

20mm Diameter, Single-Turn, Carbon Industrial Panel Controls



Features

- 20mm diameter, single-turn industrial panel controls
- Carbon film element
- Single unit, single shaft
- Linear or audio tapers
- Plastic M9 × P0.75 bushing
- Plastic 6mm diameter shafts in slot or flat end styles
- Standard 15mm or 20mm shaft length
- Panel mounting styles only
- Right angle lug terminals
- 500Ω to 2MΩ nominal resistance range
- Meets UL 94HB flammability requirements for plastic materials

Specifications

Electrical

Standard Resistance Range	B = 500Ω to 2MΩ A,C = 1kΩ to 2MΩ
Resistance Tolerance	±20% standard
End Resistance	3Ω max.
Resistance Taper	B = linear; A = CW audio (logarithm); C = CCW audio (logarithm)
Peak Noise (C.R.V.)	2% max.
Power Rating	B = 0.25 watt; A,C = 0.125 watt at +40°C, 0 watt at +85°C
Maximum Input Voltage	B = 250VDC; A,C = 200VDC or power rating, whichever is smaller
Insulation Resistance	100MΩ minimum at 500VDC
Dielectric Strength	500VAC, 1 minute
Adjustment Travel	245° ± 10°

Mechanical

Mechanical Travel	290° ± 10°
Shaft Torque	30 to 200 gf·cm (0.42 to 2.77 oz·in)
Stop Strength	9 kgf·cm (124.76 oz·in) min.
Mounting Nut Torque	5 kgf·cm (69.31 oz·in) max.
Solderability	235°C, 5 seconds
Marking	Model type, taper, resistance, shaft type, terminal identification, date code

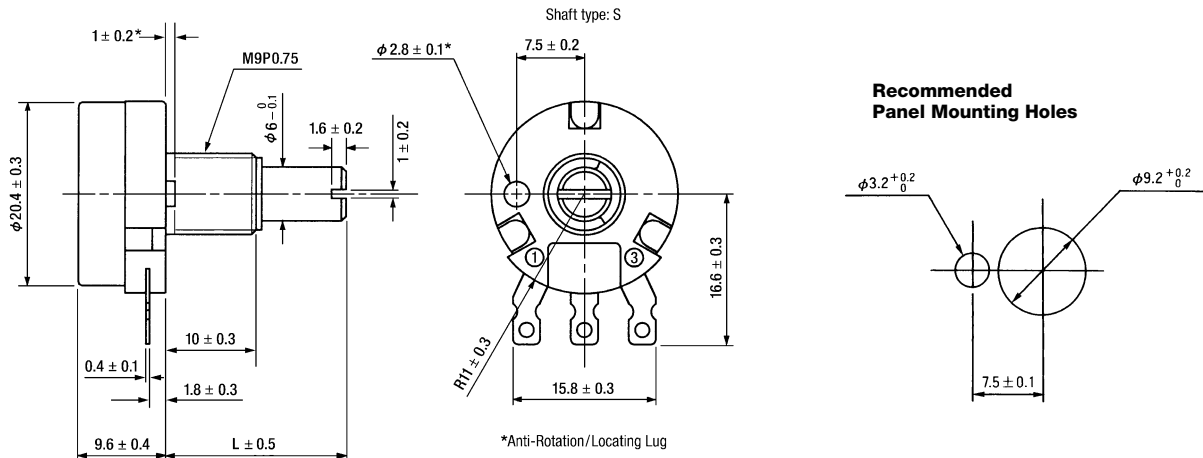
Environmental

Temperature Range	-10°C to +85°C
Temperature Characteristics	+80°C, 5 hours without load R ≤ 10kΩ → ΔT/R ≤ ±6% 10kΩ < R ≤ 1MΩ → ΔT/R ≤ ±10% R > 1MΩ → ΔT/R ≤ ±15%
Load Life	+40°C, 1,000 hours with rated load ΔT/R ≤ ±15%
Moisture and Load Life	+40°C, 90-95% RH, 90 minutes on, 30 minutes off, 500 hours with rated load ΔT/R ≤ ±20%
Vibration	10-55Hz, 1.5mm amplitude, 3 directions, 2 hours each ΔT/R ≤ ±2.5%
Soldering Heat Resistance	350°C, 3 seconds ΔT/R ≤ ±2%
Rotational Life	15,000 cycles without load ΔT/R ≤ ±10%

R = Total Resistance Value; ΔT/R = Total Resistance Change

RV20N
Panel Mount, Single Unit, Single White Plastic Shaft
Right Angle Ear-Lug Terminals

Unit: mm



Part Numbering System

RV 20 N 20 S B 103 M

NOTE: FMS = From Mounting Surface

- **Resistance Tolerance: M** = $\pm 20\%$ (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 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.
 A = CW Audio (logarithm).
 C = CCW Audio (logarithm).
- **Shaft End Style: S** = Slotted (standard for 15mm or 20mm shaft length).
 F = Flatted (special order for 20mm shaft length only).
- **Standard Shaft Length: 15** = 15mm FMS.
 20 = 20mm FMS.
 Up to 30mm shaft length available (special order).
- **Style: N** = Panel Mount, Single Unit, Single White Plastic Shaft, Right Angle Ear-Lug Terminals.
- **Size: 20** = 20mm 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 (Ω)	Code	Resistance (Ω)	Code	Resistance (Ω)	Code	Resistance (Ω)	Code	Resistance (Ω)	Code
500	501	1,000	102	10,000	103	100,000	104	1,000,000	105
		2,000	202	20,000	203	200,000	204	2,000,000	205
		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.