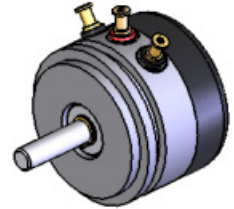


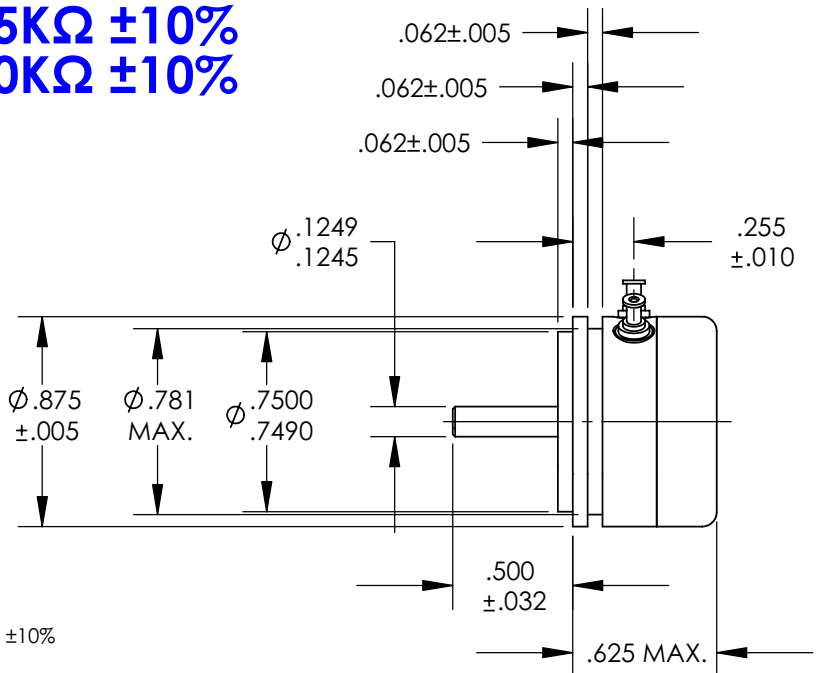
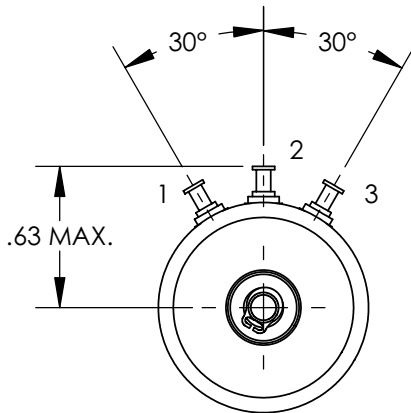
# 6009 SERIES

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



## STANDARD PRODUCT OFFERING

SS&C PART NUMBER	RESISTANCE
6009-1000-030	1KΩ ±10%
6009-1002-030	5KΩ ±10%
6009-1003-030	10KΩ ±10%



### 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

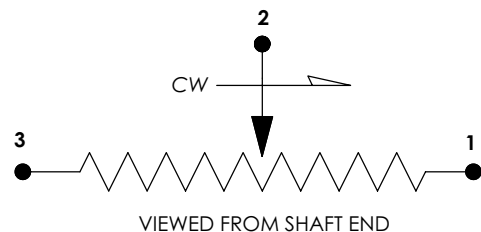
### STANDARD MATERIALS OF CONSTRUCTION

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 <sup>6</sup> REVOLUTIONS MIN.

### SCHEMATIC DIAGRAM



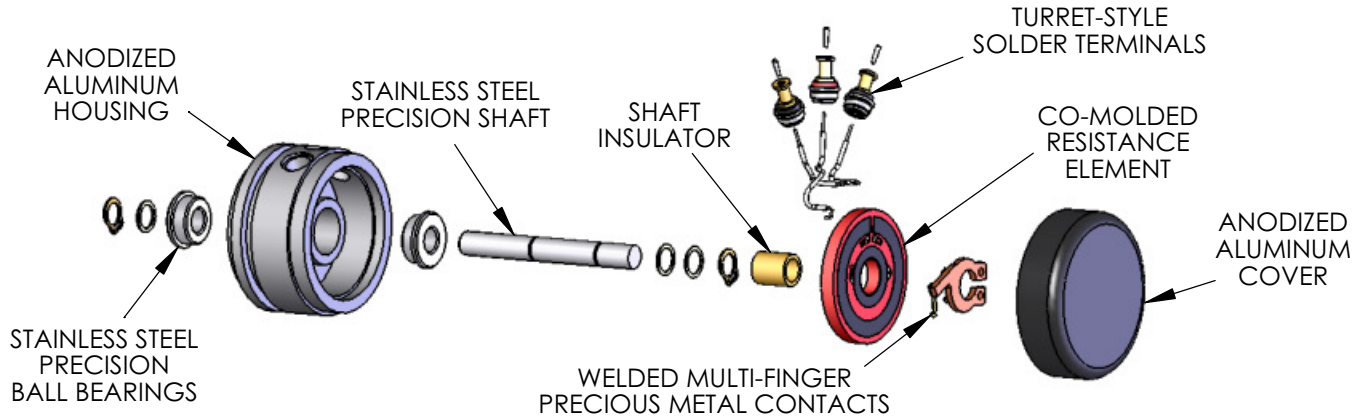
ALL OTHER GENERAL REQUIREMENTS IN  
ACCORDANCE WITH MIL-PRF-39023

### CONTACT:

SPECTRUM SENSORS & CONTROLS, INC.  
424 CROWN POINT CIRCLE, GRASS VALLEY, CA 95945  
(800) 880-7730 (530) 273-4608 FAX: (530) 273-0769  
E-MAIL: sales@specsensors.com

# 6009 SERIES

## 7/8 In. Dia. Servo Mount PRECISION POSITION SENSORS

### STANDARD ELECTRICAL CHARACTERISTICS

RESISTANCES ( $\pm 10\%$ ):	1K $\Omega$ , 5K $\Omega$ , and 10k $\Omega$
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 $\Omega$ MIN. @ 500 VDC

### 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 <sup>6</sup> REVOLUTIONS MIN.

### STANDARD MATERIALS OF CONSTRUCTION

HOUSING AND COVER:	ANODIZED ALUMINUM
SHAFT AND BALL BEARINGS:	STAINLESS STEEL
RESISTANCE ELEMENT:	CO-MOLDED CONDUCTIVE PLASTIC
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### ALL OTHER GENERAL REQUIREMENTS IN ACCORDANCE WITH MIL-PRF-39023

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### AVAILABLE OPTIONS

CUSTOM RESISTANCE VALUES (500 $\Omega$  TO 50k $\Omega$ )  
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 STARTING TORQUE.

SPECIAL MOUNTING DIMENSIONS OR FEATURES  
INCLUDING ANTI-ROTATION PINS, BOLT FLANGES,  
AND THREADED HOLES.

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.