

24mm Diameter, Single-Turn, Carbon Industrial Panel Controls



RV24YN

RV24YGME

RVT24YN

Features

- 24mm diameter, single-turn industrial panel controls
- Carbon film element
- Linear or audio tapers
- Single, tandem and triple units, single shaft; dual unit, dual shaft
- SPST or SPDT switch with 1A or 3A rating
- Shaft lock and center tap models
- Metal shaft and bushing
- Panel mount only
- Right angle ear-lug terminals
- 6mm diameter shafts in slot, flat or round end styles
- Standard 15mm or 20mm shaft length

Specifications

Electrical

Standard Resistance Range B = 50Ω to 2MΩ
 A, C = 1kΩ 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 = 0.25 watt; A, C = 0.125 watt
 at +40°C, 0 watt at +85°C

Maximum Input Voltage B = 315VDC; A, C = 200VDC
 or power rating, whichever is smaller

Insulation Resistance 100MΩ minimum at 1,000VDC

Dielectric Strength 1,000VAC, 1 minute

Adjustment Travel 280° ± 10°

Mechanical

Mechanical Travel 300° ± 5°

Shaft Torque
 Single Unit 51 to 306 gf·cm (0.707 to 4.242 oz·in)
 Other Units 51 to 510 gf·cm (0.707 to 7.070 oz·in)

Stop Strength 9.18 kgf·cm (127.26 oz·in) max.

Mounting Nut Torque 15 kgf·cm (207.94 oz·in) max.

Solderability 235°C, 5 seconds

Marking Model type, taper, resistance code,
 shaft type, terminal identification, date code

Environmental

Temperature Range -10°C to +85°C

Temperature Characteristics +85°C, 30 minutes
 without load
 $R \leq 10k\Omega \rightarrow \Delta T/R \leq \pm 6\%$
 $10k\Omega < R < 1M\Omega \rightarrow \Delta T/R \leq \pm 10\%$
 $R \geq 1M\Omega \rightarrow \Delta T/R \leq \pm 15\%$

Load Life +40°C, 1,000 hours with rated load
 $\Delta T/R \leq \pm 10\%$

Moisture and Load Life +40°C, 90-95% RH,
 500 hours with rated load
 $R < 100k\Omega \rightarrow \Delta T/R \leq -10\% \sim +15\%$
 $R \geq 100k\Omega \rightarrow \Delta T/R \leq -10\% \sim +20\%$

Thermal Shock -10°C ~ +85°C,
 5 cycles without load
 $\Delta T/R \leq \pm 10\%$

Vibration 10-55Hz, 1.5mm amplitude,
 3 directions, 2 hours each
 $\Delta T/R \leq \pm 2.5\%$

Soldering Heat Resistance 350°C, 3 seconds
 $\Delta T/R \leq \pm 2\%$

Rotational Life 15,000 cycles (500 cycles for shaft lock
 models only) without load
 $\Delta T/R \leq \pm 7\%$

Standard Rotary Switches

Switch Rating 110VAC, 1A or 3A, SPDT or SPST

Contact Resistance 0.05Ω max.

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

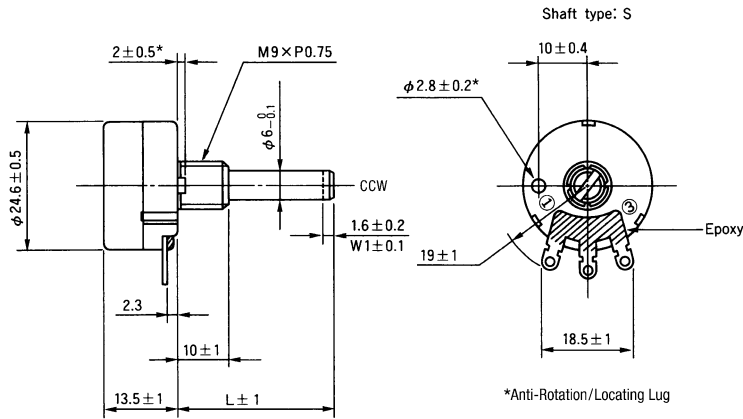
Operating Life 10,000 cycles without load

R = Total Resistance Value; $\Delta T/R$ = Total Resistance Change

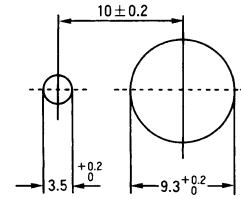
RV24YN

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

RV24YNHT High Torque, RVB24YN Low Torque, and RV24YS Panel Seal Models available as Special Order.

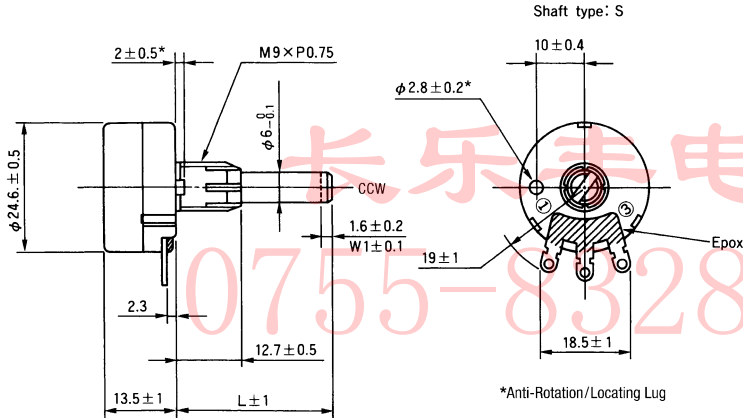


Recommended Panel Mounting Holes

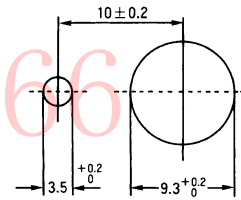


RV24YL

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



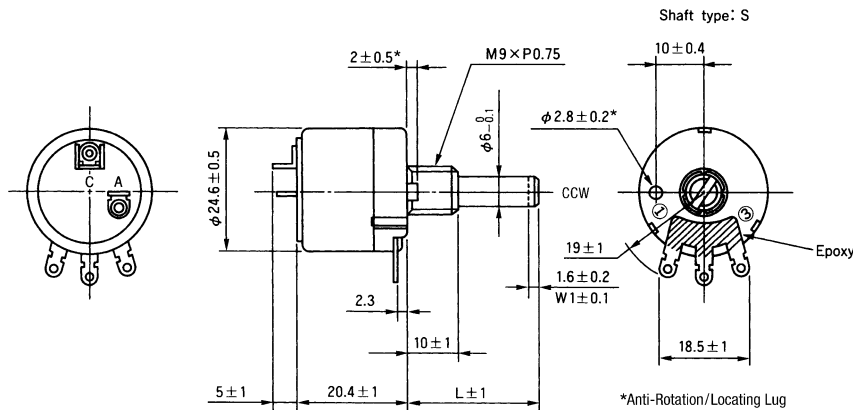
Recommended Panel Mounting Holes



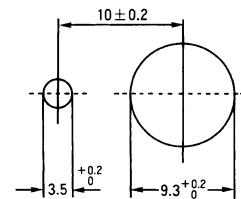
RV24YNSE & RV24YNSF

Panel Mount, Single Unit with Switch, Single Shaft

Right Angle Ear-Lug Terminals, Rear Exit Lug Terminals for 1A or 3A SPST Switch



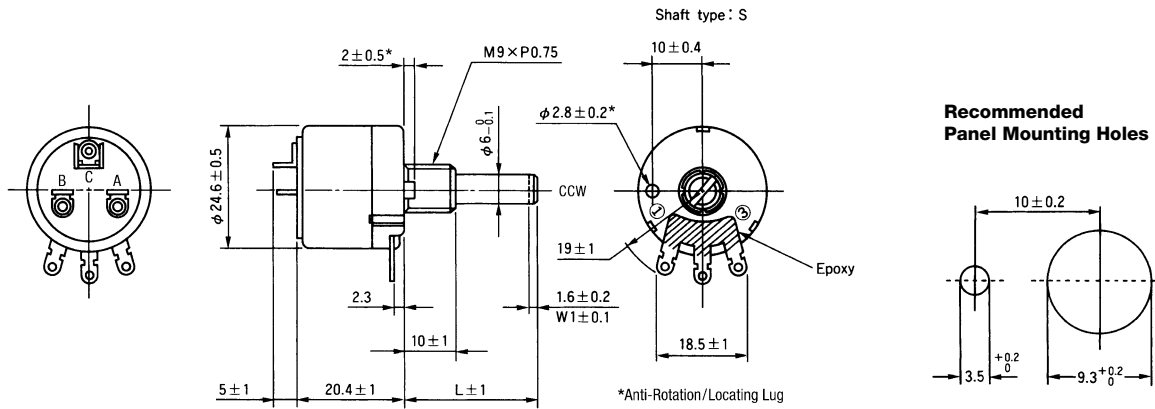
Recommended Panel Mounting Holes



RV24YNME & RV24YNMF

Panel Mount, Single Unit with Switch, Single Shaft

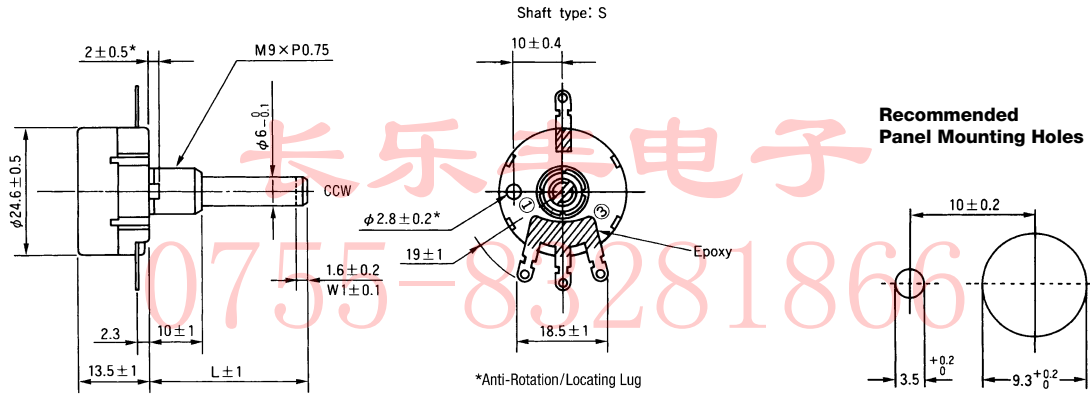
Right Angle Ear-Lug Terminals, Rear Exit Lug Terminals for 1A or 3A SPDT Switch



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Panel Mount, Single Unit with Center Tap, Single Shaft

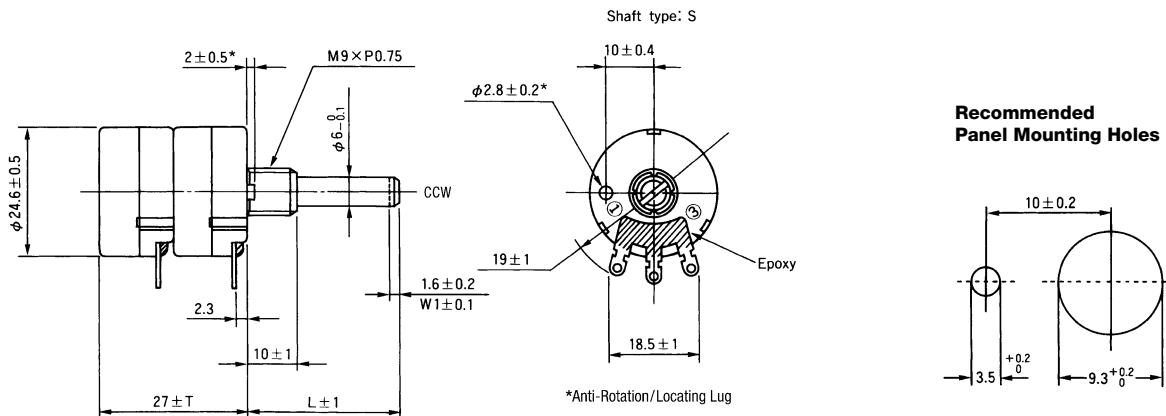
Right Angle Ear-Lug Terminals, Tap Lug Terminal 180° from Terminal #2



RV24YG

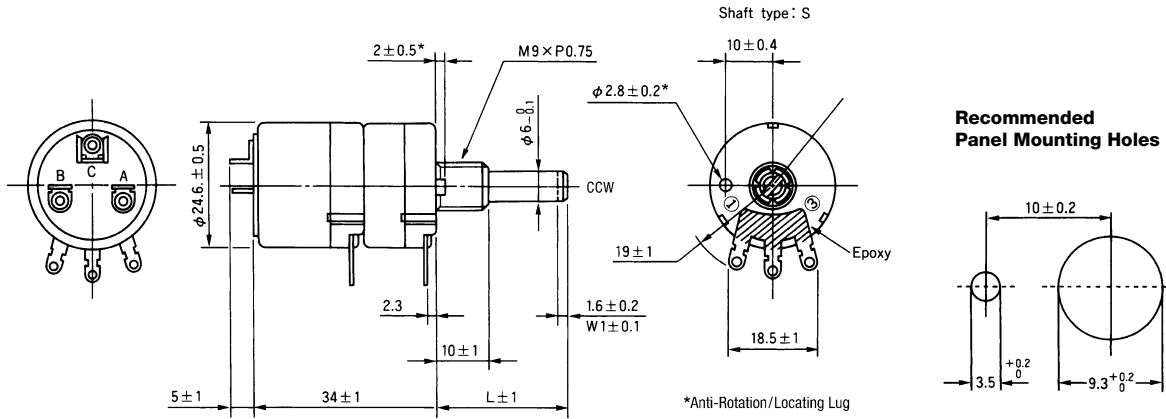
Panel Mount, Ganged Tandem Unit, Single Shaft

Right Angle Ear-Lug Terminals on Each Unit



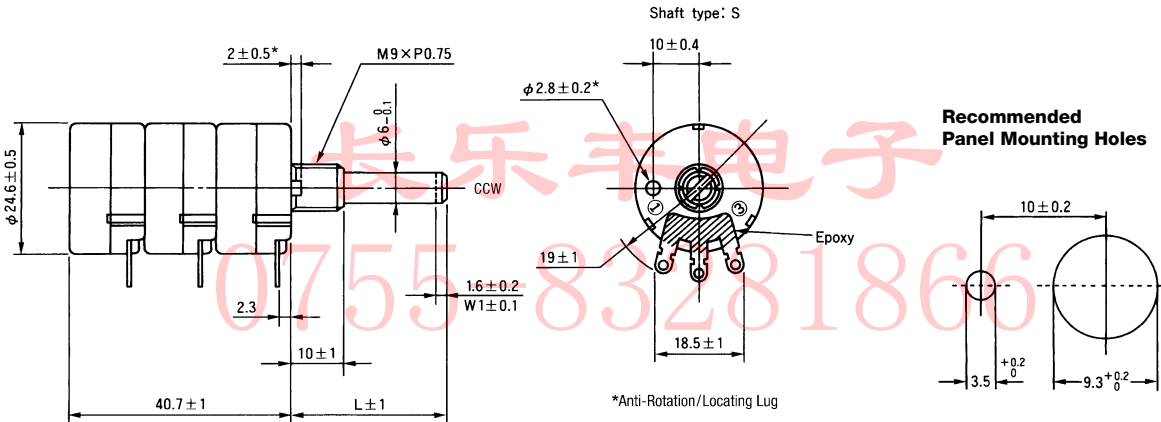
RV24YGME

Panel Mount, Ganged Tandem Unit with Switch, Single Shaft
Right Angle Ear-Lug Terminals on Each Unit, Rear Exit Lug Terminals for 1A SPDT Switch



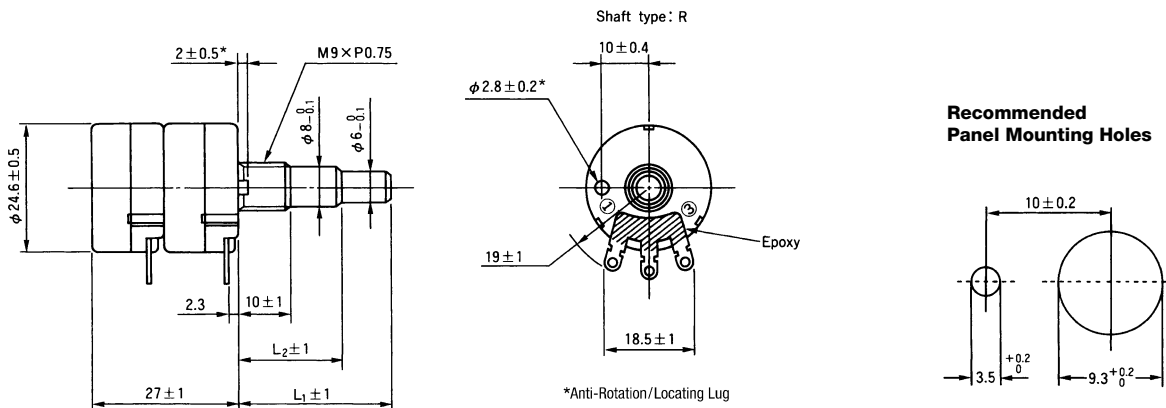
RV24YT

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



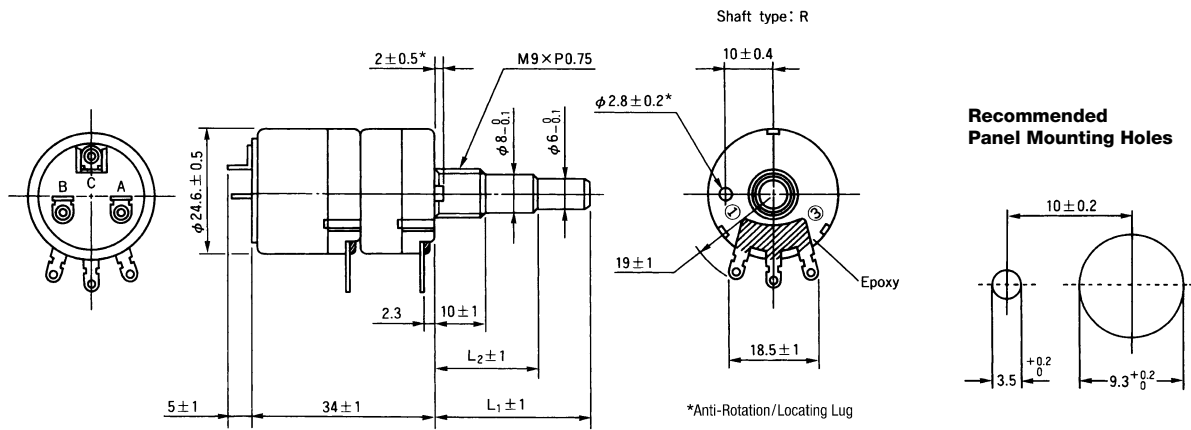
RV24YD

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



RV24DME

**Panel Mount, Dual Unit with Rear Unit Switch, Dual Concentric Shaft
Right Angle Ear-Lug Terminals on Each Unit, Rear Exit Lug Terminals for 1A SPDT Switch**



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RV T 24 Y N ME 20 S B 103 K

NOTE: FMS = From Mounting Surface

- ➔ **Resistance Tolerance: K** = ±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; 105 = 1,000,000Ω). 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**
- ➔ **For Triple Unit:**
Specify a taper code and resistance code for each unit starting with the front unit followed by the middle and rear units. If all units have the same taper and resistance codes, add "X3" suffix per example below.
Examples: **B103A503B104** or if all units are the same: **B103X3**
- ➔ **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 Shaft:**
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: 15** = 15mm FMS.
20 = 20mm FMS.
Up to 50mm shaft length available (special order).
- ➔ **Switch Type: ME** = SPDT, 110VAC, 1A, Rear Exit Lug Terminals.
MF = SPDT, 110VAC, 3A, Rear Exit Lug Terminals.
SE = SPST, 110VAC, 1A, Rear Exit Lug Terminals.
SF = SPST, 110VAC, 3A, Rear Exit Lug Terminals.
Blank = No Switch.
- ➔ **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.
G = Panel Mount, Ganged Tandem Unit, Single Shaft, Right Angle Ear-Lug Terminals on Each Unit.
GL = Panel Mount, Ganged Tandem Unit, Single Shaft with Shaft Lock, Right Angle Ear-Lug Terminals on Each Unit.
T = Panel Mount, Triple Unit, Single Shaft, Right Angle Ear-Lug Terminals on Each Unit.
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: 24** = 24mm Diameter.
- ➔ **Center Tap: T** = With Tap; **Blank** = Without Tap.
- ➔ **TOCOS Series Name: RV** = Carbon Film Element.

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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
50	500	1,000	102	10,000	103	100,000	104	1,000,000	105
100	101	2,000	202	20,000	203	200,000	204	2,000,000	205
200	201	5,000	502	50,000	503	500,000	504		
500	501								

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.