



Features

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

3700/3701 - Precision Potentiometer

| Electrical Characteristics ¹ | 3700 Wirewound Element | 3701 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 °, -2 ° |
| 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 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 | | |
|--|--|--|
| Operating Temperature Range..... | +1 °C to +125 °C..... | +1 °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..... | 20 G |
| Wiper Bounce..... | | |
| 0.1 millisecond maximum..... | 0.1 millisecond maximum..... | 0.1 millisecond maximum |
| Shock..... | | |
| 100 G..... | 100 G..... | 100 G |
| Wiper Bounce..... | | |
| 0.1 millisecond maximum..... | 0.1 millisecond maximum..... | 0.1 millisecond maximum |
| Load Life..... | | |
| 1,000 hours, 1 watt..... | 1,000 hours, 1 watt..... | 1,000 hours, 1 watt |
| Total Resistance Shift..... | | |
| ±2 % maximum..... | ±2 % maximum..... | ±5 % maximum |
| Rotational Life (No Load)..... | | |
| 1,000,000 shaft revolutions ² | 4,000,000 shaft revolutions ² | 4,000,000 shaft revolutions ² |
| Total Resistance Shift..... | | |
| ±5 % maximum..... | ±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..... | 14 N-cm (20 oz-in.) minimum |
| Mechanical Angle..... | 3600 ° +20 °, -0 ° |
| Torque (Starting & Running)..... | 0.45 N-cm (0.6 oz.-in.) max. |
| Mounting..... | 170-200 N-cm (15-18 lb.-in.) max. |
| Shaft Runout..... | 0.05 mm (0.002 in.) T.I.R. |
| Lateral Runout..... | 0.13 mm (0.005 in.) T.I.R. |
| Shaft End Play..... | 0.13 mm (0.005 in.) T.I.R. |
| Shaft Radial Play..... | 0.08 mm (0.003 in.) T.I.R. |
| Pilot Diameter Runout..... | 0.05 mm (0.002 in.) T.I.R. |
| Backlash..... | 1.0 ° maximum |
| Weight..... | Approximately 28 gm |
| Terminals..... | Gold-plated solderlugs (3700) or gold-plated turret lugs (3701) |
| 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 |
| Hardware..... | One lockwasher (H-37-1) and one mounting unit (H-38-1) is shipped with each potentiometer. |

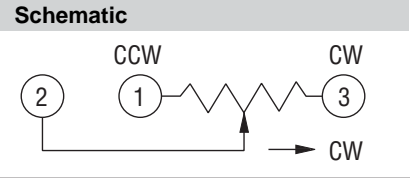
¹ At room ambient: +25 °C nominal and 50 % relative humidity nominal, except as noted.
² Consult manufacturer for complete specification details.



*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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Users should verify actual device performance in their specific applications.

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| Recommended Part Numbers | | |
|--------------------------|----------------|---------------------|
| Part Number | Resistance (Ω) | Resolution (% Max.) |
| 3700S-1-102L | 1,000 | 0.05 |
| 3700S-1-202L | 2,000 | 0.04 |
| 3700S-1-502L | 5,000 | 0.04 |
| 3700S-1-103L | 10,000 | 0.03 |

| Part Number | Resistance (Ω) |
|--------------|----------------|
| 3701H-1-102L | 1,000 |
| 3701H-1-202L | 2,000 |
| 3701H-1-502L | 5,000 |
| 3701H-1-103L | 10,000 |

BOLDFACE LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION.

FOR OTHER OPTIONS CONSULT FACTORY.

ROHS IDENTIFIER:
 L = COMPLIANT*

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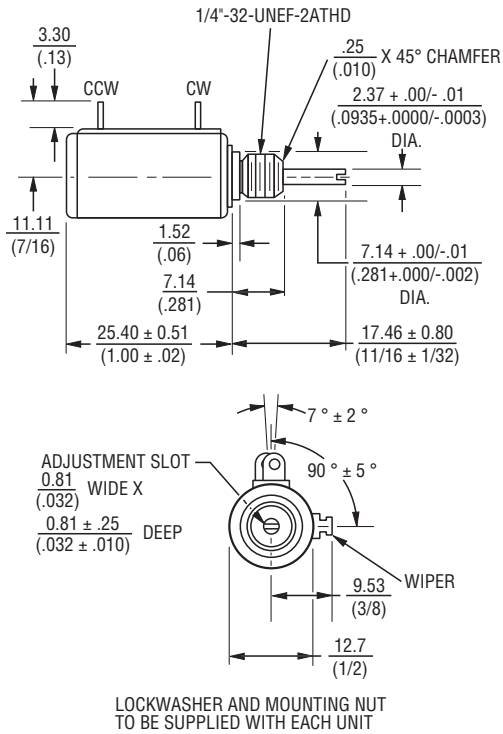
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3700/3701 - Precision Potentiometer

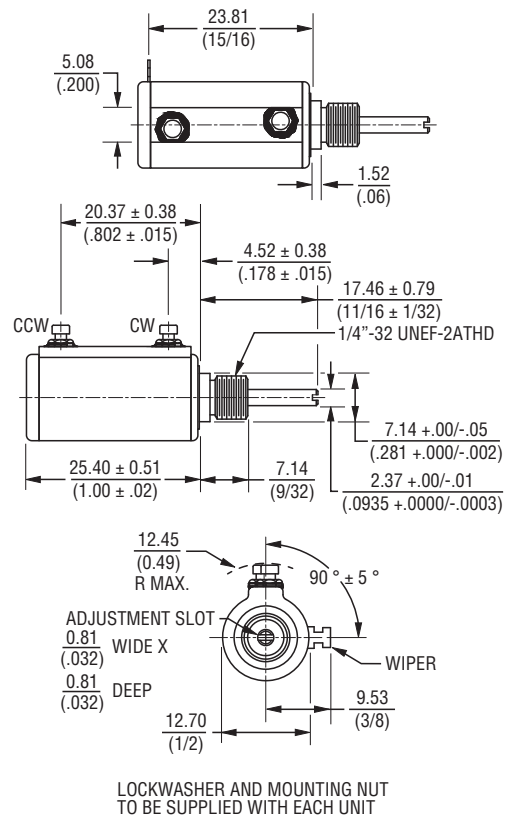
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Product Dimensions

3700S-1



3701H-1



TOLERANCES: EXCEPT WHERE NOTED
 DECIMALS: XX $\frac{.25}{(.010)}$ XXX $\frac{.13}{(.005)}$
 FRACTIONS: 1/64
 DIMENSIONS: $\frac{MM}{(IN)}$

REV. 10/19

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