

BOURNS®

Features

- Bushing mount
- Optional center tap and rear shaft extension
- Optional AR lug feature
- Gangable with common or concentric shafts

- High torque available
- Optional 0.1 % linearity
- Non-standard features and specifications available

3540/3541 - Precision Potentiometer

Electrical Characteristics ¹	3540 Wirewound Element	3541 Hybritron® Element
Standard Resistance Range	100 to 100 K ohms	1 K to 100 K ohms
Total Resistance Tolerance	±5 %	±10 %
Independent Linearity	±0.25 %	±0.25 %
Effective Electrical Angle	3600° +10°, -0°	3600° +10°, -0°
Absolute Minimum Resistance/	1 ohm or 0.1 % maximum	Minimum voltage
Minimum Voltage	(whichever is greater)	0.2 % maximum
Noise	100 ohms ENR maximum	Output smoothness 0.1 % maximum
Dielectric Withstanding Voltage (MIL-STD-202, Method 301)		
Sea Level	1,000 VAC minimum	1,000 VAC minimum
Power Rating (Voltage Limited By Power Dissipation or 447 VAC, Whichever Is Less)		
+70 °C	2 watts	2 watts
+125 °C	0 watt	0 watt
Insulation Resistance (500 VDC)		
	1,000 megohms minimum	1,000 megohms minimum
Resolution	See recommended part nos.	Essentially infinite

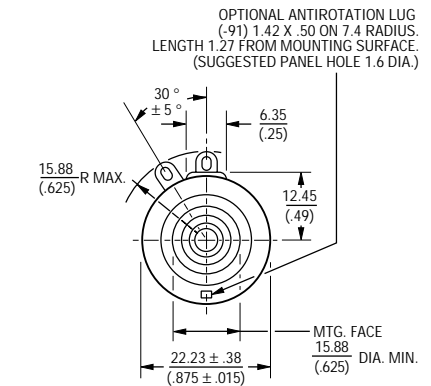
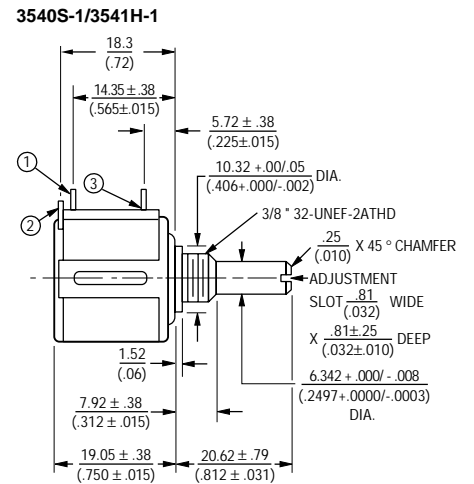
Environmental Characteristics ¹		
Operating Temperature Range	+1 °C to +125 °C	+1 °C to +125 °C
Storage Temperature Range	-55 °C to +125 °C	-55 °C to +125 °C
Temperature Coefficient Over		
Storage Temperature Range ²	±50 ppm/°C maximum/unit	±100 ppm/°C maximum/unit
Vibration	15 G	15 G
Wiper Bounce	0.1 millisecond maximum	0.1 millisecond maximum
Shock	50 G	50 G
Wiper Bounce	0.1 millisecond maximum	0.1 millisecond maximum
Load Life	1,000 hours, 2 watts	1,000 hours, 2 watts
Total Resistance Shift	±2 %	±5 %
Rotational Life (No Load)	1,000,000 shaft revolutions ²	5,000,000 shaft revolutions ²
Total Resistance Shift	±5 % maximum	±5 % maximum
Moisture Resistance (MIL-STD-202, Method 103, Condition B)		
Total Resistance Shift	±2 % maximum	±5 % maximum
IP Rating	IP 40	IP 40

Mechanical Characteristics ¹	
Stop Strength	53 N-cm (75 oz-in.) minimum
Mechanical Angle	3600° +10°, -0°
Torque (Starting & Running)	0.35 N-cm (0.5 oz-in.) max.
Mounting	170-200 N-cm (15-18 lb-in.) max.
Shaft Runout	0.08 mm (0.003 in.) T.I.R.
Lateral Runout	0.13 mm (0.005 in.) T.I.R.
Shaft End Play	0.25 mm (0.010 in.) T.I.R.
Shaft Radial Play	0.25 mm (0.010 in.) T.I.R.
Pilot Diameter Runout	0.08 mm (0.003 in.) T.I.R.
Backlash	1.0° maximum
Weight	Approximately 21 gm
Terminals	Gold-plated solder lugs
Soldering Condition	Recommended hand soldering using Sn95/Ag5 no clean solder, 0.025 " wire diameter. Maximum temperature 399 °C (750 °F) for 3 seconds. No wash process to be used with no clean flux.
Marking	Manufacturer's name and part number, resistance value and tolerance, linearity tolerance, wiring diagram, and date code
Ganging (Multiple Section Pots.)	2 cups maximum
Hardware	One lockwasher (H-37-2) and one mounting unit (H-38-2) is shipped with each potentiometer.

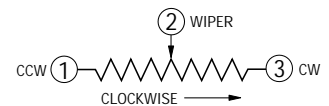
¹At room ambient: +25 °C nominal and 50 % relative humidity nominal, except as noted.
²Consult manufacturer for complete specification details.

Recommended Part Numbers			Recommended Part Numbers	
Part Number	Resistance	Resolution	Part Number	Resistance
3540S-1-201	200	.042	3541H-1-102	1,000
3540S-1-501	500	.031	3541H-1-202	2,000
3540S-1-102	1,000	.027	3541H-1-502	5,000
3540S-1-202	2,000	.021	3541H-1-103	10,000
3540S-1-502	5,000	.021	3541H-1-203	20,000
3540S-1-103	10,000	.019	3541H-1-503	50,000
3540S-1-203	20,000	.014	3541H-1-104	100,000
3540S-1-503	50,000	.011		
3540S-1-104	100,000	.008		

Specifications are subject to change without notice.



TOLERANCES: EXCEPT WHERE NOTED
 DECIMALS: XX ± .25 (0.010), XXX ± .13 (0.005)
 FRACTIONS: ±1/64
 DIMENSIONS: MM (IN.)



BOLDFACE LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION.
 FOR SERVO MOUNT VERSION AND OTHER OPTIONS CONSULT FACTORY.

REV. 04/03