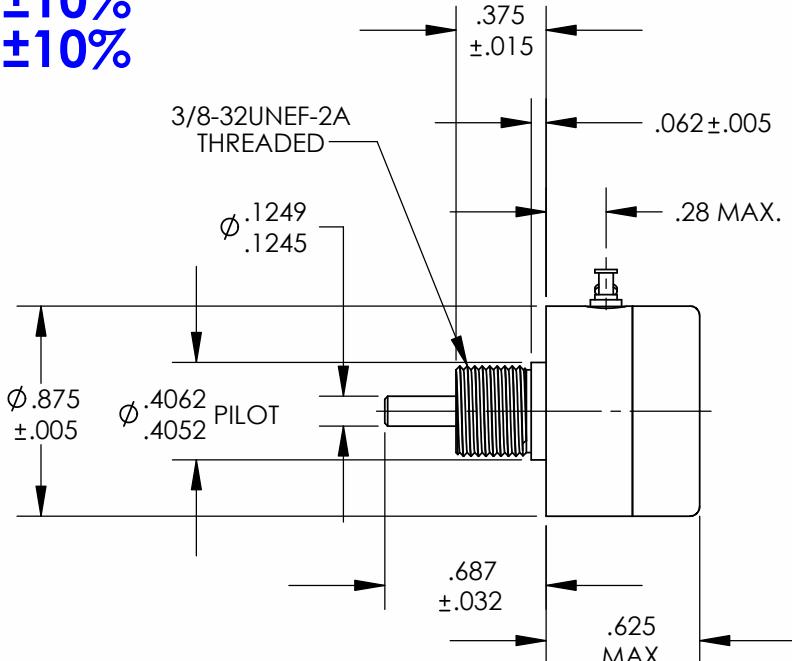


STANDARD PRODUCT OFFERING

MS PART NUMBER	RESISTANCE
6209-1000-030	$1\text{K}\Omega \pm 10\%$
6209-1002-030	$5\text{K}\Omega \pm 10\%$
6209-1003-030	$10\text{K}\Omega \pm 10\%$

MOUNTING HARDWARE FURNISHED



**STANDARD MODEL
ELECTRICAL CHARACTERISTICS**

RESISTANCE:	1k Ω to 10k Ω $\pm 10\%$
ACTIVE ELECTRICAL ANGLE:	340°
ELECTRICAL CONTINUITY ANGLE:	344° MIN.
INDEPENDENT LINEARITY:	$\pm 0.5\%$
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 Meg Ω 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

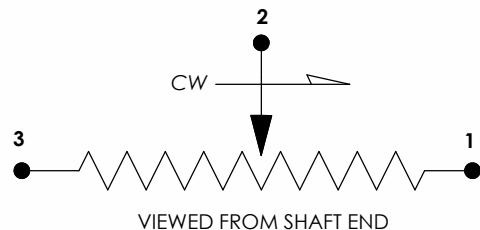
**STANDARD
MATERIALS OF CONSTRUCTION**

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**

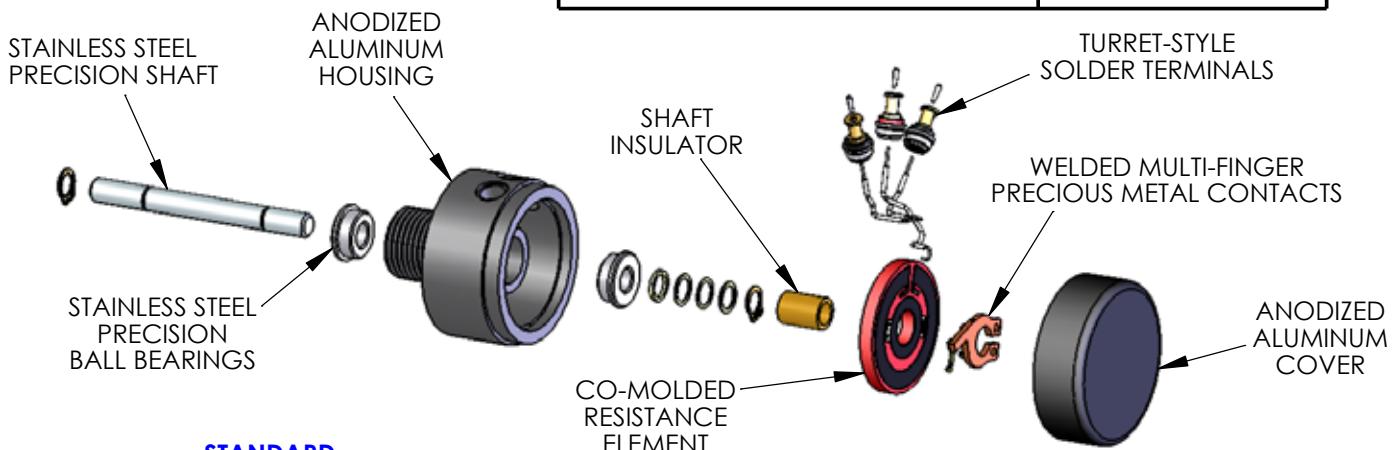
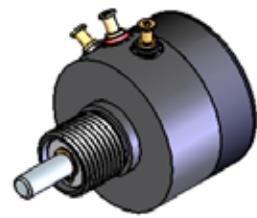
OPERATING TEMP. RANGE: -65°C To +125°C
ROTATIONAL OPERATING LIFE: 100 x 10⁶ REVOLUTIONS MIN.

SCHEMATIC DIAGRAM



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

6209 SERIES
**7/8 In. Dia. Bushing Mount
PRECISION POSITION
SENSORS**



**STANDARD
ELECTRICAL CHARACTERISTICS**

RESISTANCES ($\pm 10\%$):	1k Ω , 5k Ω , and 10k Ω
ACTIVE ELECTRICAL ANGLE:	340°
ELECTRICAL CONTINUITY ANGLE:	344° MIN.
INDEPENDENT LINEARITY:	$\pm 0.5\%$
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 Meg Ω MIN. @ 500VDC

**STANDARD
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
ENVIRONMENTAL CHARACTERISTICS**

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

**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

**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 SHAVING (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.