

6209 SERIES

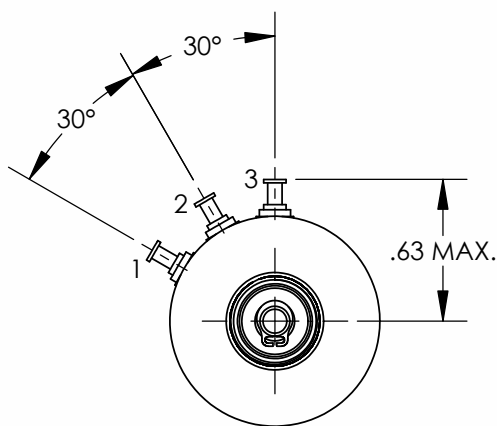
7/8 In. Dia. Bushing Mount
PRECISION POSITION
SENSORS



STANDARD PRODUCT OFFERING

| MS PART NUMBER | RESISTANCE |
|----------------------|------------------|
| 6209-1000-030 | 1KΩ ±10% |
| 6209-1002-030 | 5KΩ ±10% |
| 6209-1003-030 | 10KΩ ±10% |

MOUNTING HARDWARE FURNISHED



STANDARD MODEL ELECTRICAL CHARACTERISTICS

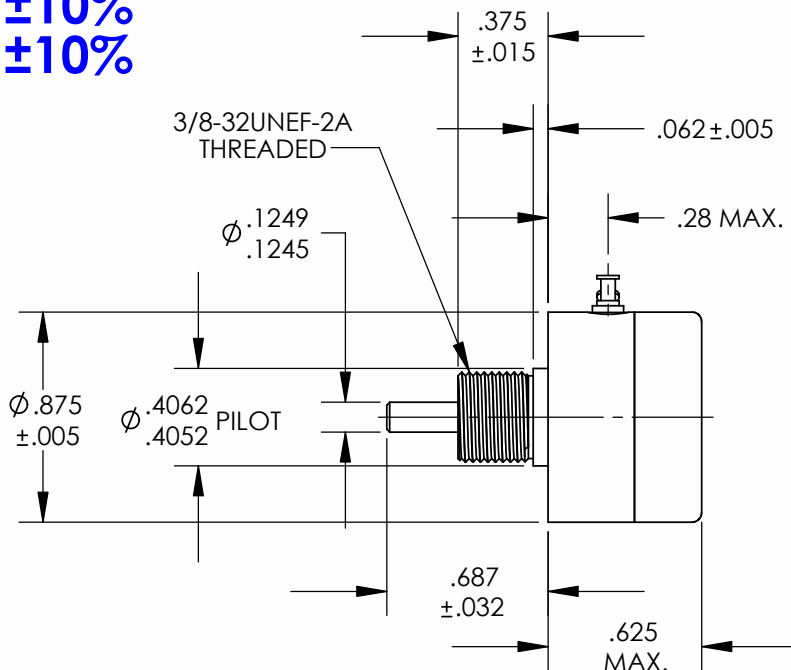
| | |
|-------------------------------|------------------------|
| RESISTANCE: | 1kΩ to 10kΩ ±10% |
| ACTIVE ELECTRICAL ANGLE: | 340° |
| ELECTRICAL CONTINUITY ANGLE: | 344° MIN. |
| INDEPENDENT LINEARITY: | ±0.5% |
| END VOLTAGE: | 0.5% MAX. |
| VOLTAGE RESOLUTION: | VIRTUALLY INFINITE |
| OUTPUT SMOOTHNESS: | 0.1% MAX. |
| RESISTANCE TEMP. COEFFICIENT: | 400PPM/°C MAX. |
| POWER RATING @ 70°C: | 1.0 WATT MAX. |
| WIPER CONTACT CURRENT: | 10 MilliAmps MAX. |
| DIELECTRIC STRENGTH: | 750 VRMS @ 60Hz |
| INSULATION RESISTANCE: | 100 MegΩ MIN. @ 500VDC |

STANDARD MODEL MECHANICAL CHARACTERISTICS

| | |
|------------------------|-------------------|
| MECHANICAL ROTATION: | CONTINUOUS |
| STARTING TORQUE: | 0.25 Oz.-In. MAX. |
| RUNNING TORQUE: | 0.20 Oz.-In. MAX. |
| TOTAL WEIGHT (1-GANG): | 0.6 Oz. MAX. |
| PILOT RUNOUT: | 0.001 In. TIR |
| SHAFT RUNOUT: | 0.001 In. TIR |
| SHAFT END PLAY: | 0.003 MAX. |
| SHAFT RADIAL PLAY: | 0.001 In. TIR |
| LATERAL RUNOUT: | 0.002 In. TIR |

STANDARD MATERIALS OF CONSTRUCTION

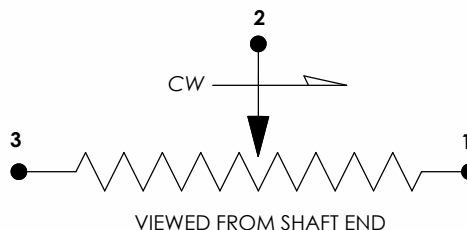
| | |
|--------------------------|------------------------------|
| HOUSING AND COVER: | ANODIZED ALUMINUM |
| SHAFT AND BALL BEARINGS: | STAINLESS STEEL |
| RESISTANCE ELEMENT: | CO-MOLDED CONDUCTIVE PLASTIC |
| ELECTRICAL CONTACTS: | MULTI-FINGER PRECIOUS METAL |
| SOLDER TERMINALS: | GOLD PLATED BRASS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



STANDARD ENVIRONMENTAL CHARACTERISTICS

| | |
|----------------------------|--|
| OPERATING TEMP. RANGE: | -65°C To +125°C |
| ROTATIONAL OPERATING LIFE: | 100 x 10 ⁶ REVOLUTIONS MIN. |

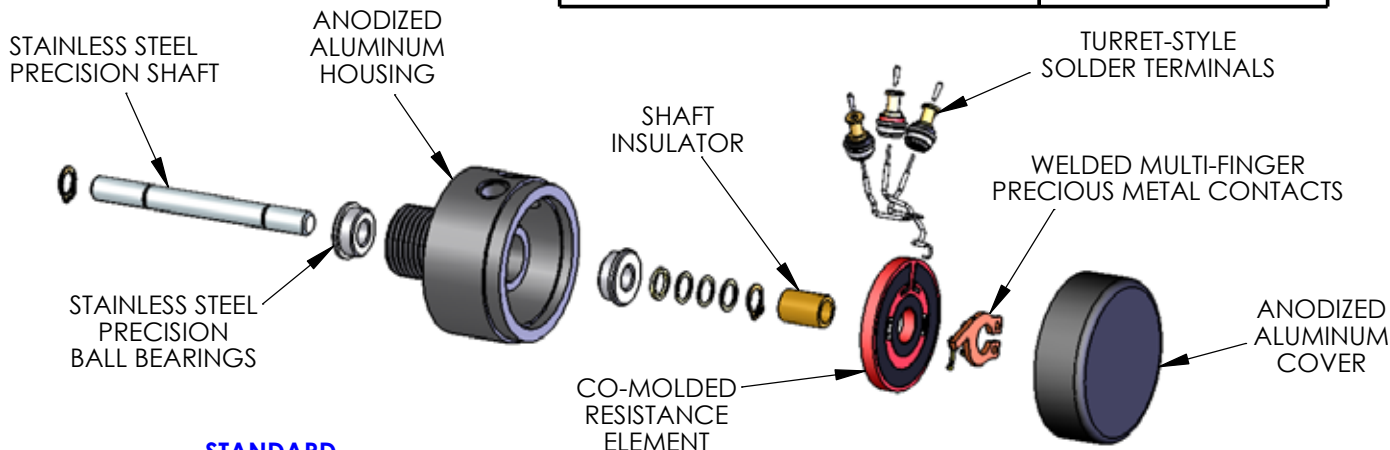
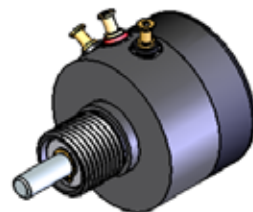
SCHEMATIC DIAGRAM



**ALL OTHER GENERAL REQUIREMENTS IN
ACCORDANCE WITH MIL-PRF-39023**

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7/8 In. Dia. Bushing Mount
PRECISION POSITION
SENSORS



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| END VOLTAGE: | 0.5% MAX. |
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ALL OTHER GENERAL REQUIREMENTS IN ACCORDANCE WITH MIL-PRF-39023

AVAILABLE OPTIONS

CUSTOM RESISTANCE VALUES (500 Ω TO 50k Ω)
AND TOLERANCES AS LOW AS $\pm 5\%$

SPECIAL LINEARITIES AS LOW AS 0.15%, ABSOLUTE
(INDEXED) OR INDEPENDENT OVER SPECIFIED
REGIONS.

ADDITIONAL TAPS, CURRENT OR VOLTAGE

CURRENT LIMIT RESISTORS AND OTHER INTERNAL
CIRCUIT COMPONENTS (CAPS, DIODES, ETC.)

SPECIAL ELECTRICAL ANGLES UP TO 355° MAX.

WIRE LEADS OR CABLE IN PLACE OF TERMINALS

SPECIAL TRANSFER FUNCTIONS:
NON-LINEAR OUTPUTS
LOAD COMPENSATION
TRIG, LOG, AND EXPONENTIAL OUTPUTS

MULTI-GANG CONSTRUCTION (UP TO 6) ON A
COMMON SHAFT OR CONCENTRIC SHAFTING
(ADD .320 LENGTH PER GANG).

SPECIAL SHAFT LENGTHS AND FEATURES SUCH AS
REAR EXTENSIONS, FLATS, SLOTS, AND STEPS.

SPECIAL TORQUE OR DETENT REQUIREMENTS, AS
LOW AS .015 Oz.-In. STARTING TORQUE.

SPECIAL MOUNTING DIMENSIONS OR FEATURES
SUCH AS ANTI-ROTATION LOCATING PINS AND
BUSHING FLATS OR SLOTS.

ROTATIONAL STOPS LIMITING SHAFT TRAVEL.

ANCILLIARY DEVICES SUCH AS SPRING RETURNS,
CLUTCHES, BRAKES, AND SWITCHES.

SPECIAL ENVIRONMENTAL CAPABILITIES SUCH AS
MOISTURE SEALS, HIGH SHOCK AND VIBRATION.