

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



RV20N2-15SK

### Features

- 20mm diameter, single-turn industrial panel controls
- Carbon film element
- Single unit, single shaft
- Plastic 15mm standard shaft length
- Plastic 6mm diameter x 10mm knurled shaft for fingertip adjustment
- Plastic M9 x P0.75 bushing
- Panel mounting style only
- Right angle lug terminals
- Linear or audio tapers
- 500Ω to 2MΩ nominal resistance range
- Meets UL 94HB flammability requirements for plastic materials

### Specifications

#### Electrical

<b>Standard Resistance Range</b>	B = 500Ω to 2MΩ A,C = 1kΩ to 2MΩ
<b>Resistance Tolerance</b>	±20% standard
<b>End Resistance</b>	3Ω max.
<b>Resistance Taper</b>	B = linear; A = CW audio (logarithm); C = CCW audio (logarithm)
<b>Peak Noise (C.R.V.)</b>	3% max.
<b>Power Rating</b>	0.40 watt at +40°C, 0 watt at +80°C
<b>Maximum Input Voltage</b>	B = 250VDC; A,C = 200VDC or power rating, whichever is smaller
<b>Insulation Resistance</b>	100MΩ minimum at 500VDC
<b>Wiper Current</b>	20mA max. at minimum resistance value
<b>Dielectric Strength</b>	500VAC, 1 minute
<b>Adjustment Travel</b>	245° ± 10°

#### Mechanical

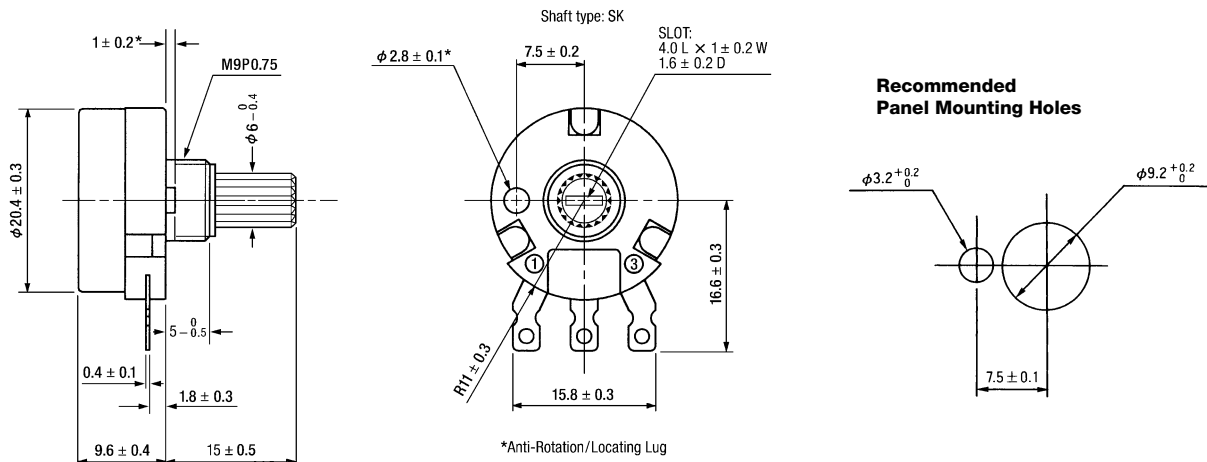
<b>Mechanical Travel</b>	290° ± 10°
<b>Shaft Torque</b>	30 to 200 gf·cm (0.42 to 2.77 oz·in)
<b>Stop Strength</b>	9 kgf·cm (124.76 oz·in) min.
<b>Mounting Nut Torque</b>	7 kgf·cm (97.04 oz·in) max.
<b>Solderability</b>	235°C, 2.5 seconds
<b>Marking</b>	Model type, taper, resistance, shaft type, terminal identification, date code

#### Environmental

<b>Temperature Range</b>	-10°C to +80°C
<b>Temperature Characteristics</b>	+80°C, 5 hours without load R ≤ 10kΩ → ΔT/R ≤ ±6% 10kΩ < R ≤ 1MΩ → ΔT/R ≤ ±10% R > 1MΩ → ΔT/R ≤ ±15%
<b>Load Life</b>	+40°C, 1,000 hours with rated load ΔT/R ≤ ±15%
<b>Moisture and Load Life</b>	+40°C, 90-95% RH, 90 minutes on, 30 minutes off, 500 hours with rated load ΔT/R ≤ -10% ~ +15%
<b>Vibration</b>	10-55Hz, 1.5mm amplitude, 3 directions, 2 hours each ΔT/R ≤ ±2.5%
<b>Soldering Heat Resistance</b>	350°C, 3 seconds ΔT/R ≤ ±2%
<b>Rotational Life</b>	15,000 cycles without load ΔT/R ≤ ±7%

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

**RV20N2**  
**Panel Mount, Single Unit, Single Knurled Black Plastic Shaft**  
**Right Angle Ear-Lug Terminals**



**Part Numbering System**

**RV 20 N2 20 SK B 103 M**

NOTE: FMS = From Mounting Surface

- **Resistance Tolerance: M** = ±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 = 10Ω; 101 = 100Ω; 102 = 1,000Ω; 103 = 10,000Ω; 105 = 1,000,000Ω). See table for standard resistance values.
- **Resistance Taper: B** = Linear.  
 A = CW Audio (logarithm).  
 C = CCW Audio (logarithm).
- **Shaft End Style: SK** = Knurled and Slotted.
- **Standard Shaft Length: 15** = 15 mm FMS.
- **Style: N2** = Panel Mount, Single Unit, Knurled Black 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.