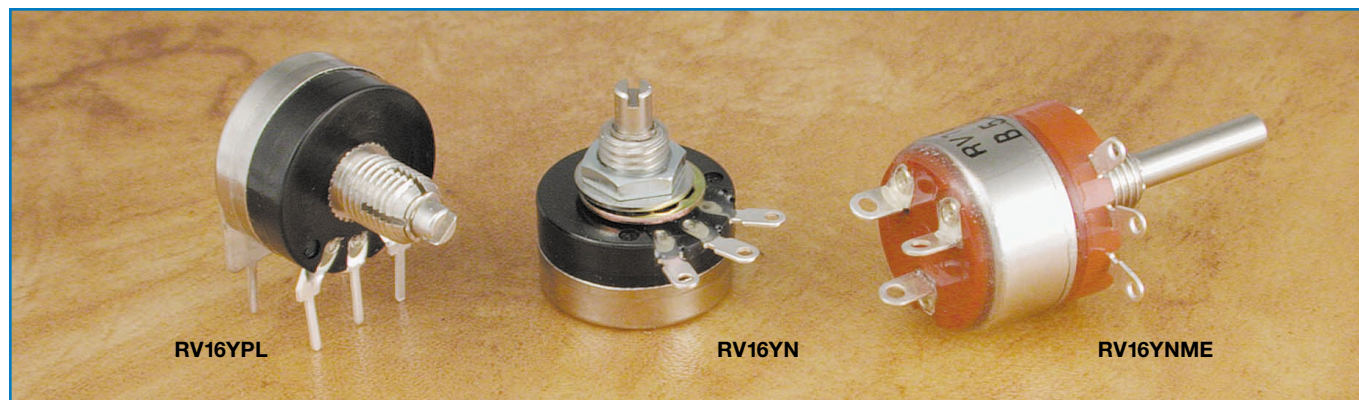


## 16mm Diameter, Single-Turn, Carbon Industrial Panel Controls



### Features

- 16mm diameter, single-turn industrial panel controls
- Carbon film element
- Linear or audio tapers
- Single and tandem units, single shaft; dual unit, dual shaft
- Optional switch, center detent, and shaft lock available
- 3.2mm 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 mount pin configurations

### Specifications

#### Electrical

**Standard Resistance Range** . . . . . B = 100Ω to 2MΩ  
A, C = 2kΩ to 2MΩ

**Resistance Tolerance** . . . . . ±10% standard

**End Resistance** . . . . . 3Ω max.

**Resistance Taper** . . . . B = linear; A = CW audio (logarithm);  
C = CCW audio (logarithm)

**Peak Noise (C.R.V.)** . . . . . 3% or 3Ω, whichever is greater

**Power Rating** . . . . . B = 0.1 watt; A, C = 0.05 watt  
at +40°C, 0 watt at +85°C

**Maximum Input Voltage** . . . . . 200VDC or power rating,  
whichever is smaller

**Insulation Resistance** . . . . . 100MΩ minimum at 500VDC

**Dielectric Strength** . . . . . 500VAC, 1 minute

**Adjustment Travel** . . . . . 240° ± 10°

#### Mechanical

**Mechanical Travel** . . . . . 260° ± 10°

**Shaft Torque**  
Single Unit . . . . 20.4 to 204 gf•cm (0.283 to 2.828 oz•in)  
Other Units . . . . 20.4 to 357 gf•cm (0.283 to 4.949 oz•in)

**Stop Strength** . . . . . 3.06 kgf•cm (42.42 oz•in) max.

**Mounting Nut Torque** . . . . 10.2 kgf•cm (141.4 oz•in) max.

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

**Marking** . . . . . Model type, taper, resistance code,  
terminal identification, 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, 11 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 seconds;  
260°C, 5 seconds (PCB units)  
ΔT/R ≤ ±2%

**Rotational Life** . . . . 15,000 cycles (500 cycles for shaft lock  
models only) without load  
ΔT/R ≤ ±10%

#### Standard Rotary Switches

**Switch Rating** . . . . . 110VAC, 0.5A, SPDT or SPST

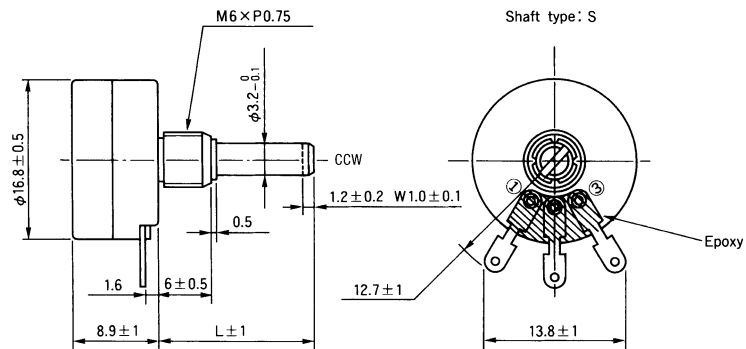
**Contact Resistance** . . . . . 0.05Ω max.

**Operating Torque** . . . . . 1,530 gf•cm (21.21 oz•in) max.

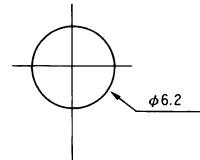
**Operating Life** . . . . . 10,000 cycles without load

ΔT/R = Total Resistance Change

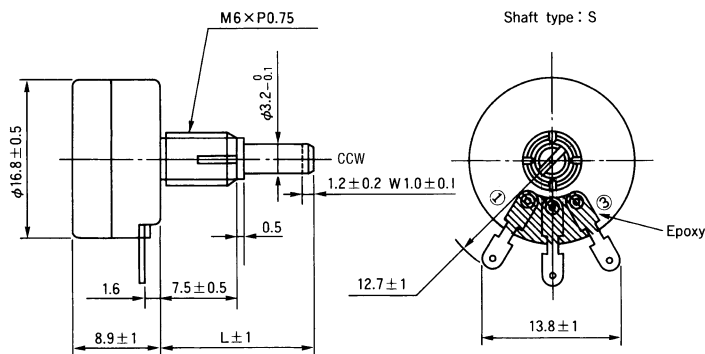
**RV16YN & RV16YN-4C (with Center Detent)**  
**Panel Mount, Single Unit, Single Shaft**  
**Right Angle Ear-Lug Terminals**



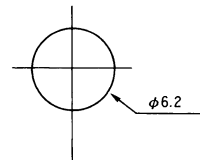
**Recommended  
Panel Mounting Hole**



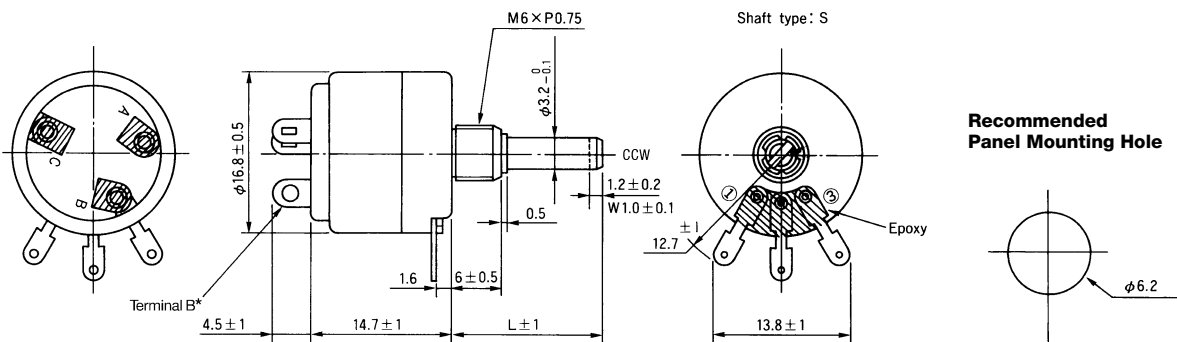
**RV16YL**  
**Panel Mount, Single Unit, Single Shaft with Shaft Lock**  
**Right Angle Ear-Lug Terminals**



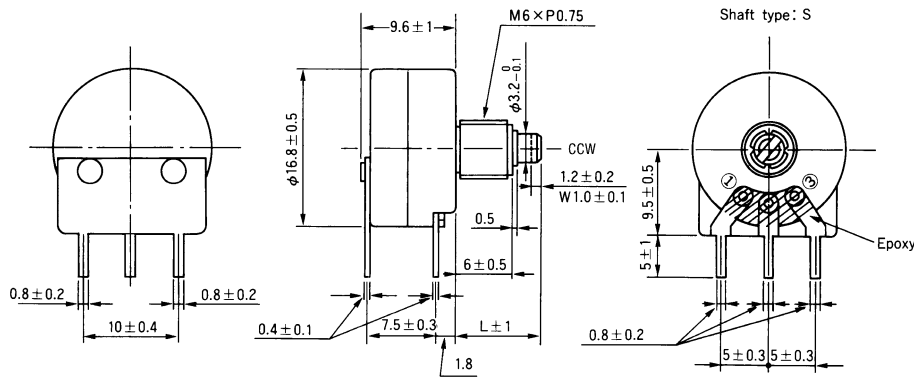
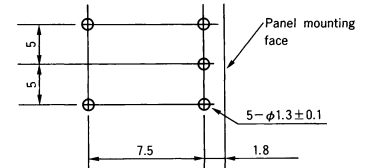
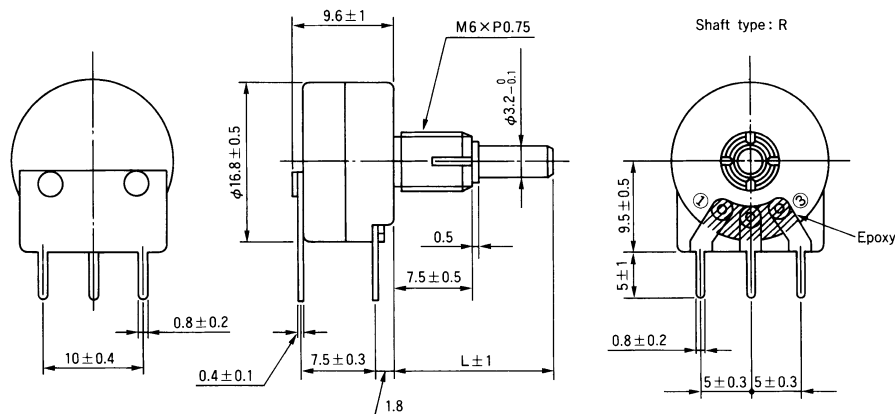
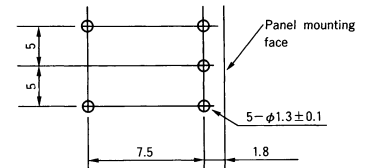
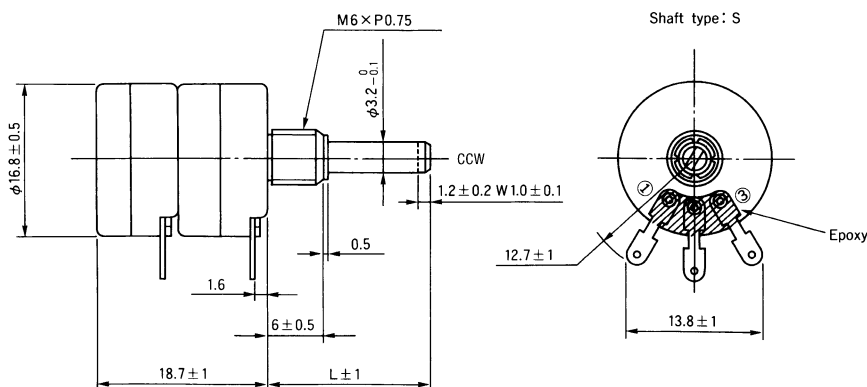
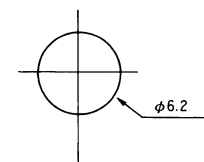
**Recommended  
Panel Mounting Hole**

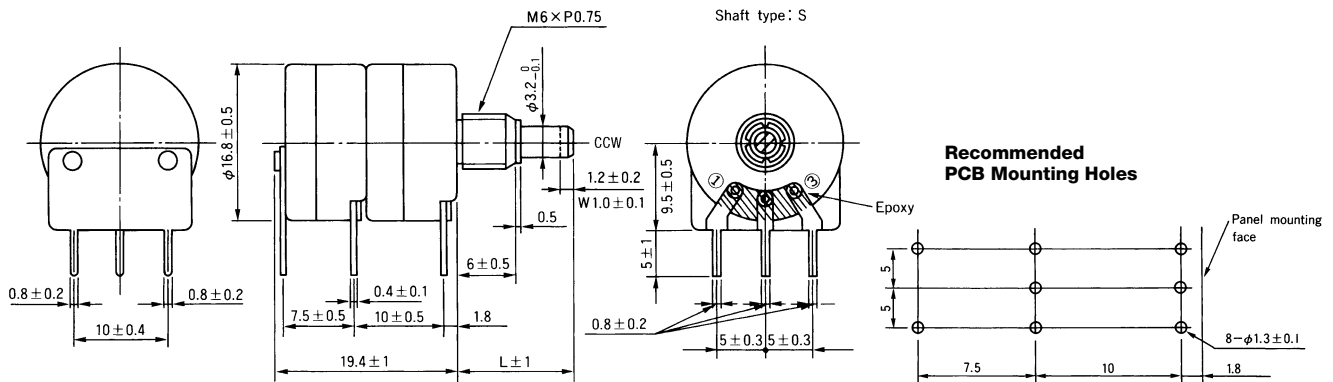
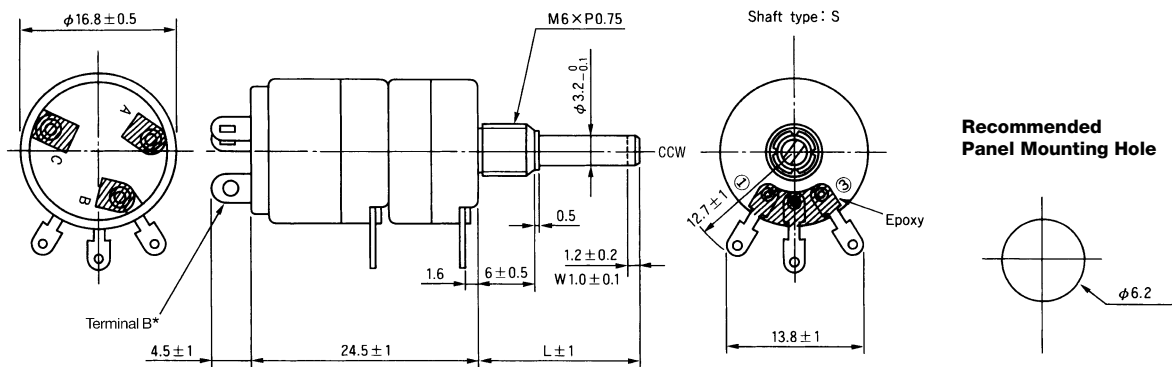


**RV16YNMH & RV16YNSH**  
**Panel Mount, Single Unit with Switch, Single Shaft**  
**Right Angle Ear-Lug Terminals, Rear Exit Lug Terminals for 0.5A SPDT or SPST Switch**

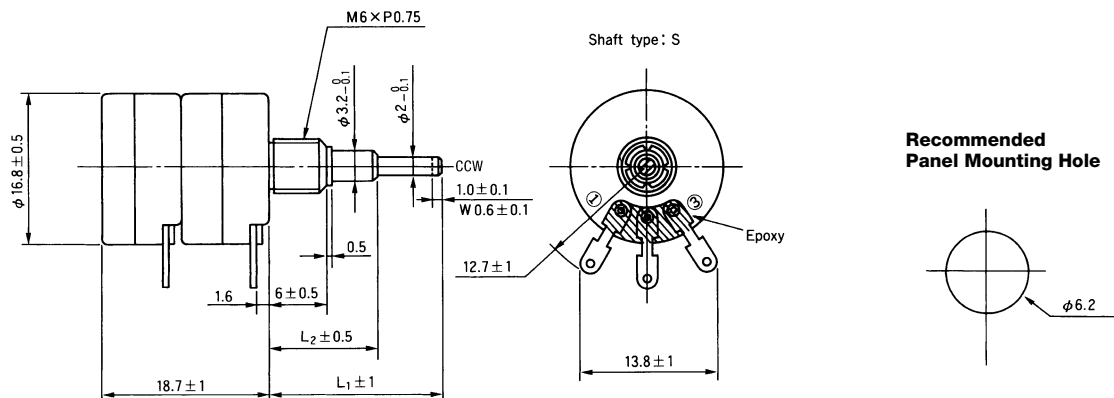


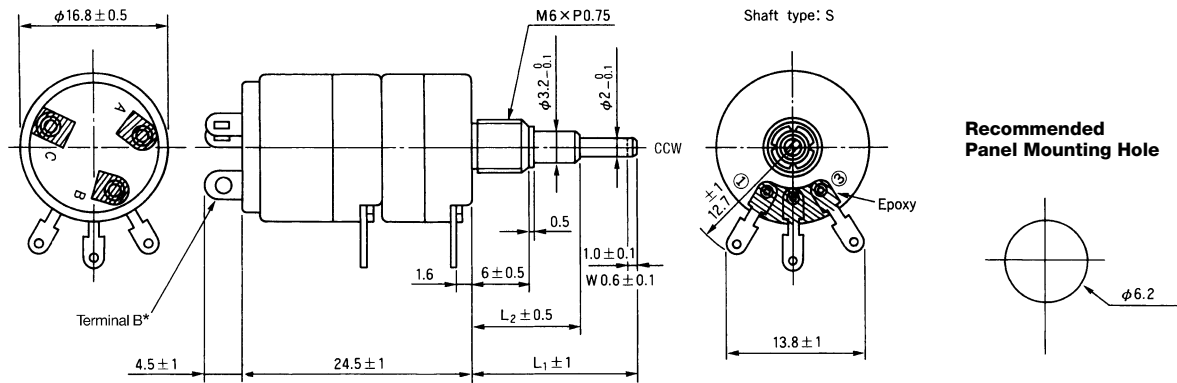
\*The SPST switch (SH code designation) does not have a B terminal.

**RV16YP****PCB Mount, Single Unit, Single Shaft****Right Angle Mount Pin Terminals, 3-Pin Inline Pattern, 2-Pin Standoff Rear Support Bracket****Recommended PCB Mounting Holes****RV16YPL****PCB Mount, Single Unit, Single Shaft with Shaft Lock****Right Angle Mount Pin Terminals, 3-Pin Inline Pattern, 2-Pin Standoff Rear Support Bracket****Recommended PCB Mounting Holes****RV16YG****Panel Mount, Ganged Tandem Unit, Single Shaft****Right Angle Ear-Lug Terminals on Each Unit****Recommended Panel Mounting Hole**

**RV16YGP****PCB Mount, Ganged Tandem Unit, Single Shaft****Right Angle Mount Pin Terminals on Each Unit, 3-Pin Inline Pattern, 2-Pin Standoff Rear Support Bracket****RV16YGMH****Panel Mount, Ganged Tandem Unit with Rear Unit Switch, Single Shaft****Right Angle Ear-Lug Terminals on Each Unit, Rear Exit Lug Terminals for 0.5A SPDT Switch**

\*Connect the A and C terminals only for a SPST switch. Do not use the B terminal.

**RV16YD****Panel Mount, Dual Unit, Dual Concentric Shaft****Right Angle Ear-Lug Terminals on Each Unit**

**RV16YDMH & RV16YDSH****Panel Mount, Dual Unit with Rear Unit Switch, Dual Concentric Shaft****Right Angle Ear-Lug Terminals on Each Unit, Rear Exit Lug Terminals for 0.5A SPDT or SPST Switch**

\*The SPST switch (SH code designation) does not have a B terminal.

RV 16 Y N -4C MH 20 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 $\Omega$ ; 105 = 1,000,000 $\Omega$ ). See table for standard resistance values.

For Single Unit:

Specify taper and resistance code as shown.

For Ganged Tandem Unit or Dual Unit:

Specify a taper code and resistance code for each unit starting with the front unit followed by the rear unit. If both units have the same taper and resistance codes, add "X2" suffix per example below.

Examples: **B103A503** or if both units are the same: **B103X2**Resistance Taper: **B** = Linear.**A** = CW Audio (logarithm).**C** = CCW Audio (logarithm).Shaft End Style: **S** = Slotted; **F** = Flatted; **R** = Round.

For Single Shaft:

Specify the shaft length (FMS) and shaft end style as shown.

For Dual Concentric Shafts:

Specify the shaft length (FMS) and shaft end style for the inner shaft followed by the shaft length (FMS) and shaft end style for the outer shaft. Use a dash (-) to separate the code groups for the inner and outer shaft specifications. Example: **30R-20R**Standard Shaft Length: **10** = 10mm FMS.**15** = 15mm FMS.

Up to 30mm shaft length available (special order).

Switch Type: **MH** = SPDT, 110VAC, 0.5A, Rear Exit Lug Terminals.**SH** = SPST, 110VAC, 0.5A, Rear Exit Lug Terminals.**Blank** = No Switch.Detent: **-4C** = Center Detent.**Blank** = No Detent.Style: **N** = Panel Mount, Single Unit, Single Shaft, Right Angle Ear-Lug Terminals.**L** = Panel Mount, Single Unit, Single Shaft with Shaft Lock, Right Angle Ear-Lug Terminals.**P** = PCB Mount, Single Unit, Single Shaft, Right Angle Mount Pin Terminals, 3-Pin Inline Pattern, 2-Pin Standoff Rear Support Bracket.**PL** = PCB Mount, Single Unit, Single Shaft with Shaft Lock, Right Angle Mount Pin Terminals, 3-Pin Inline Pattern, 2-Pin Standoff Rear Support Bracket.**G** = Panel Mount, Ganged Tandem Unit, Single Shaft, Right Angle Ear-Lug Terminals on Each Unit.**GP** = PCB Mount, Ganged Tandem Unit, Single Shaft, Right Angle Mount Pin Terminals on Each Unit, 3-Pin Inline Pattern, 2-Pin Rear Standoff Support Bracket.**D** = Panel Mount, Dual Unit, Dual Concentric Shaft, Right Angle Ear-Lug Terminals on Each Unit.Operating Temperature Range: **Y** = -10°C to +85°C.Size: **16** = 16mm Diameter.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.