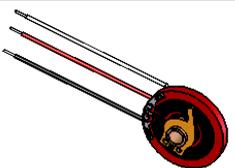
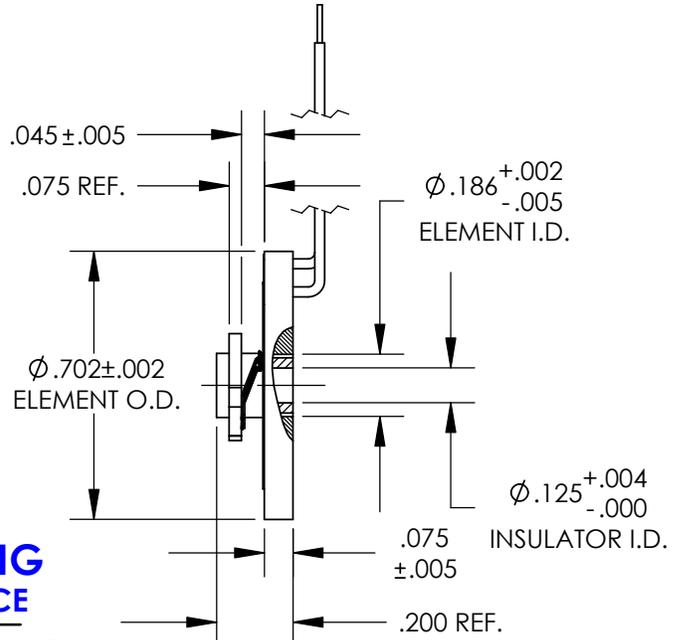
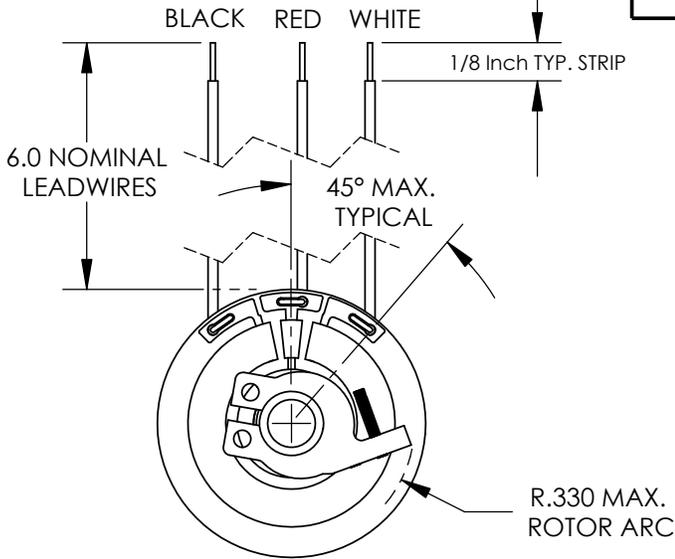


# 6909 Series

7/8 In. Dia. POTENTIOMETER  
ELEMENT ROTOR/WIPER KIT

## STANDARD PRODUCT OFFERING

SS&C PART NUMBER	RESISTANCE
6909-1000-030	1KΩ ±10%
6909-1002-030	5KΩ ±10%
6909-1003-030	10KΩ ±10%

ELEMENT ONLY P/N 6909-1000-070  
ELEMENT ONLY P/N 6909-1002-070  
ELEMENT ONLY P/N 6909-1003-070

### STANDARD MODEL ELECTRICAL CHARACTERISTICS

RESISTANCE, 6909-1000-030:	1kΩ ±10%
6909-1002-030:	5kΩ ±10%
6909-1003-030:	10kΩ ±10%
ACTIVE ELECTRICAL ANGLE:	320°
ELECTRICAL CONTINUITY ANGLE:	330° 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.

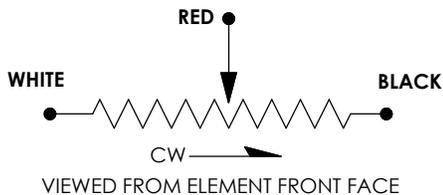
### STANDARD MODEL MECHANICAL CHARACTERISTICS

MECHANICAL ROTATION:	CONTINUOUS
TOTAL WEIGHT (ELEMENT ONLY):	0.75 Gm. MAX.
WIRE LEAD LENGTH:	6.0 Inches NOMINAL
ELEMENT OUTER DIAMETER:	0.702 ± .005 Inch
ELEMENT INNER DIAMETER:	0.186 ± .002 / - .005 Inch
ROTOR OPERATING RADIUS:	0.330 MAX.
<b>STANDARD ROTOR PART No:</b>	<b>6909-0000-060</b>
INSULATOR INSIDE DIAMETER:	0.127 ± .002 Inch
INSULATOR LENGTH:	0.200 ± .000 / - .005
<b>STANDARD INSULATOR PART No:</b>	<b>7040-0005-015</b>

### STANDARD MATERIALS OF CONSTRUCTION

RESISTANCE ELEMENT:	CO-MOLDED CONDUCTIVE PLASTIC
GRIP-RING ROTOR:	HEAT-TREATED BERYLLIUM COPPER
INSULATOR:	HIGH-TEMP. MOLDED PLASTIC
ELECTRICAL CONTACTS:	MULTI-FINGER PRECIOUS METAL DIRECTLY WELDED TO ROTOR
LEADWIRES:	#30 AWG TYPE ET STRANDED WIRE TEFLON INSULATED (250V)

### SCHEMATIC DIAGRAM



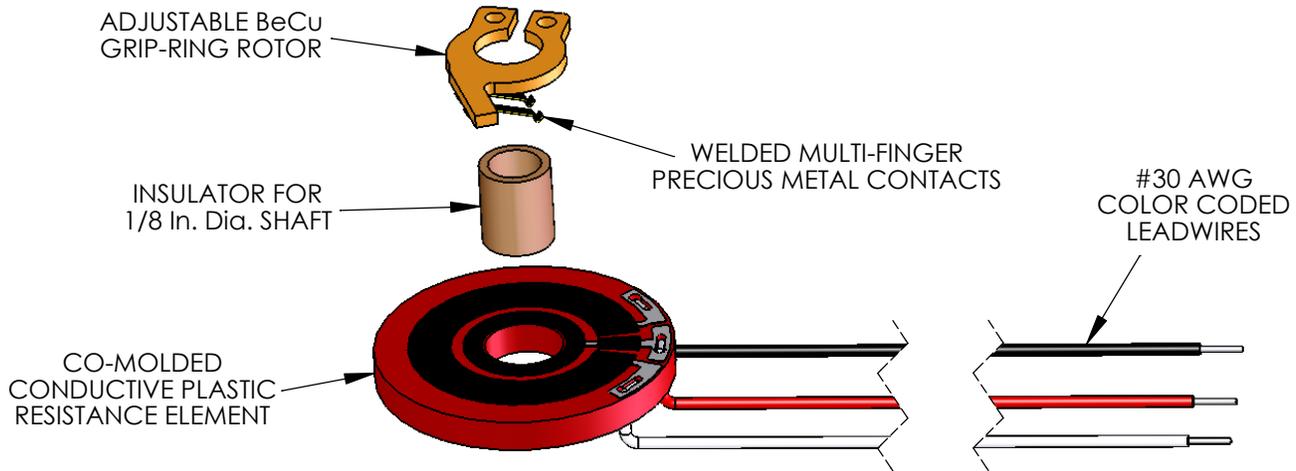
### STANDARD ENVIRONMENTAL CHARACTERISTICS

OPERATING TEMP. RANGE:	-65°C To +125°C
ROTATIONAL OPERATING LIFE:	100 x 10 <sup>7</sup> REVOLUTIONS MIN.

### 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

**6909 Series**  
7/8 In. Dia. POTENTIOMETER  
ELEMENT ROTOR/WIPER KIT

**STANDARD ELECTRICAL CHARACTERISTICS**

RESISTANCES ( $\pm 10\%$ ):	1K $\Omega$ , 5K $\Omega$ , and 10k $\Omega$
ACTIVE ELECTRICAL ANGLE:	320°
ELECTRICAL CONTINUITY ANGLE:	330° 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.

**STANDARD MECHANICAL CHARACTERISTICS**

MECHANICAL ROTATION:	CONTINUOUS
TOTAL WEIGHT (ELEMENT):	0.75 Gm. MAX.
WIRE LEAD LENGTH:	6.0 Inches NOMINAL
ELEMENT OUTER DIAMETER:	0.702 $\pm$ .005 Inch
ELEMENT INNER DIAMETER:	0.186 $\pm$ .002/-0.005 Inch
ROTOR OPERATING RADIUS:	0.330 MAX.
INSULATOR INSIDE DIAMETER:	0.127 $\pm$ .002 Inch

**STANDARD ENVIRONMENTAL CHARACTERISTICS**

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**STANDARD MATERIALS OF CONSTRUCTION**

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INSULATOR:	HIGH-TEMP. MOLDED PLASTIC
ELECTRICAL CONTACTS:	MULTI-FINGER PRECIOUS METAL DIRECTLY WELDED TO ROTOR
LEADWIRES:	#30 AWG TYPE ET STRANDED WIRE TEFLON INSULATED (250V)

**AVAILABLE OPTIONS**

- CUSTOM RESISTANCE VALUES (500 $\Omega$  TO 50k $\Omega$ ) AND TOLERANCES AS LOW AS  $\pm 5\%$
- SPECIAL LINEARITIES AS LOW AS 0.25%, ABSOLUTE (INDEXED) OR INDEPENDENT OVER SPECIFIED REGIONS.
- ADDITIONAL TAPS, CURRENT OR VOLTAGE
- SPECIAL ELECTRICAL ANGLES UP TO 350° MAX.
- SPECIAL WIRE LEADS OR CABLES
- SPECIAL TERMINATIONS OR CONNECTORS
- SPECIAL TRANSFER FUNCTIONS:  
NON-LINEAR OUTPUTS  
LOAD COMPENSATION  
TRIG, LOG, AND EXPONENTIAL OUTPUTS
- SPECIAL ELEMENT DIMENSIONS OR FEATURES SUCH AS LOCATING NOTCHES, SCRIBE MARKS, CUSTOM SUBSTRATE SHAPES.
- CUSTOM ROTOR OR INSULATOR DIMENSIONS AND FEATURES.
- CUSTOM MARKING, IDENTIFICATION OR LOGO.
- SPECIAL ENVIRONMENTAL CAPABILITIES SUCH AS HIGH SHOCK AND VIBRATION.

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