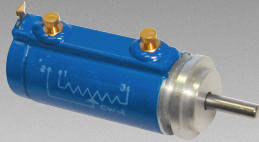




**THE DATASHEET OF
3750S-1-103L**



*ROHS COMPLIANT



BOURNS®

Features

- Servo mount
- Excellent resolution
- Non-standard features and specifications available
- Small diameter
- High rotational life
- RoHS compliant*

3750/3751 - Precision Potentiometer

Electrical Characteristics ¹	3750 Wirewound Element	3751 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°, -4°
Absolute Minimum Resistance/.....	1 ohm or 0.1 % maximum.....	Minimum voltage
Minimum Voltage.....	(whichever is greater).....	0.2 % maximum
Noise.....	500 ohms ENR maximum.....	Output smoothness 0.15 % 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 315 VAC, Whichever Is Less)		
+70 °C.....	1 watt.....	1 watt
+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	3750 Wirewound Element	3751 Hybritron® Element
Operating Temperature Range.....	-65 °C to +125 °C.....	-55 °C to +105 °C
Storage Temperature Range.....	-65 °C to +125 °C.....	-55 °C to +105 °C
Temperature Coefficient Over		
Storage Temperature Range ²	±50 ppm/°C maximum/unit.....	±100 ppm/°C maximum/unit
Vibration.....	20 G.....	20 G
Wiper Bounce.....	0.1 millisecond maximum.....	0.1 millisecond maximum
Shock.....	100 G.....	100 G
Wiper Bounce.....	0.1 millisecond maximum.....	0.1 millisecond maximum
Load Life.....	1,000 hours, 1 watt.....	1,000 hours, 1 watt
Total Resistance Shift.....	±2 % maximum.....	±5 % maximum
Rotational Life (No Load).....	1,000,000 shaft revolutions ²	10,000,000 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	3750 Wirewound Element	3751 Hybritron® Element
Stop Strength.....	14 N-cm (20 oz.-in.) minimum	
Mechanical Angle.....	3600° +20°, -0°	
Torque		
Starting.....	0.35 N-cm (0.5 oz.-in.) max.	
Running.....	0.21 N-cm (0.3 oz.-in.) max.	
Shaft Runout.....	0.08 mm (0.003 in.) T.I.R.	
Lateral Runout.....	0.08 mm (0.003 in.) T.I.R.	
Shaft End Play.....	0.13 mm (0.005 in.) T.I.R.	
Shaft Radial Play.....	0.05 mm (0.002 in.) T.I.R.	
Pilot Diameter Runout.....	0.05 mm (0.002 in.) T.I.R.	
Backlash.....	1.0° maximum	
Weight.....	Approximately 8.5 G	
Terminals.....	Gold-plated turret 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	
Marking.....	Manufacturer's name and part number, resistance value and tolerance, linearity tolerance, wiring diagram, and date code	
Ganging (Multiple Section Pots.).....	1 cup maximum	

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

Recommended Part Numbers

Part Number	Resistance (Ω)	Resolution
3750S-1-102L	1,000	0.05
3750S-1-202L	2,000	0.04
3750S-1-502L	5,000	0.04
3750S-1-103L	10,000	0.02

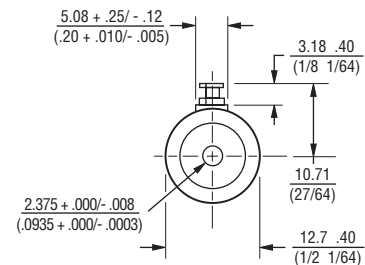
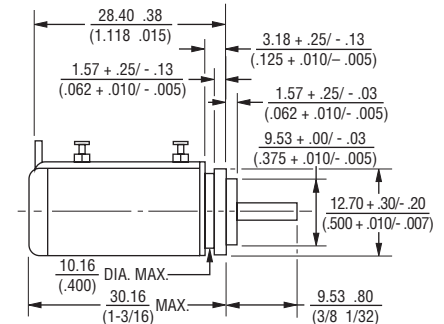
BOLDFACE LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION.
 FOR OTHER OPTIONS CONSULT FACTORY.

Part Number	Resistance (Ω)
3751H-1-102L	1,000
3751H-1-202L	2,000
3751H-1-502L	5,000
3751H-1-103L	10,000

ROHS IDENTIFIER:
 L = COMPLIANT*

Product Dimensions

3750/3751

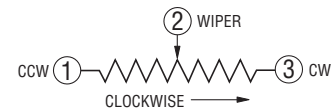


TOLERANCES: EXCEPT WHERE NOTED

DECIMALS: .XX ^{.25}/_(.010) .XXX ^{.13}/_(.005)

DIMENSIONS: ^{MM}/_(IN)

FRACTIONS: 1/64



Additional Information

Click these links for more information:



REV. 03/26

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