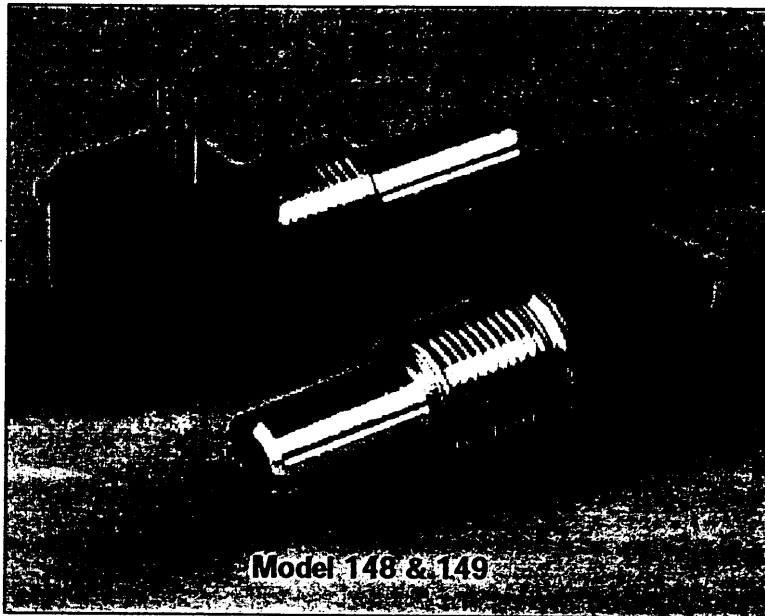


Model

148 & 149

Conductive Plastic and Cermet
Potentiometers



Model 148 & 149

148 FEATURES

- Conductive plastic element.
- Smooth feel.
- High rotational life.
- Quiet electrical output.
- Robust construction.

149 FEATURES

- Cermet element.
- Smooth feel.
- Temperature stable.
- Robust construction.

ELECTRICAL

Resistance Range:

148: 10 Ω to 5.0M Ω - linear
500 Ω to 2M Ω - non-linear
149: 100 Ω to 2.0M Ω - linear
250 Ω to 1M Ω - non-linear

Resistance Tolerance:

Linear - Standard $\pm 10\%$ to 500K,
 $\pm 20\%$ over 500K
Non-Linear - Standard $\pm 10\%$ to 100K,
 $\pm 20\%$ over 100K

Taper Tolerance:

20% of Nominal R @ 50%
mechanical rotation

Linearity:

$\pm 5\%$ independent

End Resistance:

Linear - 4 Ω max. each end
Non-Linear - 4 Ω max. low side;
1% total R high side

Power Rating:

148: 0.5 watts @ 70°C,
0 watts @ 120°C,
149: 1 watt @ 70°C,
0 watt @ 150°C,

Non-Linear or PC mount, derate 50%

Effective Rotation:

265° $\pm 5^\circ$ without rotary switch
240° $\pm 5^\circ$ with rotary switch

Dynamic Noise:

148: 1.5% of total resistance
149: 3% of total resistance

Maximum Continuous Working Voltage:

350 VAC across end terminals,
but within power rating

Dielectric Withstanding Voltage:

Sea level - 750 VAC
70,000 feet - 350 VAC

Switch Specifications:

Rotary (AL) switch: S.P.S.T. and S.P.D.T.,
125 mA, 28 VDC
CCW or CW, rotational life 25,000
cycles (rated load)

ENVIRONMENTAL

Operating Temperature:

148: -40°C to +120°C
149: -40°C to +150°C

Storage Temperature:

148: -55°C to +120°C
149: -55°C to +150°C

Temperature Cycling:

148: -40°C to +120°C; (4% ΔR_t)
149: -40°C to +150°C; (3% ΔR_t)

Load Life:

1000hrs. Rated Load @ 70°C
148: 10% ΔR_t
149: 5% ΔR_t

Rotational Load Life:

148: 50,000 cycles
149: 25,000 cycles

TCR:

148: ± 1000 ppm/°C
149: ± 150 ppm/°C

MECHANICAL

Mechanical Rotation:

295°C $\pm 5^\circ$

Torque:

Operating - single section .2 to 3.0 oz. in.
Dual or triple section .3 to
4.5 oz. in.

Variation in a control - .5 oz. in.

Centre detent - .6 to 3.0 oz. in.

Stop strength - 3 in. lbs. min.

Weight (approx):

Single - 0.19 oz., Dual - 0.27 oz.,
Triple - 0.35 oz.

Marking:

Ink stamp on periphery or rear per EIA
standard.

148 & 149

Conductive Plastic & Cermet Potentiometers

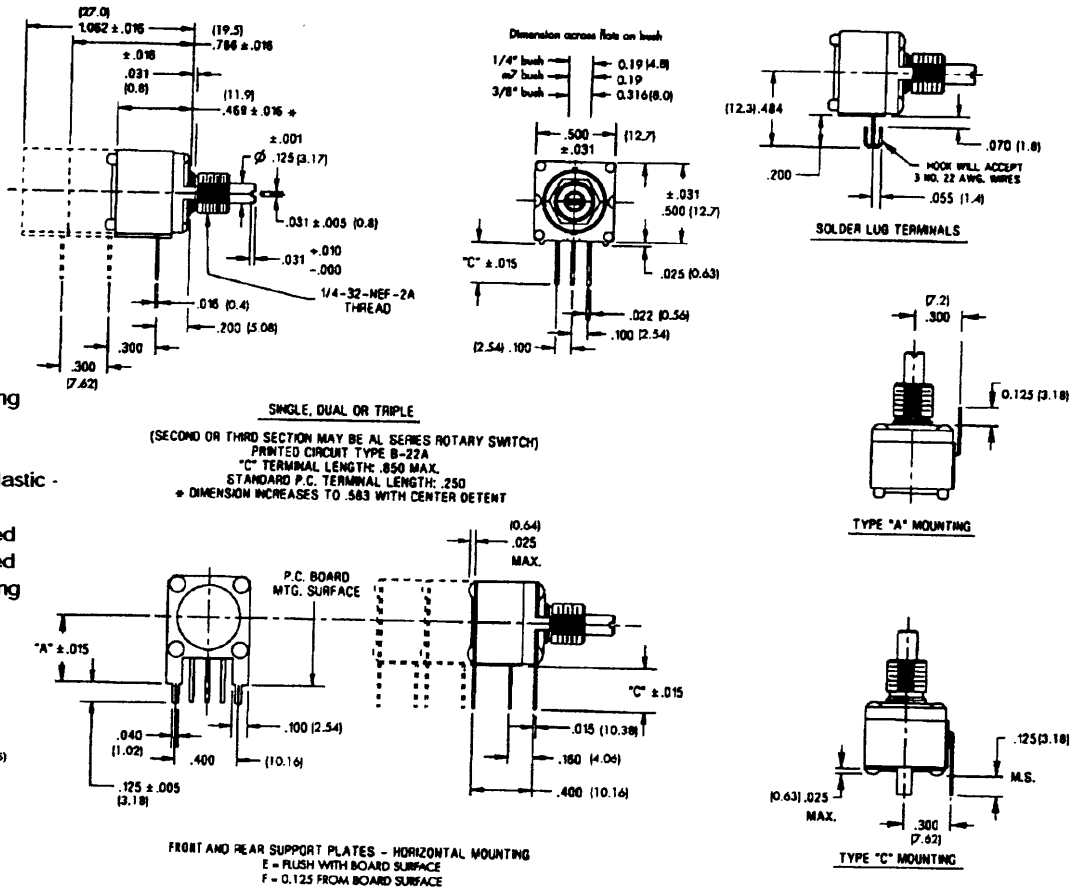
DIMENSIONS

Optional Features:

- Up to three sections
- PC support plates
- Type A forward mount
- Type C rear mount
- Plastic shafts
- Rotary switches
- Valley detents
- Solder hook terminals
- 3/8 bush, 1/4 shaft
- M7 bush, 3mm shaft
- Shaft seal
- Mounting seal
- Not sealed for board washing

Construction Materials:

- Housing - Moulded thermoplastic - black
- Bushing - Brass - nickel plated
- Shaft - Brass - nickel plated
- Wiper - Metal contact spring



Dimensions: ins (mm)

Mounting Accessories: Product is supplied with a nut & shake-proof washer except C, E & F support plate versions.

ORDERING INFORMATION

When ordering please indicate the desired options as shown in this example:

| | | | | | | | | |
|------------------------------------|--|---|--|---|--|--|---|---|
| 148- | S | X | M | 16 | S | 103 | S | P |
| SERIES 148 CP 149 Cer | NUMBER OF SECTIONS S: Single D: Dual T: Triple | MECHANICAL CONFIGURATION X: None (single shaft S, D, T sections) S: Single w/ rotary switch P: Dual w/ rotary switch D: Single w/ center detent (1/4 Dia Bush) E: Dual w/ center detent (1/4 Dia Bush) | METRIC BUSHING SIZE & SHAFT DIAMETER M: M7 x .75; 6mm L Shaft, 3mm Dia. ENGLISH BUSHING SIZE & SHAFT DIAMETER N: 1/4 Dia x 1/4 L Shaft, 1/8 Dia J: 1/4 Dia x 3/8 L Shaft, 1/8 Dia G: 3/8 Dia x 3/8 L Shaft, 1/4 Dia P: As G but plastic shaft | MATCHING METRIC Shaft length code, mm Single Shaft 10: 10mm 13: 13mm 16: 16mm 22: 22mm 25: 25mm MATCHING ENGLISH Shaft length code, in 64th in. Single Shaft 32: 1/2 in. 40: 5/8 in. 48: 3/4 in. 56: 7/8 in. 64: 1 in. 80: 1 1/4 in. | SHAFT STYLE S: Slotted F: Flatted P: Plain | RESISTANCE CODE (ohms) (EIA Code- First 2 significant digits, 3rd is number of zeros) 100 10K 500K 250 20K 750K 500 25K 1meg 750 50K 2meg 1K 75K 5meg 2.5K 100K 5K 250K | TAPER S: Linear, ±10% Z: CW Log, ±10% to 500K ohms; ±20% over 500K R: CCW Log, ±10% to 500K ohms; ±20% over 500K | TERMINAL CONFIGURATION P: PC, 0.250" long E: PC terminals with E support plate F: PC terminals with F support plate S: Solder Hook A: Type A Mounting C: Type C Mounting L: long Terminals (0.85 in) |