mm shaft length available (special order).

Design Type: 03 = Design Variation of 24mm Size.

Style: N = Panel Mount, Single Unit, Single Shaft, Right Angle Ear-Lug Terminals.

Operating Temperature Range: Y = -10°C to +85°C.

Size: 24 = 24mm Diameter.

Rotational Life: Q = Long Life, 2,000,000 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	Resistance (Ω)	Code
1,000	102	10,000	103	100,000	104
2,000	202	20,000	203		
5,000	502	50,000	503		

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.