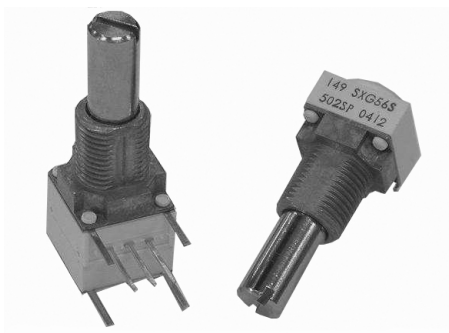


1/2" (12.7mm) Conductive Plastic and Cermet Potentiometers



148 FEATURES

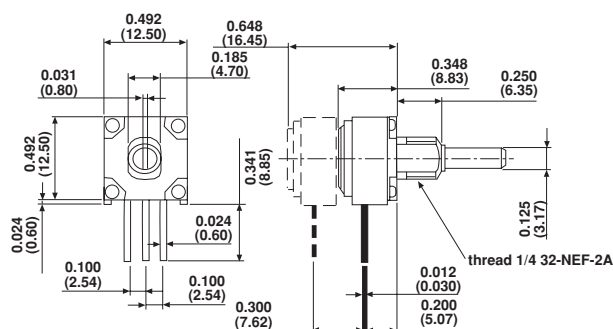
- Conductive Plastic Element
- High Rotational Life
- Quiet Electrical Output
- Robust Construction

149 FEATURES

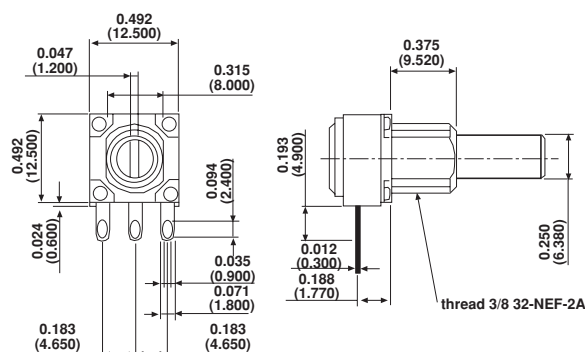
- Cermet Element
- Temperature Stable
- Robust Construction

DIMENSIONS in inches (millimeters)

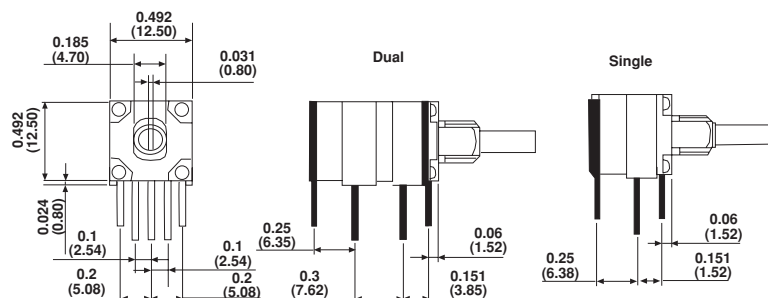
SINGLE, DUAL OR TRIPLE



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

**ELECTRICAL SPECIFICATIONS**

PARAMETER	148	149
Resistance Range	1k Ω to 1M Ω linear 500 Ω to 500k Ω non-linear	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 the Nominal R at 50 mechanical rotation	
Linearity (Typical)	$\pm 5\%$ Independent	
End Resistance	4 Ω maximum each end	
Power Rating	0.5 watts @ 70°C	1 watt @ 70°C
	0 watts @ 120°C	0 watt @ 150°C
	Non-Linear or PC mount, derate 50%	
Effective Rotation	270° $\pm 10^\circ$ without rotary switch	
	240° $\pm 10^\circ$ 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)	

MECHANICAL SPECIFICATIONS

Mechanical Rotation	300° $\pm 5^\circ$
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

ENVIRONMENTAL SPECIFICATIONS

	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% ΔR_t)	- 40°C to + 150°C (3% ΔR_t)
Load Life (1000hrs. Rated Load at 70°C)	10% ΔR_t	5% ΔR_t
Rotational Load Life	50,000 cycles	25,000 cycles
TCR	$\pm 1000\text{ppm}/^\circ\text{C}$	$\pm 150\text{ppm}/^\circ\text{C}$



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
FROM THE MOUNTING SURFACE								
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	S: Linear $\pm 10\%$	P: PC, 0.250
149 Cer	D: Duals, T: Triple	D, T sections)	J: 1/4 Dia x 3/8 L	32: 1/2 in	F: Flatted	3rd is number of zeros	Z: CW Log, $\pm 10\%$ to 500K Ω	E: PC terminals with E support plate
		S: Single w/rotary switch	Shaft, 1/8 Dia	40: 5/8 in	P: Plain		$\pm 20\%$ over 500K	S: Solder lugs
		P: Dual w/rotary switch	G: 3/8 Dia x 3/8 L	48: 3/4 in		100 10K 500K	R: CCW Log, $\pm 10\%$ to 500K	
			Shaft, 1/4 Dia	56: 7/8 in		250 20K 750K	$\Omega \pm 20\%$ over 500K	
				64: 1 in		500 25K 1meg		
				80: 1 1/4 in		750 50K 2meg		
						1K 75K		
						2.5K 100K		
						5K 250K		

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



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