



Features

- Wirewound and Hybritron® elements
- High rotational life
- Optional 0.20 % linearity
- Optional A/R lug
- RoHS compliant*
- Suitable for use under side load
- Designed for HMI and MMI applications
- Dual gang option
- Servo mount option

3547 - 3-Turn Precision Potentiometer

Electrical Characteristics ¹	Wirewound Element	Hybritron® Element
Standard Resistance Range.....	1K to 50K ohms	1K to 10K ohms
Total Resistance Tolerance.....	±3 %	±10 %
Independent Linearity	±0.25 %	±0.25 %
Independent Linearity (Maximum Practical)	±0.20 %	±0.20 %
Effective Electrical Angle	1080 ° +10 °, -0 °	1080 ° +10 °, -0 °
Absolute Minimum Resistance/End Voltage	1 ohm or 0.1 % maximum	0.7 % maximum
	(whichever is greater)	
Noise/Output Smoothness	100 ohms maximum	0.15 % maximum
Max. Wiper Current @ 5K ohms.....	20 mA	10 mA
Dielectric Withstanding Voltage (MIL-STD-202, Method 301)		
Sea Level	1,000 VAC minimum	1,000 VAC minimum
Insulation Resistance (500 VDC)	1,000 megohms minimum	1,000 megohms minimum
Resolution	See How to Order chart	Essentially infinite
Power Rating (Voltage Limited By Power Dissipation)		
+70 °C	1 watts.....	1 watts
+125 °C	0 watt	0 watt

Environmental Characteristics ¹		
Operating Temperature Range		
Dynamic	-40 °C to +125 °C	-40 °C to +125 °C
Static	-55 °C to +125 °C	-55 °C to +125 °C
Temperature Coefficient (Over Static Temperature Range)	±50 ppm/°C.....	±100 ppm/°C
Temperature Cycling (5 Cycles Over Static Temperature Range)	±2 % TR shift max.	±4 % TR shift max.
Vibration (15 Gs, 10 Hz to 2 kHz)		
Wiper Bounce.....	0.1 ms max.	0.1 ms max.
Shock (100 Gs, 6 ms sawtooth)		
Wiper Bounce.....	0.1 ms max.	0.1 ms max.
Load Life (1,000 hours @ 70 °C).....	±2 % TR shift max.	±5 % TR shift max.
Rotational Life		
No Load	750,000 shaft revolutions	1,500,000 shaft revolutions
Powered (MIL-PRF-12934).....	600,000 shaft revolutions	1,200,000 shaft revolutions
Moisture Resistance (Mil-Std-202, Method 103)	±2 % TR shift max.	±5 % TR shift max.
IP Rating	IP 50	IP 50

Mechanical Characteristics ¹	
Mechanical Angle	1080 ° +10 °, -0 °
Backlash	1.0 ° max.
Stop Strength.....	53 N-cm (75 oz-in.) min.
Torque	
Starting	0.5 N-cm (0.7 oz-in.) max.
Running	0.5 N-cm (0.7 oz-in.) max.
Mounting.....	170-200 N-cm (15-18 in.-lb.) max.
Shaft Runout T.I.R.	0.08 mm (0.003 in.)
Lateral Runout T.I.R.	0.13 mm (0.005 in.)
Shaft End Play T.I.R.	0.15 mm (0.006 in.)
Shaft Radial Play T.I.R.	0.08 mm (0.003 in.)
Pilot Diameter Runout T.I.R.	0.08 mm (0.003 in.)
Weight	
Single	18 gm (0.63 oz.) typ.
Dual	34 gm. (1.2 oz.) typ.
Shaft Side Load (Max. Allowable)	
Nickel Plated Brass Shaft w/Brass Bushing	50 gmf (1.7 ozf)
Stainless Steel Shaft w/Bronze Bushing	250 gmf (8.8 ozf)
Terminals	Gold-plated solder lugs
Soldering Condition	
Manual Soldering	96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin cored wire, 370 °C (700 °F) max. for 3 seconds
Wave Soldering	96.5Sn/3.0Ag/0.5Cu solder with no-clean flux, 260 °C (500 °F) max. for 5 seconds
Wash processes	Not recommended
Mounting Hardware.....	One lockwasher and one mounting nut is shipped with each potentiometer
Recommended Panel Thickness (Bushings Mount)	2.46-3.81 mm (0.097-0.150 in.)
Marking	Manufacturer's symbol, model number, product code and date code
Standard Packaging.....	Plastic trays (5 pcs./tray)

¹At room ambient: +25 °C nominal and 50 % relative humidity nominal, except as noted.
For other options, please consult factory.

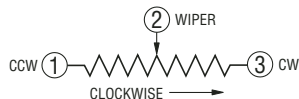
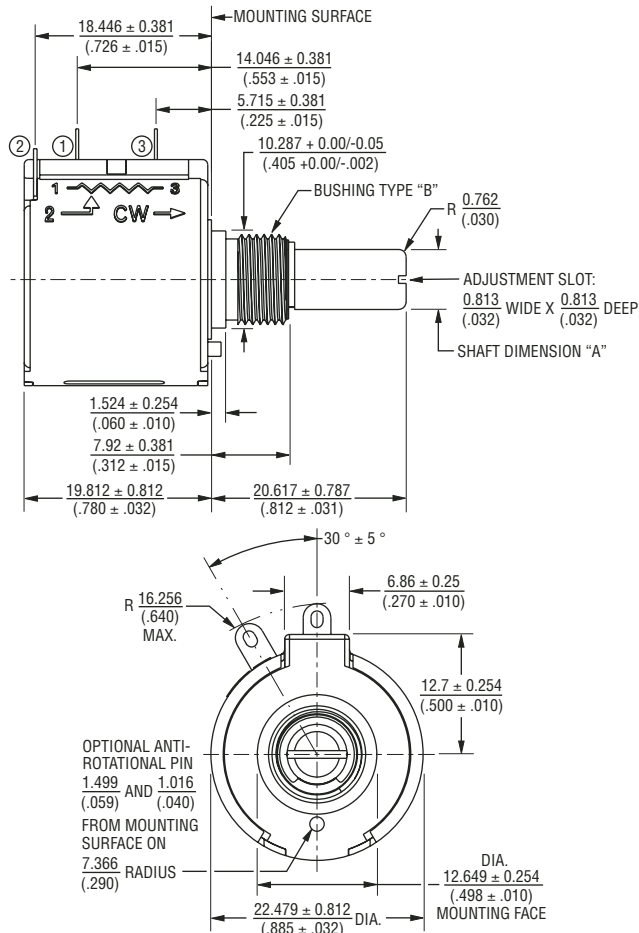
*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

3547 - 3-Turn Precision Potentiometer

BOURNS®

Product Dimensions

Single Gang, Bushing Mount



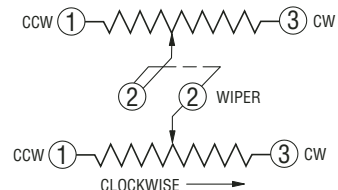
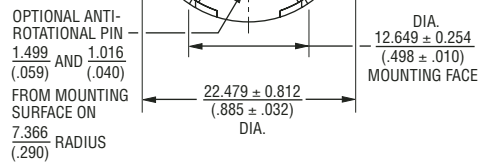
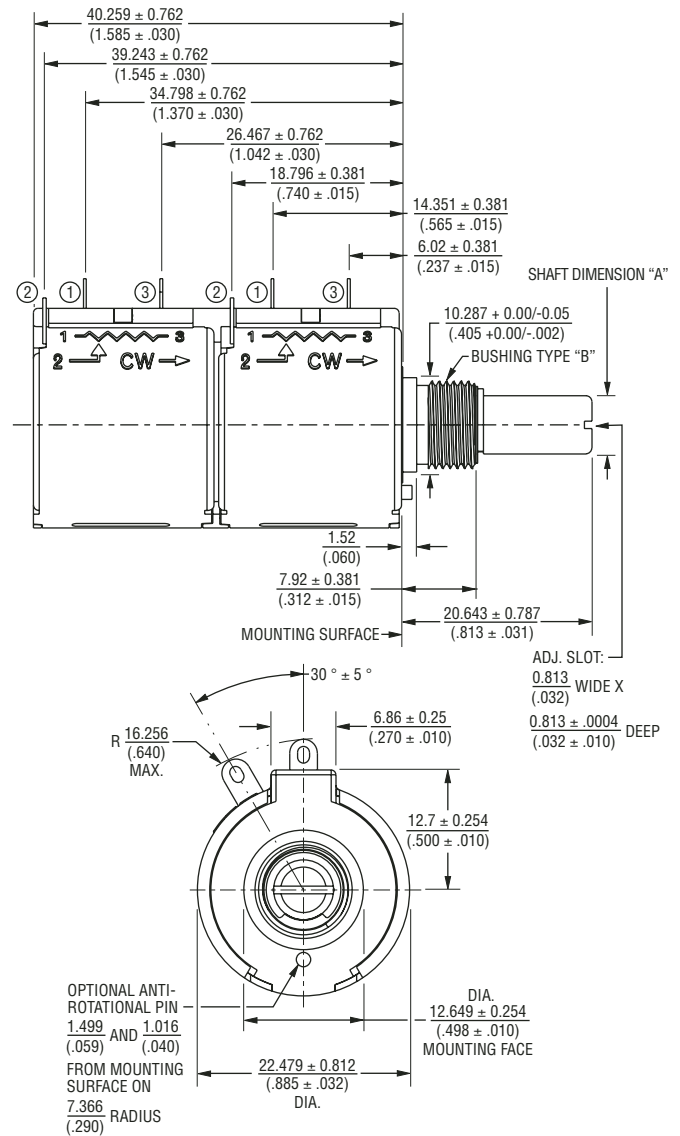
TOLERANCES: EXCEPT WHERE NOTED

DECIMALS: .XX ± .50 (.02) .XXX ± .127 (.005) .XXXX ± .0127 (.0005)

DIMENSIONS: $\frac{\text{MM}}{(\text{IN})}$

Bushing Selection Code	Shaft Dimension "A"	Shaft Material	Bushing Type "B"	Bushing Material
A	6.34 +0/-0.022 (0.249 +0/-0.0009)	Nickel Plated Brass	3/8 " 32-UNEF- 2A THD.	Brass
B	6.00 +0/-0.022 (0.236 +0/-0.0009)	Nickel Plated Brass	M9 X 0.75-8g	Brass
C	6.34 +0/-0.007 (0.249 +0/-0.0003)	Stainless Steel	3/8 " 32-UNEF- 2A THD.	Bronze
D	6.00 +0/-0.007 (0.236 +0/-0.0003)	Stainless Steel	M9 X 0.75-8g	Bronze

Dual Gang, Bushing Mount



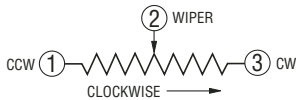
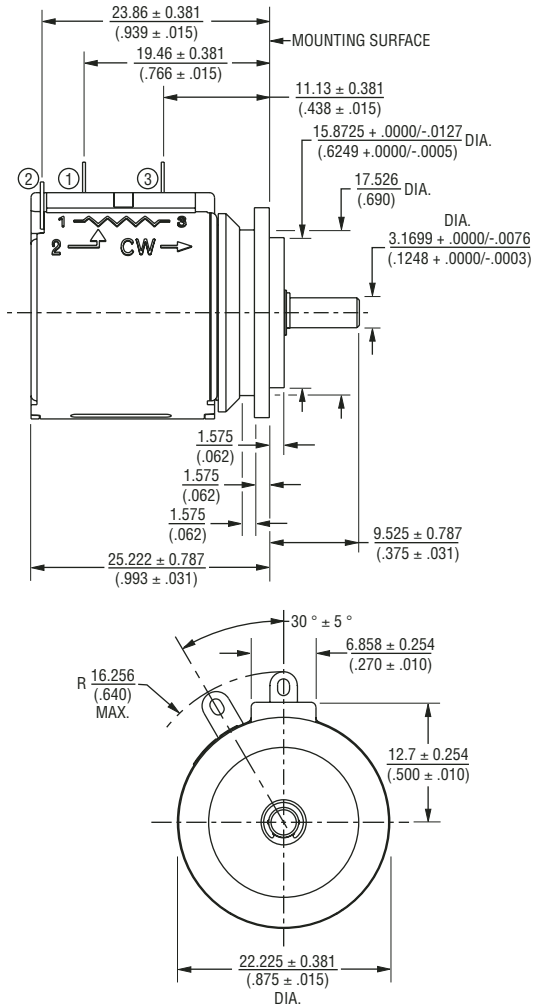
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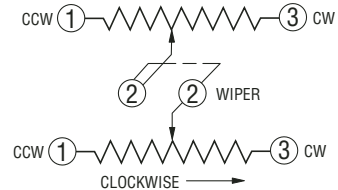
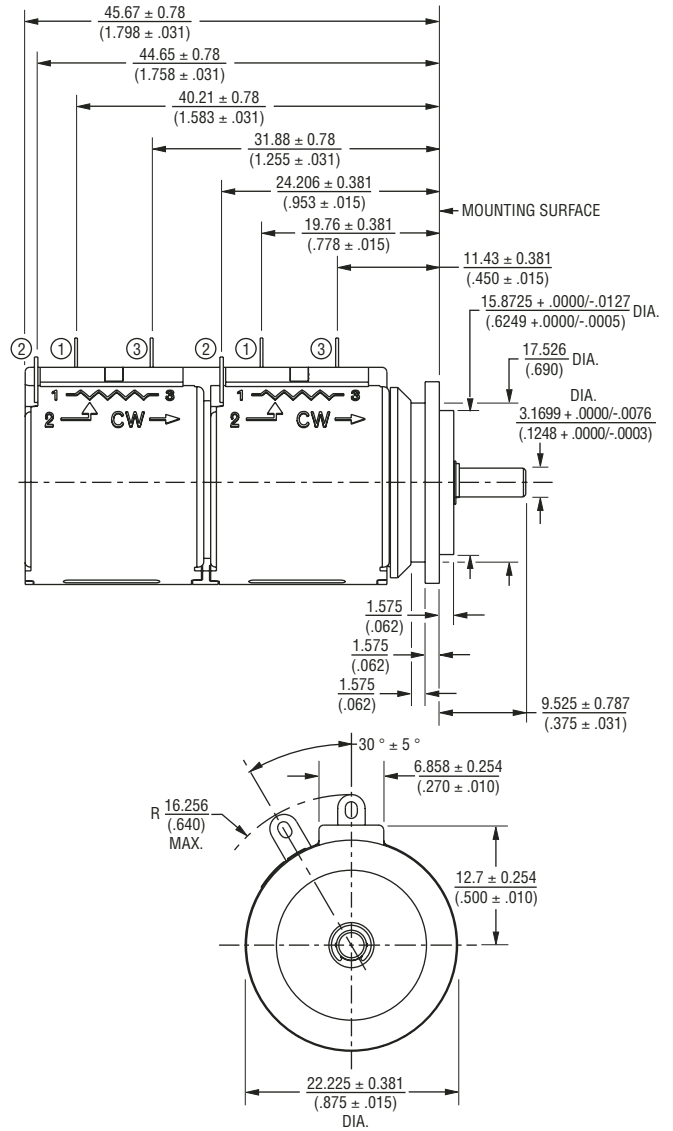
Product Dimensions

Single Gang, Servo Mount



TOLERANCES: EXCEPT WHERE NOTED
 DECIMALS: .XX $\pm \frac{.50}{(.02)}$.XXX $\pm \frac{.127}{(.005)}$.XXXX $\pm \frac{.0127}{(.0005)}$
 DIMENSIONS: $\frac{\text{MM}}{(\text{IN})}$

Dual Gang, Servo Mount

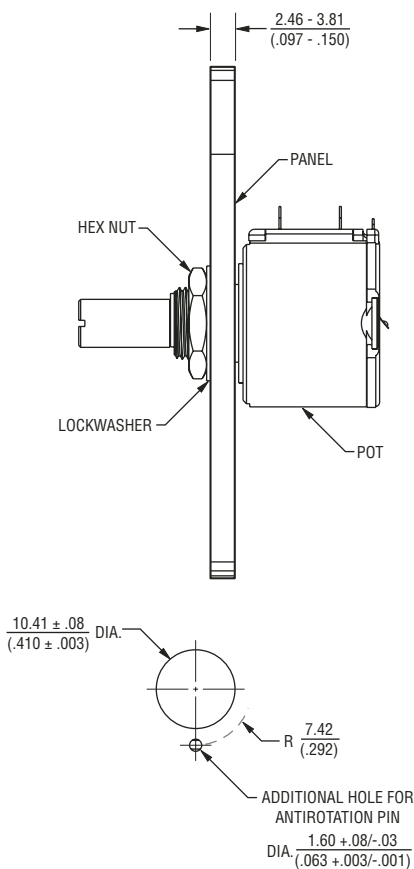


3547 - 3-Turn Precision Potentiometer

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Panel Thickness Dimensions

(For Bushing Mount Only)



DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

TOLERANCES: $\pm \frac{0.127}{(.005)}$

How To Order

3	5	4	7	S	-	2	A	A	-	1	0	3	/	1	0	3	A
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MODEL DESIGNATOR

Code	Description
3547	3-Turn

ELEMENT TYPE

Code	Description
H	Hybritron®
S	Wirewound

NO. OF SECTIONS

Code	Description
1	Single
2	Dual

ANTI-ROTATION LUG*

Code	Description
A	None
B	180°

* Anti-rotation lug is not available for servo mount versions.

INDEPENDENT LINEARITY

Code	Description
A	0.25 %
B	0.20 %

RESISTANCE**

Code	Element Type	Resolution
102 (1K Ω)	Hybritron®	—
502 (5K Ω)	Hybritron®	—
103 (10K Ω)	Hybritron®	—
201 (200 Ω)	Wirewound	0.069
501 (500 Ω)	Wirewound	0.054
102 (1K Ω)	Wirewound	0.043
202 (2K Ω)	Wirewound	0.04
502 (5K Ω)	Wirewound	0.038
103 (10K Ω)	Wirewound	0.029
203 (20K Ω)	Wirewound	0.023
503 (50K Ω)	Wirewound	0.017

** For Single gang, use only first three digits.
For Dual gang, use six digits separated by a "/".

BUSHING MOUNT					
Code	Shaft FMS	Shaft Dia.	Shaft Material	Bushing Dia.	Bushing Material
A	13/16 "	1/4 "	Nickel Plated Brass	3/8 "	Brass
B	20.6 mm	6 mm	Nickel Plated Brass	9 mm	Brass
C	13/16 "	1/4 "	Stainless Steel	3/8 "	Bronze
D	20.6 mm	6 mm	Stainless Steel	9 mm	Bronze

SERVO MOUNT			
Code	Shaft FMS	Shaft Dia.	Shaft Material
E	3/8 "	1/8 "	Stainless Steel



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www.bourns.com

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"Hybritron" is a registered trademark of Hybritron, Inc.

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