RV102 Series

TOCOS PANEL CONTROLS

10mm Diameter, Single-Turn, Carbon Industrial Panel Controls

Features

- 10mm diameter, single-turn industrial panel controls
- Carbon film element
- Linear taper
- Available in single unit, single shaft
- Molded plastic construction for housing and bushing
- Small size
- 3mm diameter metal shafts in slot, flat or round end styles
- Standard 10mm or 15mm shaft length
- Panel or PC board mounting styles
- Lug or pin terminals
- Right angle or vertical mount

Specifications

Electrical

Standard Resistance Range . . . . . 100Ω to 2MΩ

Resistance Tolerance . . . . . ±20% standard (±10% special order)

End Resistance . . . . . 3Ω max.

Resistance Taper . . . . . B = linear

Peak Noise (C.R.V.) . . . . . 1% or 2Ω, whichever is greater

Power Rating . . . . . 0.25 watt at +40°C, 0 watt at +85°C

Maximum Input Voltage . . . . . 300VDC or power rating, whichever is smaller

Insulation Resistance . . . . . 100MΩ minimum at 250VDC

Dielectric Strength . . . . . 250VAC, 1 minute

Adjustment Travel . . . . . 270°±10°

Mechanical

Mechanical Travel . . . . . 300°±10°

Shaft Torque . . . . . 20 to 200 gf•cm (0.28 to 2.77 oz•in)

Stop Strength . . . . . 2.55 kgf•cm (35.35 oz•in) max.

Mounting Nut Torque . . . . . 3.5 kgf•cm (48.52 oz•in) max.

Solderability . . . . . 235°C, 5 seconds

Marking . . . . . Model type, taper, resistance code, date code

Environmental

Temperature Range . . . . . −10°C to +85°C

Low Temperature Exposure . . . −10°C, 1 hour without load
ΔT/R ≦±2.5%

Load Life . . . . . +40°C, 90 minutes on, 30 minutes off, 1,000 hours with rated load
ΔT/R ≦±15%

Moisture Resistance . . . . . +40°C, 90-95%RH, 96 hours without load
ΔT/R ≦±10%

Thermal Shock . . . . . −10°C ~ +85°C, 5 cycles without load
ΔT/R ≦±10%

Shock . . . . . 50G, 6 m/s
ΔT/R ≦±2.5%

Vibration . . . . . 10-55Hz, 1.5mm amplitude, 3 directions, 2 hours each
ΔT/R ≦±2.5%

Soldering Heat Resistance . . . . . 350°C, 3.5 seconds
ΔT/R ≦±2%

Rotational Life . . . . . 10,000 cycles without load
ΔT/R ≦±10%

ΔT/R = Total Resistance Change

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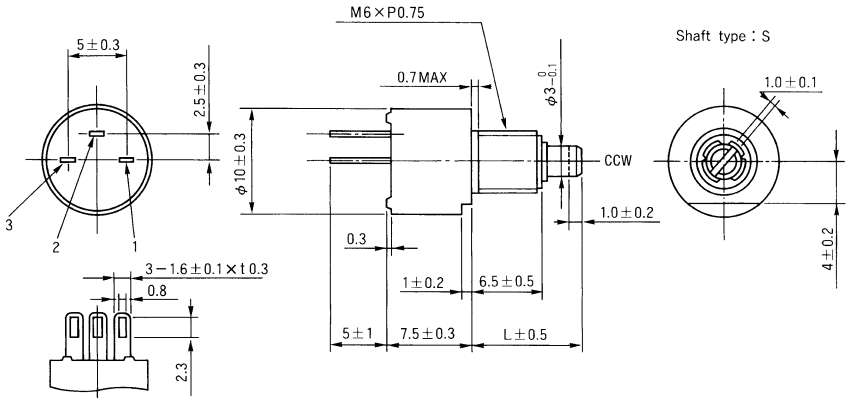
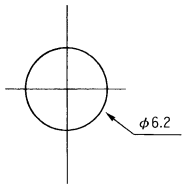
Unit: mm

RV102YN

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

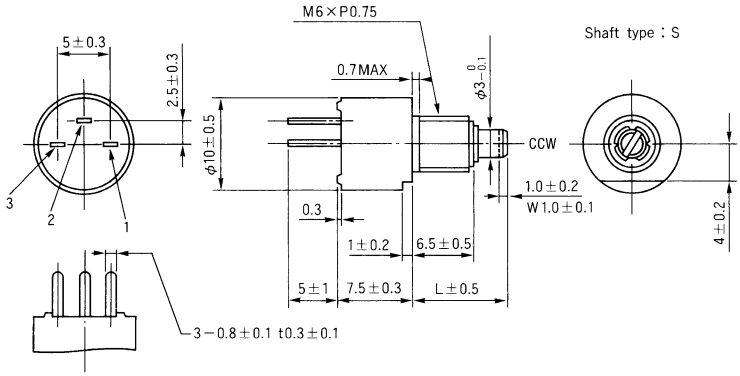


Recommended Panel Mounting Hole

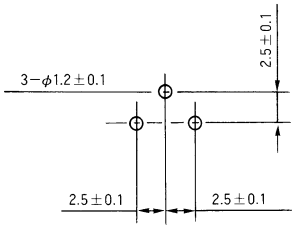


RV102YP

PCB Mount, Single Unit, Single Shaft
Rear Exit Vertical Mount Pin Terminals, 3-Pin Triangular Pattern

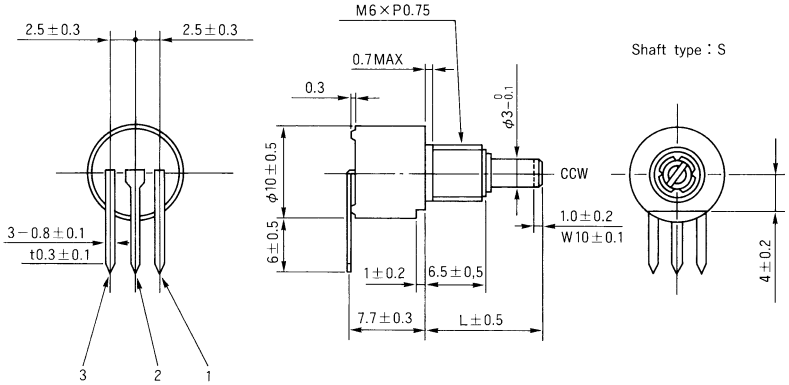


Recommended PCB Mounting Holes

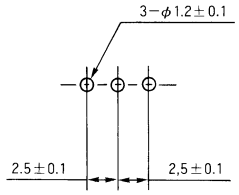


RV102YP2

PCB Mount, Single Unit, Single Shaft
Rear Exit Right Angle Mount Pin Terminals, 3-Pin Inline Pattern



Recommended PCB Mounting Holes

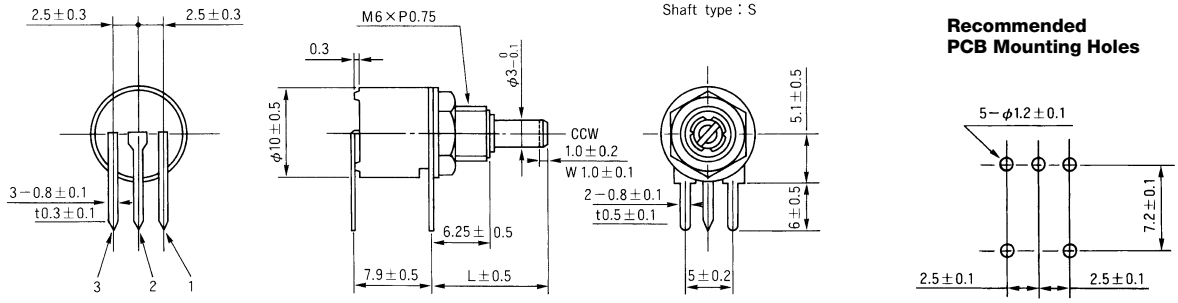


RV102YP3

Unit: mm

PCB Mount, Single Unit, Single Shaft

Rear Exit Right Angle Mount Pin Terminals, 3-Pin Inline Pattern, 2-Pin Standoff Front Support Bracket



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RV102 Series Part Numbering System

RV 102 Y N 10 S B 103 M

NOTE: FMS = From Mounting Surface

Resistance Tolerance: M = ±20% (standard).
K = ±10% (special order).

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; 105 = 1,000,000Ω). *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.
P = PCB Mount, Single Unit, Single Shaft, Rear Exit Vertical Mount Pin Terminals, 3-Pin Triangular Pattern.
P2 = PCB Mount, Single Unit, Single Shaft, Rear Exit Right Angle Mount Pin Terminals, 3-Pin Inline Pattern.
P3 = PCB Mount, Single Unit, Single Shaft, Rear Exit Right Angle Mount Pin Terminals, 3-Pin Inline Pattern, 2-Pin Standoff Front Support Bracket.

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

Size and Style: 10 = 10mm Diameter; **2** = Style of 10mm Size.

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	Resistance (Ω)	Code	Resistance (Ω)	Code
100	101	1,000	102	10,000	103	100,000	104	1,000,000	105
200	201	2,000	202	20,000	203	200,000	204	2,000,000	205
500	501	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.