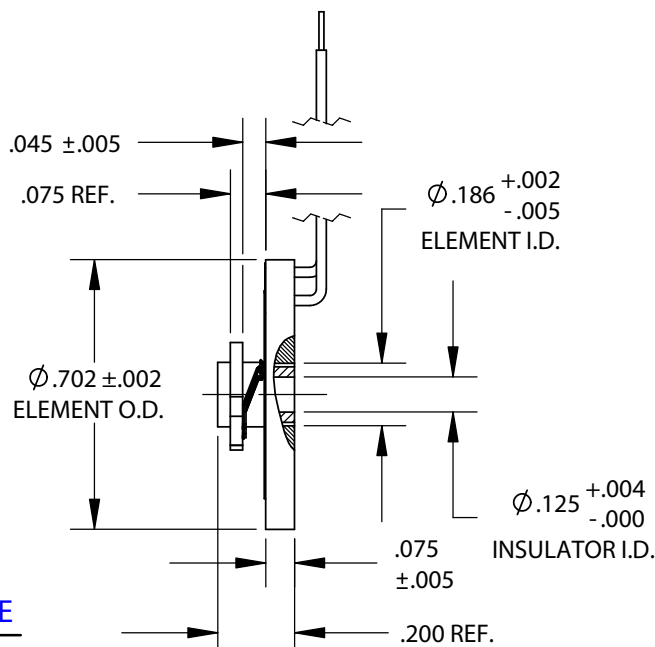
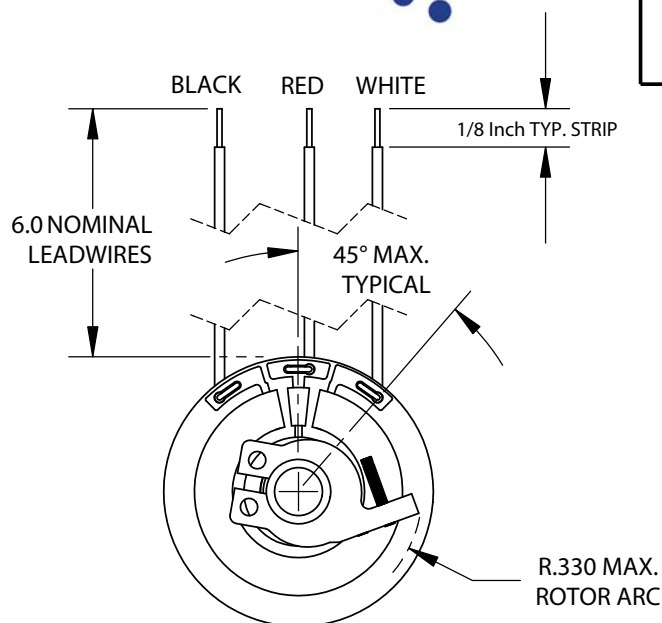
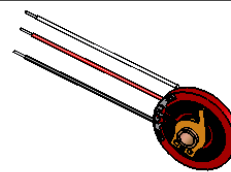


## 6909 Series

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



### STANDARD PRODUCT OFFERING

MS PART NUMBER

RESISTANCE

6909-1000-030

1KΩ ±10%

ELEMENT ONLY P/N 6909-1000-070

6909-1002-030

5KΩ ±10%

ELEMENT ONLY P/N 6909-1002-070

6909-1003-030

10KΩ ±10%

ELEMENT ONLY P/N 6909-1003-070

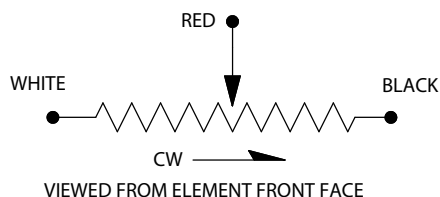
#### STANDARD MODEL ELECTRICAL CHARACTERISTICS

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±0.005 Inch
ELEMENT INNER DIAMETER:	0.186±0.002/-0.005 Inch
ROTOR OPERATING RADIUS:	0.330 MAX.
STANDARD ROTOR PART No:	6909-0000-060
INSULATOR INSIDE DIAMETER:	0.127±0.002 Inch
INSULATOR LENGTH:	0.200±0.000/-0.005
STANDARD INSULATOR PART No:	7040-0005-015

#### SCHEMATIC DIAGRAM



#### STANDARD ENVIRONMENTAL CHARACTERISTICS

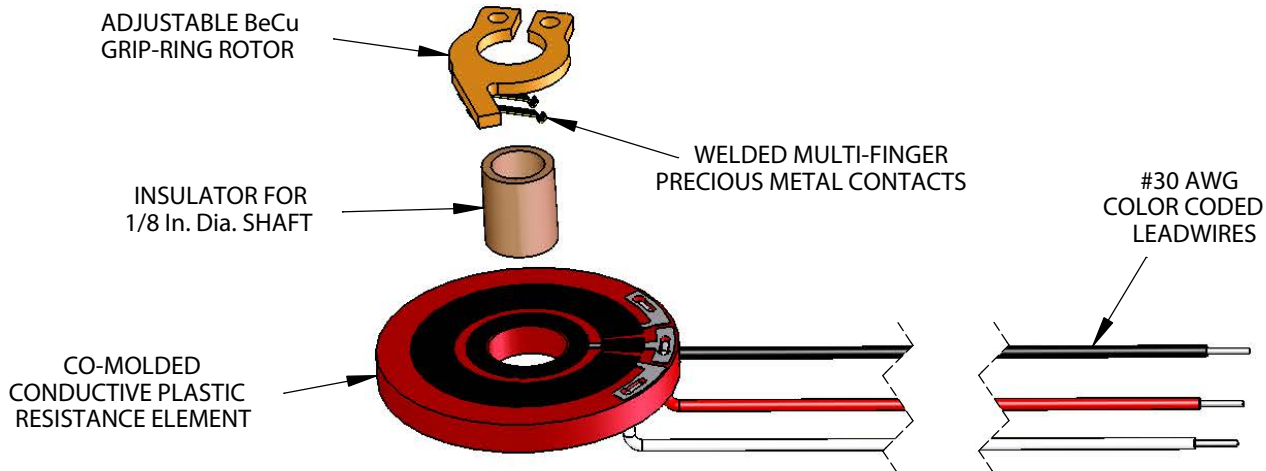
OPERATING TEMP. RANGE:	-65°C To +125°C
ROTATIONAL OPERATING LIFE:	100 x 10 <sup>6</sup> REVOLUTIONS MIN.

#### STANDARD MATERIALS OF CONSTRUCTION

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

## 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

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

### 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)

### 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.