



1/2" (12.7mm) Conductive Plastic and Cermet Potentiometers



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 SPECIFICATIONS		
PARAMETER	MODEL 148	MODEL 149
Resistance Range	100Ω to 5.0MΩ Linear 500Ω to 1MΩ Non-linear	100Ω to 2.0MΩ Linear 250Ω to 1MΩ Non-linear
Resistance Tolerance Linear Non-Linear	Standard ± 10% to 500K, ± 20% over 500K Standard ± 10% to 100K, ± 20% over 100K	
Taper Tolerance	20% of the Nominal R @ 50 mechanical rotation	
Linearity	± 5% Independent	
End Resistance Linear Non-Linear	4Ω maximum each end 4Ω maximum low side: 1% total R high side	
Power Rating	0.5 watts @ 70°C 0 watts @ 120°C	1 watt @ 70°C 0 watt @ 150°C
	Non-Linear or PC mount, derate 50%	
Effective Rotation	265° ± 5° without rotary switch 240° ± 5° with rotary switch	
Dynamic Noise	1.5% of total resistance	3% of total resistance
Maximum Continuous Working Voltage	350VAC across end terminals, but within power rating	
Dielectric Withstanding Voltage	Sea Level - 750VAC 70,000 feet - 350VAC	
Switch Specifications	Rotary (AL) switch: S.P.S.T and S.P.D.T 125mA, 28VDC CCW or CW, rotational life 25,000 cycles (rated load)	

ORDERING INFORMATION									
MODEL	148	S	X	M	16	S	103	S	P
		NUMBER OF SECTIONS	MECHANICAL CONFIGURATION	METRIC BUSHING SIZE & SHAFT	MATCHING METRIC	SHAFT STYLE	RESISTANCE CODE Ω	TAPER	TERMINAL CONFIGURATION
148 CP	S: Single	X: None (single shaft)	M: M7 x 0.75; 6mm L	Shaft length	S: Slotted	EIA code - first 2	S: Linear ± 10%	P: PC, 0.250	
149 Cer	D: Duals, T: Triple	D, T sections) S: Single w/rotary switch P: Dual w/rotary switch	Shaft, 3mm Dia English Bushing size N: 1/4 Dia x 1/4L 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	Code mm Single Shaft 10: 10mm 13: 13mm 16: 16mm 22: 22mm 25: 25mm Matching 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	F: Flatted P: Plain	significant digits 3rd is number of zeros 100 10K 500K 250 20K 750K 500 25K 1meg 750 50K 2meg 1K 75K 5 meg 2.5K 100K 5K 250K	Z: CW Log, ± 10% to 500KΩ ± 20% over 500K R: CCW Log, ± 10% to 500K Ω ± 20% over 500K	E: PC terminals with E support plate F: PC terminals F support plate S: Solder Hook A: Type A Mounting C: Type C Mounting L: long Terminals (0.85 in)	
Example: 148 - S - X - M - 16 - S - 103 - S - P									

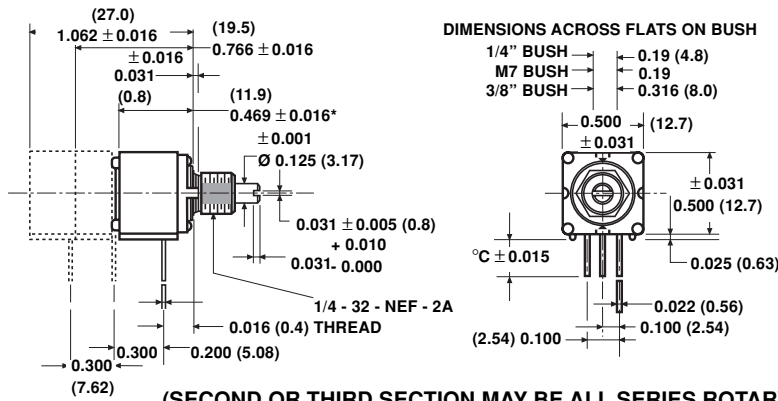
Model 148, 149



Vishay Spectrol 1/2" (12.7mm) Conductive Plastic and Cermet Potentiometers

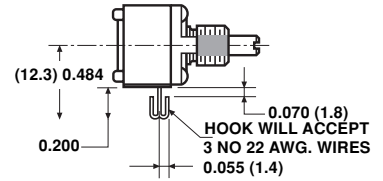
DIMENSIONS in inches (millimeters)

SINGLE, DUAL OR TRIPLE

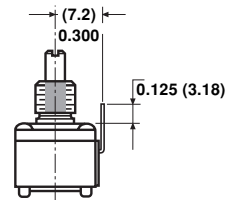


(SECOND OR THIRD SECTION MAY BE ALL SERIES ROTARY SWITCH)
 PRINTED CIRCUIT TYPE B - 22A
 "C" TERMINAL LENGTH: 0.850 MAX
 STANDARD P.C. TERMINAL LENGTH: 0.250
 * DIMENSIONS INCREASES TO 0.583 WITH CENTER DETENT

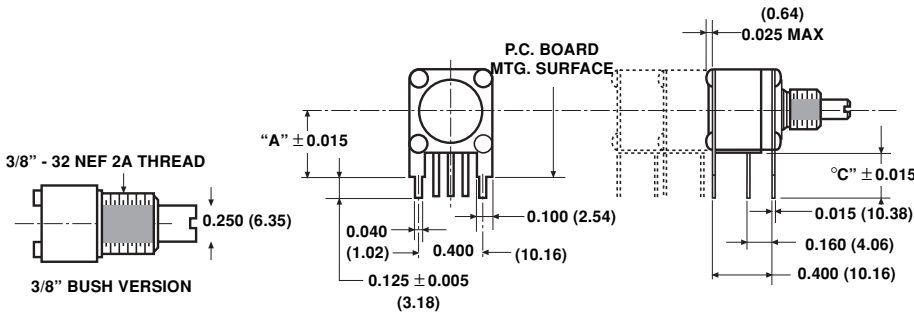
SOLDER LUG TERMINALS



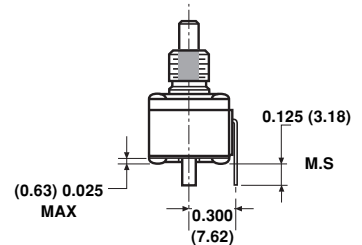
TYPE "A" MOUNTING



FRONT AND REAR SUPPORT PLATES - HORIZONTAL MOUNTING E = FLUSH WITH BOARD SURFACE F = 0.125 FROM BOARD SURFACE



TYPE "C" MOUNTING



MOUNTING ACCESSORIES: PRODUCT IS SUPPLIED WITH A NUT & SHAKE - PROOF WASHER EXCEPT C, E & F SUPPORT PLATE VERSION

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

MECHANICAL SPECIFICATIONS	
PARAMETER	
Mechanical Rotation	295°C ± 5°
Torque Operating	Single section 0.2 to 3.0 oz - in Dual or triple section 0.3 to 4.5 oz - in
Variation in a control	0.5 oz - in
Centre Detent	0.6 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



ENVIRONMENTAL SPECIFICATIONS

PARAMETER	148	149
Operating Temperature	- 40°C to + 120°C	- 40°C to + 150°C
Storage Temperature	- 55°C to + 120°C	- 55°C to + 150°C
Temperature Cycling	- 40°C to + 120°C (4% ΔRt)	- 40°C to + 150°C (3% ΔRt)
Load Life	1000hrs. Rated Load @ 70°C	
	10% ΔRt	5% ΔRt
Rotational Load Life	50,000 cycles	25,000 cycles
TCR	± 1000ppm/°C	± 150ppm/°C

MARKING

Unit Identification	Ink stamp on periphery or rear per EIA standard
----------------------------	---