

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



RV103YN

RV103YP

RV103YP3

Features

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

Specifications

Electrical

Standard Resistance Range	100Ω to 2MΩ
Resistance Tolerance	±10% standard
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 500VDC
Dielectric Strength	500VAC, 1 minute
Adjustment Travel	270° ± 10°

Mechanical

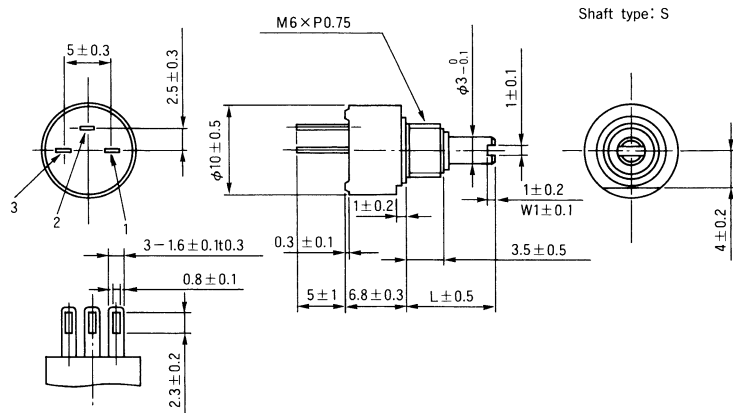
Mechanical Travel	300° ± 10°
Shaft Torque	20 to 150 gf•cm (0.28 to 2.08 oz•in)
Stop Strength	2.5 kgf•cm (34.66 oz•in) max.
Mounting Nut Torque	3.5 kgf•cm (48.52 oz•in) max.
Solderability	235°C, 5 seconds
Marking	Model type, taper, resistance code, date code

Environmental

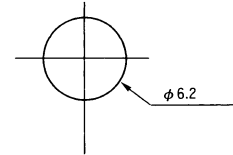
Temperature Range	–10°C to +85°C
Low Temperature Exposure	–10°C, 1 hour without load ΔT/R ≤ ±2.5%
Load Life	+40°C, 90 minutes on, 30 minutes off, 1,000 hours with rated load ΔT/R ≤ ±10%
Moisture Resistance	+40°C, 90-95% RH, 96 hours without load ΔT/R ≤ ±10%
Thermal Shock	–10°C ~ +85°C, 5 cycles without 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 ≤ ±5%
Soldering Heat Resistance	350°C, 3 seconds ΔT/R ≤ ±2%
Rotational Life	10,000 cycles without load ΔT/R ≤ ±10%

ΔT/R = Total Resistance Change

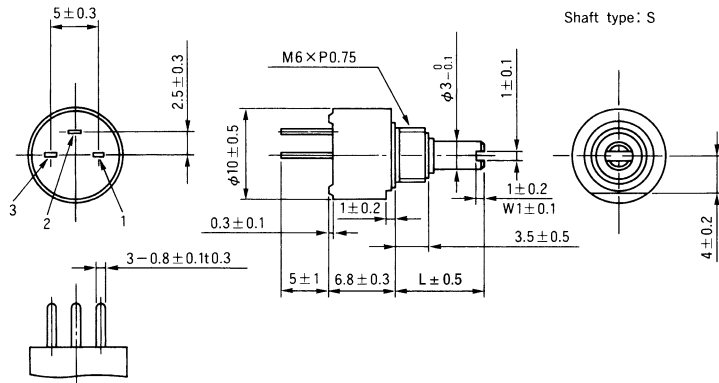
RV103YN & RV103YN-4C with Center Detent
Panel Mount, Single Unit, Single Shaft
Rear Exit Vertical Lug Terminals, 3-Lug Triangular Pattern



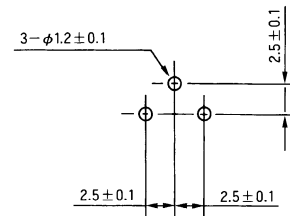
**Recommended
Panel Mounting Hole**



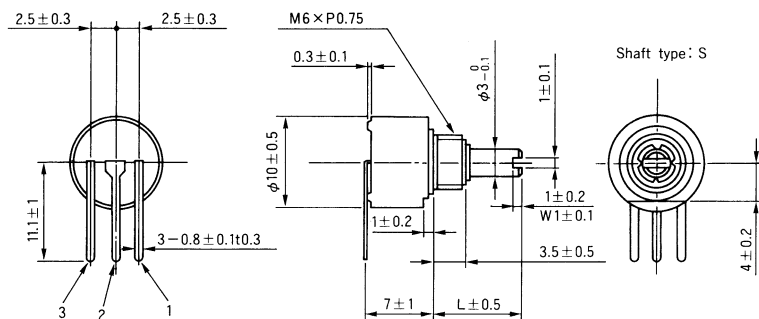
RV103YP & RV103YP-4C with Center Detent
PCB Mount, Single Unit, Single Shaft
Rear Exit Vertical Mount Pin Terminals, 3-Pin Triangular Pattern



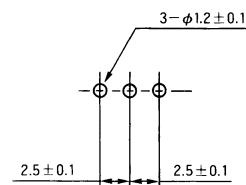
**Recommended
PCB Mounting Holes**

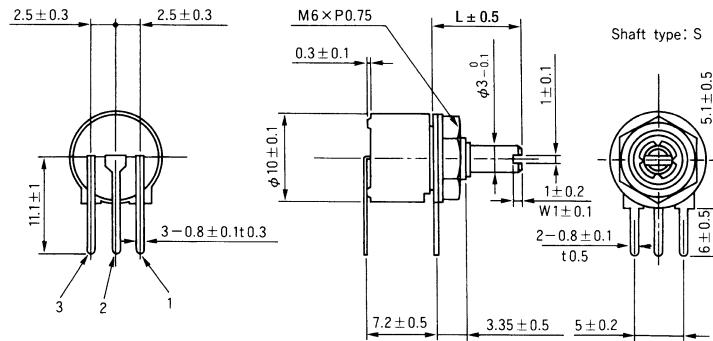
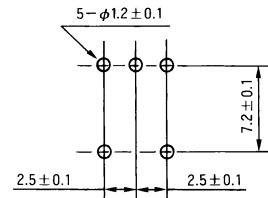
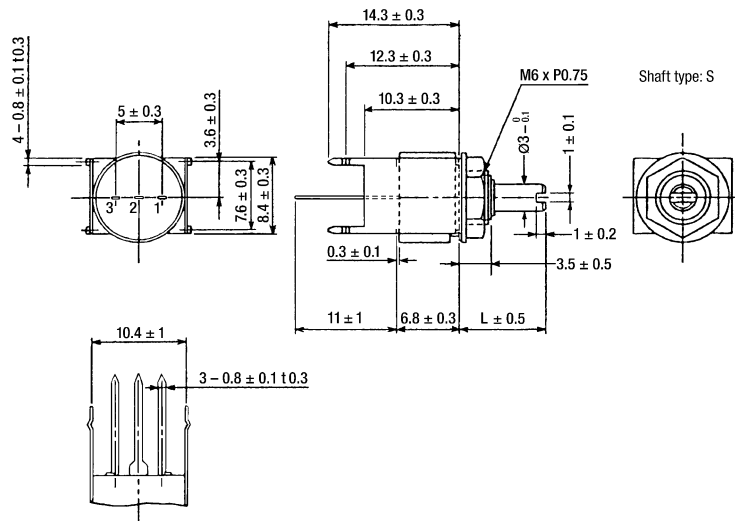
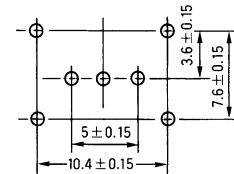


RV103YP2 & RV103YP2-4C with Center Detent
PCB Mount, Single Unit, Single Shaft
Rear Exit Right Angle Mount Pin Terminals, 3-Pin Inline Pattern



**Recommended
PCB Mounting Holes**



RV103YP3 & RV103YP3-4C with Center Detent**PCB Mount, Single Unit, Single Shaft****Rear Exit Right Angle Mount Pin Terminals, 3-Pin Inline Pattern, 2-Pin Standoff Front Support Bracket****Recommended
PCB Mounting Holes****RV103YPB & RV103YP-4CB with Center Detent****PCB Mount, Single Unit, Single Shaft****Rear Exit Vertical Mount Pin Terminals, 3-Pin Inline Pattern, 4-Pin Mounting Bracket****Recommended
PCB Mounting Holes**

RV 103 Y P -4C B 10 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 Ω ; 101 = 100 Ω ; 102 = 1,000 Ω ; 103 = 10,000 Ω ; 105 = 1,000,000 Ω). 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).➔ **PCB Bracket: B** = Mounting Bracket with PCB Pin Terminals.
Blank = No Bracket (standard).➔ **Detent: -4C** = Center Detent.
Blank = No Detent.➔ **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.
PB = PCB Mount, Single Unit, Single Shaft, Rear Exit Vertical Mount Pin Terminals, 3-Pin Inline Pattern, 4-Pin Mounting Bracket.➔ **Operating Temperature Range: Y** = -10°C to +85°C.➔ **Size and Style: 10** = 10mm Diameter; **3** = 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.