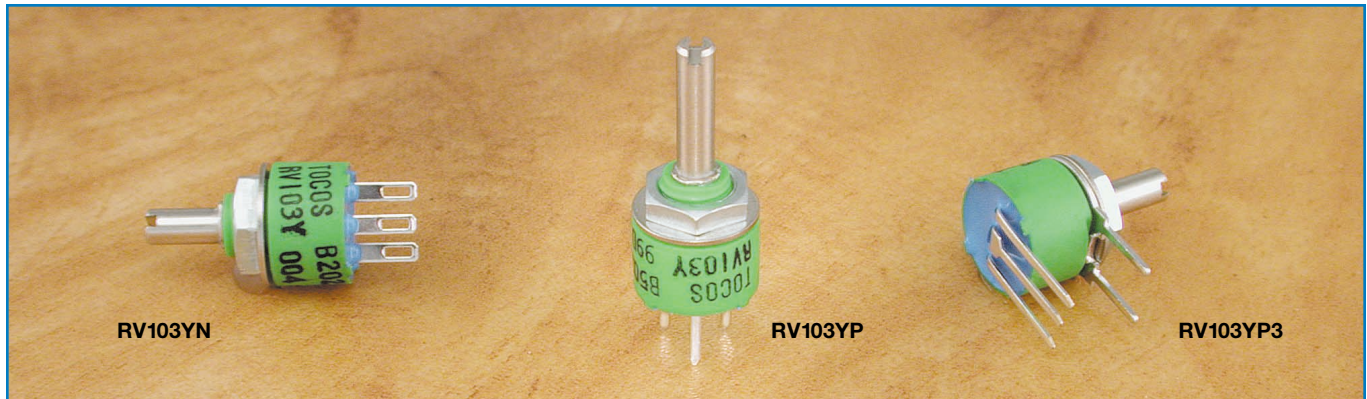


## 10mm Diameter, Single-Turn, Carbon Industrial Panel Controls



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      | ± 20% 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

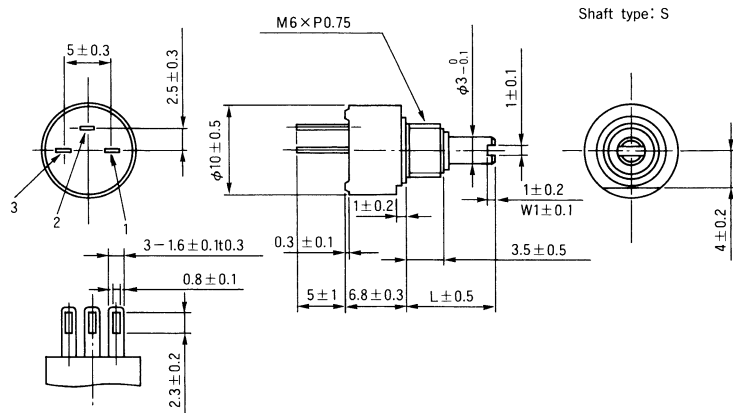
|                     |                                               |
|---------------------|-----------------------------------------------|
| Mechanical Travel   | 300° ± 10°                                    |
| Shaft Torque        | 20 to 150 gf•cm (0.28 to 2.08 oz•in)          |
| Stop Strength       | 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

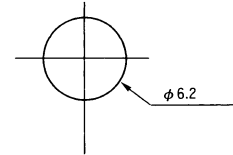
|                           |                                                                                     |
|---------------------------|-------------------------------------------------------------------------------------|
| Temperature Range         | –10°C to +85°C                                                                      |
| Low Temperature Exposure  | –10°C, 1 hour without load<br>ΔT/R ≤ ±2.5%                                          |
| Load Life                 | +40°C, 90 minutes on, 30 minutes off,<br>1,000 hours with rated load<br>ΔT/R ≤ ±10% |
| Moisture Resistance       | +40°C, 90-95% RH,<br>96 hours without load<br>ΔT/R ≤ ±10%                           |
| Thermal Shock             | –10°C ~ +85°C,<br>5 cycles without load<br>ΔT/R ≤ ±10%                              |
| Shock                     | 50G, 6 m/s<br>ΔT/R ≤ ±2.5%                                                          |
| Vibration                 | 10-55Hz, 1.5mm amplitude,<br>3 directions, 2 hours each<br>ΔT/R ≤ ±5%               |
| Soldering Heat Resistance | 350°C, 3 seconds<br>ΔT/R ≤ ±2%                                                      |
| Rotational Life           | 10,000 cycles without load<br>ΔT/R ≤ ±10%                                           |

ΔT/R = Total Resistance Change

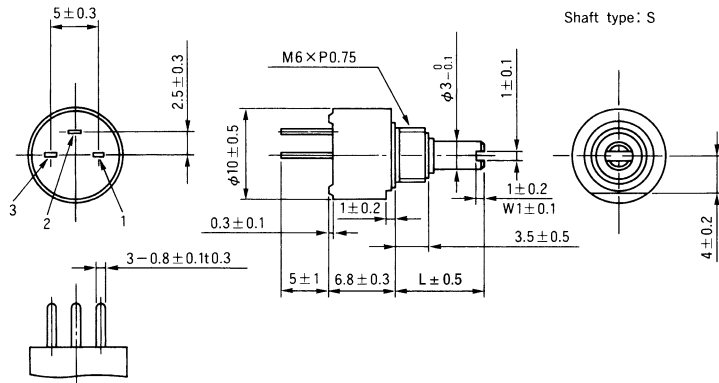
**RV103YN & RV103YN-4C with Center Detent**  
**Panel Mount, Single Unit, Single Shaft**  
**Rear Exit Vertical Lug Terminals, 3-Lug Triangular Pattern**



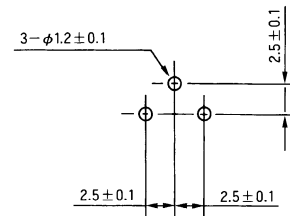
**Recommended  
Panel Mounting Hole**



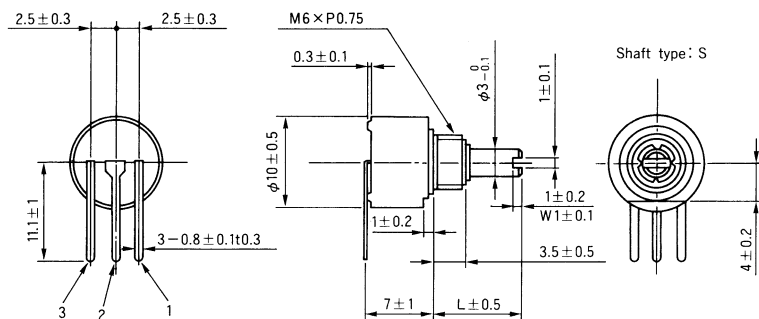
**RV103YP & RV103YP-4C with Center Detent**  
**PCB Mount, Single Unit, Single Shaft**  
**Rear Exit Vertical Mount Pin Terminals, 3-Pin Triangular Pattern**



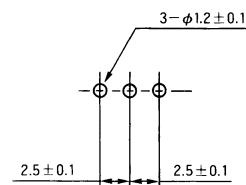
**Recommended  
PCB Mounting Holes**

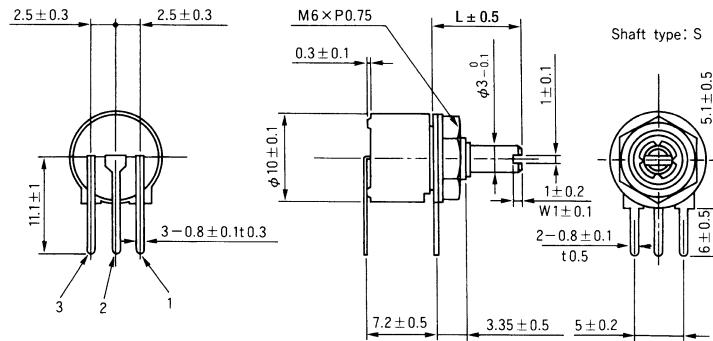
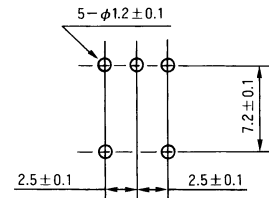
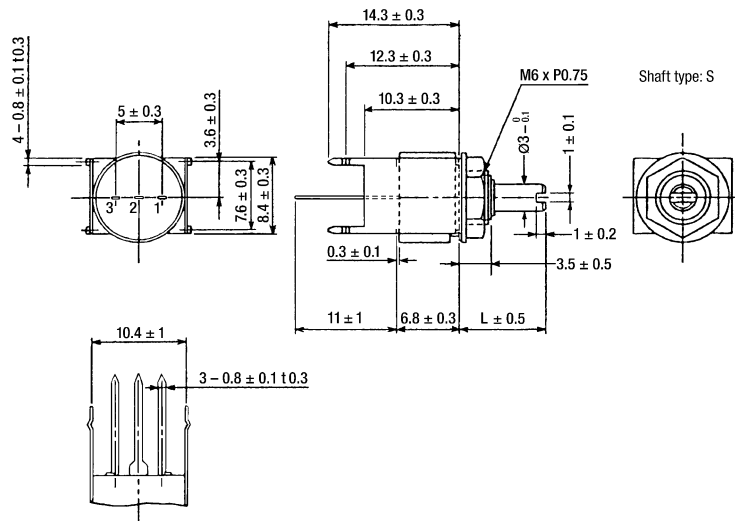
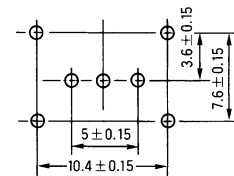


**RV103YP2 & RV103YP2-4C with Center Detent**  
**PCB Mount, Single Unit, Single Shaft**  
**Rear Exit Right Angle Mount Pin Terminals, 3-Pin Inline Pattern**



**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 =  $\pm 20\%$  (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 = 10 $\Omega$ ; 101 = 100 $\Omega$ ; 102 = 1,000 $\Omega$ ; 103 = 10,000 $\Omega$ ; 105 = 1,000,000 $\Omega$ ). 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).

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 =  $-10^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .

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 ( $\Omega$ ) | Code | Resistance ( $\Omega$ ) | Code | Resistance ( $\Omega$ ) | Code | Resistance ( $\Omega$ ) | Code | Resistance ( $\Omega$ ) | 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.