

## 6205 ROTARY SERIES

1KΩ, 2KΩ, 5KΩ, 10KΩ, 20KΩ • Precision Position Potentiometer 1/2" Dia. Bushing Mount Mounting Hardware Furnished

### SPECIFICATIONS

Industrial / Military Grade Rotary Position Sensor

Rotational Operating Life 100 x 10<sup>6</sup> Revolutions Min.

Anodized Aluminum Housing

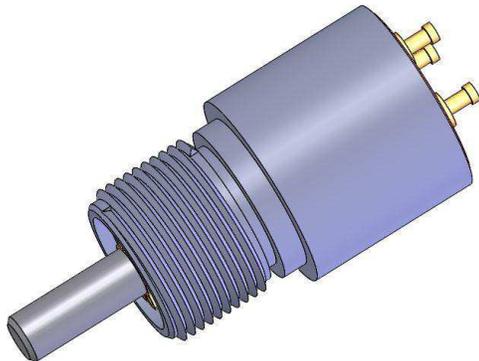
Stainless Steel Shaft & Ball Bearings

General Requirements IAW MIL-PRF-39023

MEAS rotary potentiometer designs provide various non-linear tapers, taps, multi-sections, and electrical angles while maintaining great reliability.

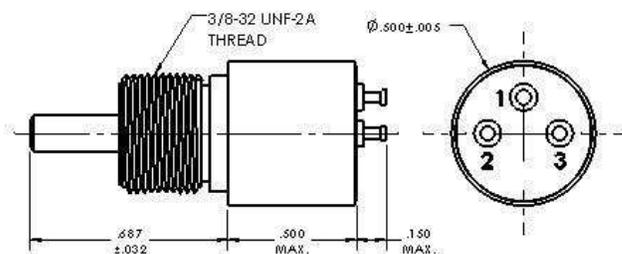
### ELECTRICAL CHARACTERISTICS

|                                     |                     |
|-------------------------------------|---------------------|
| <b>RESISTANCE</b>                   | 1KΩ to 20KΩ ±10%    |
| <b>ACTIVE ELECTRICAL ANGLE</b>      | 325°                |
| <b>ELECTRICAL CONTINUITY ANGLE</b>  | 330° MIN            |
| <b>INDEPENDENT LINEARITY</b>        | ±1.0%               |
| <b>END VOLTAGE</b>                  | 1.0% MAX            |
| <b>VOLTAGE RESOLUTION</b>           | VIRTUALLY INFINITE  |
| <b>OUTPUT SMOOTHNESS</b>            | 0.1% MAX            |
| <b>RESISTANCE TEMP. COEFFICIENT</b> | 400PPM/°C MAX       |
| <b>POWER RATING @ 70°C</b>          | 0.5 WATT MAX @ 70°C |
| <b>WIPER CONTACT CURRENT</b>        | 10mA MAX            |
| <b>DIELECTRIC STRENGTH</b>          | 500 VRMS @ 60Hz     |
| <b>INSULATION RESISTANCE</b>        | 100mΩ MIN @ 500VDC  |

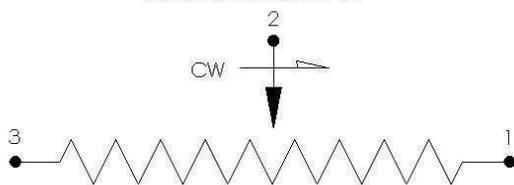


### FEATURES

- Less Space (1/2" Dia. Sizes)
- Greater Reliability
- Resolution
- Output Smoothness
- Long Life
- Taps, Multi-sections, Electrical Angles, Special Total Resistance



SCHEMATIC DIAGRAM



VIEWED FROM SHAFT END

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### MECHANICAL CHARACTERISTICS

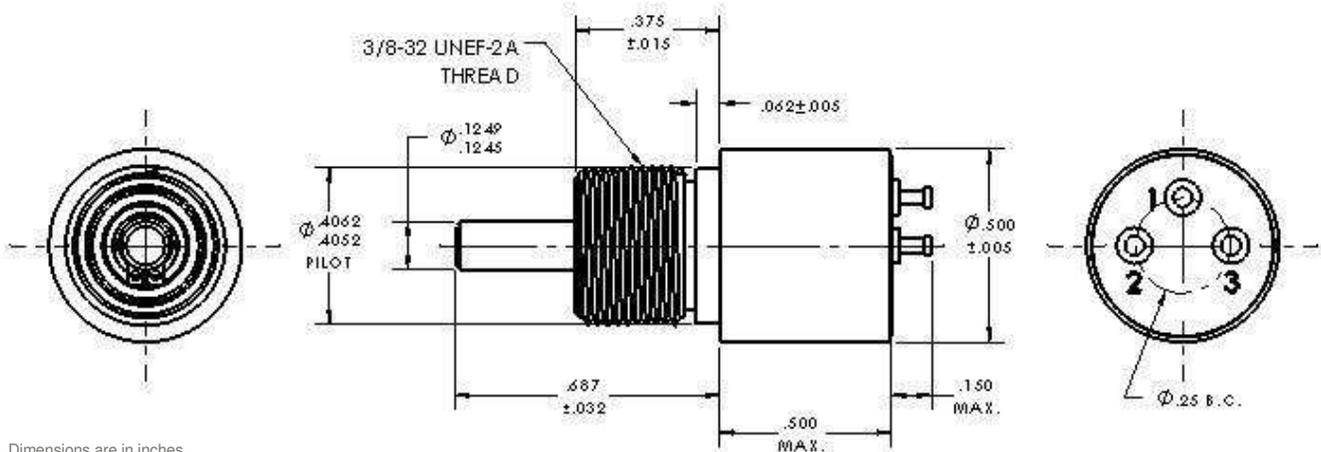
|                       |                  |
|-----------------------|------------------|
| MECHANICAL ROTATION   | CONTINUOUS       |
| STARTING TORQUE       | 0.20 Oz.-In. MAX |
| RUNNING TORQUE        | 0.15 Oz.-In. MAX |
| TOTAL WEIGHT (1-GANG) | 0.7 Oz. MAX      |
| PILOT RUNOUT          | 0.001 In. TIR    |
| SHAFT RUNOUT          | 0.001 In. TIR    |
| SHAFT ENDPLAY         | 0.003 MAX        |
| SHAFT RADIAL PLAY     | 0.001 In. TIR    |
| LATERAL RUNOUT        | 0.002 In. TIR    |

### STANDARD MATERIALS

|                       |                              |
|-----------------------|------------------------------|
| HOUSING               | ANODIZED ALUMINUM            |
| SHAFT & BALL BEARINGS | STAINLESS STEEL              |
| RESISTANCE ELEMENT    | CO-MOLDED CONDUCTIVE PLASTIC |
| ELECTRICAL CONTACTS   | MULTI-FINGER PRECIOUS METAL  |
| SOLDER TERMINALS      | GOLD PLATED BRASS            |

### ENVIRONMENTAL CHARACTERISTICS

|                           |  |
|---------------------------|--|
| OPERATING TEMP. RANGE     | -65°C to +125°C                        |
| ROTATIONAL OPERATING LIFE | 100 x 10 <sup>6</sup> REVOLUTIONS MIN. |



Dimensions are in inches,  
tolerances are:  
Angular =  $\pm 2^\circ$   
.XX =  $\pm .01$   
.XXX =  $\pm .005$   
.XXXX =  $\pm .0005$

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### AVAILABLE OPTIONS / CUSTOMIZATION

- ◆ Resistance Values
  - 500 $\Omega$  to 30K $\Omega$
- ◆ Tolerances
  - As low as  $\pm 5\%$
- ◆ Special Linearity
  - As low as 0.25%
  - Absolute (Indexed)
  - Or Independent over specified regions
- ◆ Additional Taps, Current or Voltage
- ◆ Special Electrical Angles
  - Up to 340° MAX
- ◆ Wire Leads in place of Terminals
- ◆ Shaft Modifications
  - Diameters
  - Lengths
  - Flats
  - Slots
  - Steps
- ◆ Mounting Features
  - Anti-rotation Pins
  - Bolt Flanges
  - Threaded Holes
- ◆ Environmental Capabilities
  - Moisture Seals
  - High Shock & Vibe

### ORDERING INFORMATION

| Model Number: | Resistance:             |
|---------------|-------------------------|
| 6205-1000-030 | 1K $\Omega$ $\pm 10\%$  |
| 6205-1001-030 | 2K $\Omega$ $\pm 10\%$  |
| 6205-1002-030 | 5K $\Omega$ $\pm 10\%$  |
| 6205-1003-030 | 10K $\Omega$ $\pm 10\%$ |
| 6205-1004-030 | 20K $\Omega$ $\pm 10\%$ |

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