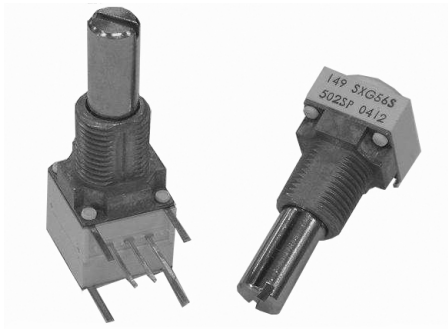


# 1/2" (12.7mm) Conductive Plastic and Cermet Potentiometers



### 148 FEATURES

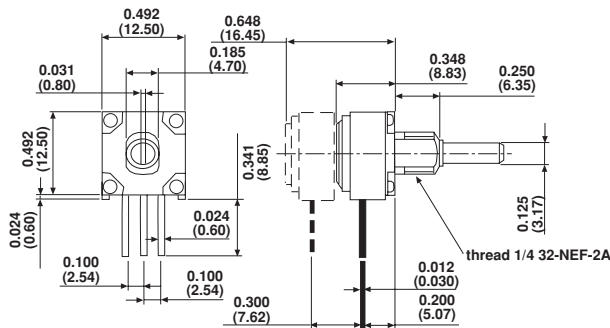
- Conductive Plastic Element
- High Rotational Life
- Quiet Electrical Output
- Robust Construction

### 149 FEATURES

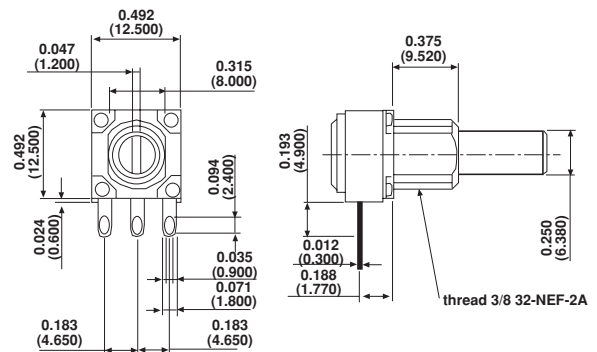
- Cermet Element
- Temperature Stable
- Robust Construction

### DIMENSIONS in inches (millimeters)

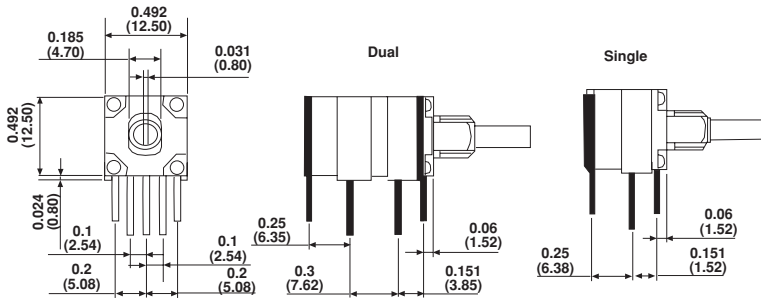
SINGLE, DUAL OR TRIPLE



SOLDER LUG TERMINALS



FRONT AND REAR SUPPORT PLATES  
E = Flush with board surface



**MOUNTING ACCESSORIES: PRODUCT IS SUPPLIED WITH A NUT & WASHER**

### OPTIONAL FEATURES

Up to three sections PC support plates  
Rotary switches, detents, Solder lugs terminals.

### CONSTRUCTION MATERIALS

Housing - Molded thermoplastic white  
Shaft - Brass, nickel plated



<b>ELECTRICAL SPECIFICATIONS</b>		
PARAMETER	148	149
Resistance Range	1kΩ to 1MΩ linear 500Ω to 500kΩ non-linear	100Ω to 2.0MΩ linear 250Ω to 1MΩ non-linear
Resistance Tolerance	Standard ± 10% to 500K, ± 20% over 500K	
Linear	Standard ± 10% to 100K, ± 20% over 100K	
Non-Linear	20% of the Nominal R at 50 mechanical rotation	
Taper Tolerance	± 5% Independent	
Linearity (Typical)	4Ω maximum each end	
End Resistance	0.5 watts @ 70°C 0 watts @ 120°C	1 watt @ 70°C 0 watt @ 150°C
Power Rating	Non-Linear or PC mount, derate 50%	
Effective Rotation	270° ± 10° without rotary switch 240° ± 10° with rotary switch	
Contact Resistance Variation	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 10,000 cycles (rated load)	

<b>MECHANICAL SPECIFICATIONS</b>	
Mechanical Rotation	300° ± 5°
Torque	
Operating	Single section 0.2 to 3.0 oz - in Dual or triple section 0.3 to 4.5 oz - in
Center 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

<b>ENVIRONMENTAL SPECIFICATIONS</b>		
	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 (5 Cycles)	- 40°C to + 120°C (4% ΔRt)	- 40°C to + 150°C (3% ΔRt)
Load Life (1000hrs. Rated Load at 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

ORDERING INFORMATION								
148 MODEL	S NUMBER OF SECTIONS	X MECHANICAL CONFIGURATION	G METRIC BUSHING SIZE & SHAFT	56 SHAFT LENGTH	S SHAFT STYLE	103 RESISTANCE CODE Ω	S TAPER	P TERMINAL CONFIGURATION
				<b>FROM THE MOUNTING SURFACE</b>				
148 CP	S: Single	X: None (single shaft)	N: 1/4 Dia x 1/4L	Shaft length code	S: Slotted	EIA code - first 2 significant digits		P: PC, 0.250
149 Cer	D: Duals, T: Triple	S: Single w/rotary switch P: Dual w/rotary switch	J: 1/4 Dia x 3/8 L Shaft, 1/8 Dia G: 3/8 Dia x 3/8 L Shaft, 1/4 Dia	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	3rd is number of zeros 100 10K 500K 250 20K 750K 500 25K 1meg 750 50K 2meg 1K 75K 2.5K 100K 5K 250K		Z: CW Log, ± 10% to 500KΩ R: CCW Log, ± 10% to 500KΩ ± 20% S: Linear ± 10% to 500KΩ ± 20% over 500K E: PC terminals with E support plate S: Solder lugs

SAP PART NUMBERING GUIDELINES																	
1	4	8	1	0	F	0	G	J	S	X	1	0	1	0	3	K	A
MODEL			NB OF MOD.		SWITCH	BUSHING	LOCATING PEG		SHAFT		LEADS		OHMIC VALUE/TOL/LAW OR SPECIAL				
See the end of this data book for conversion tables																	