

5903 Series

5/16 In. Dia. LINEAR MOTION
PRECISION POTENTIOMETERS
1 In. ACTIVE STROKE



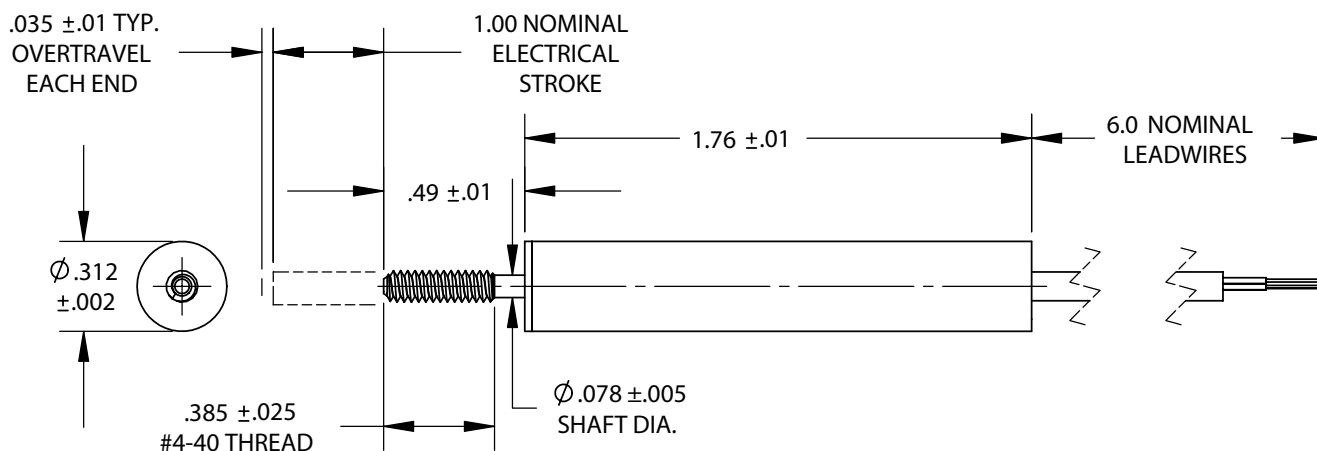
STANDARD PRODUCT OFFERING

MS PART NUMBER

RESISTANCE

5903-0110-030	1K Ω $\pm$ 10%
5903-0510-030	5K Ω $\pm$ 10%
5903-1010-030	10K Ω $\pm$ 10%

STANDARD PRODUCTS ALSO AVAILABLE
WITH .5 In., .75 In., 1.5 In. AND 2.0 In.
STROKE LENGTHS



STANDARD MODEL ELECTRICAL CHARACTERISTICS

RESISTANCE:	1k Ω TO 10k Ω $\pm$ 10%
ACTIVE ELECTRICAL STROKE:	1.00 In. NOMINAL OTHER STROKE LENGTHS AVAILABLE AS NOTED OVER MECH. STROKE
ELECTRICAL CONTINUITY STROKE:	$\pm$ 1.0%
INDEPENDENT LINEARITY:	0.5% MAX.
END VOLTAGE:	VIRTUALLY INFINITE
VOLTAGE RESOLUTION:	:0.1% MAX.
OUTPUT SMOOTHNESS	500PPM/°C MAX.
RESISTANCE TEMP. COEFFICIENT:	1.0 WATT MAX.
POWER RATING @ 70°C:	10 MilliAmps MAX.
WIPER CONTACT CURRENT:	1000 VRMS
DIELECTRIC STRENGTH:	100 Meg Ω MIN.

STANDARD MODEL MECHANICAL CHARACTERISTICS

MECHANICAL STROKE:	1.070 $\pm$.020
ACTUATING FORCE:	0.75 Oz. MAX.
SHAFT ROTATION:	CONTINUOUS (NO EFFECT)
TOTAL WEIGHT (1-GANG):	0.75 Oz. MAX.
ALLOWABLE SHAFT PLAY:	.005 MAX. MISALIGNMENT

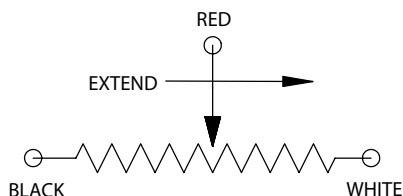
STANDARD ENVIRONMENTAL CHARACTERISTICS

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

STANDARD MATERIALS OF CONSTRUCTION

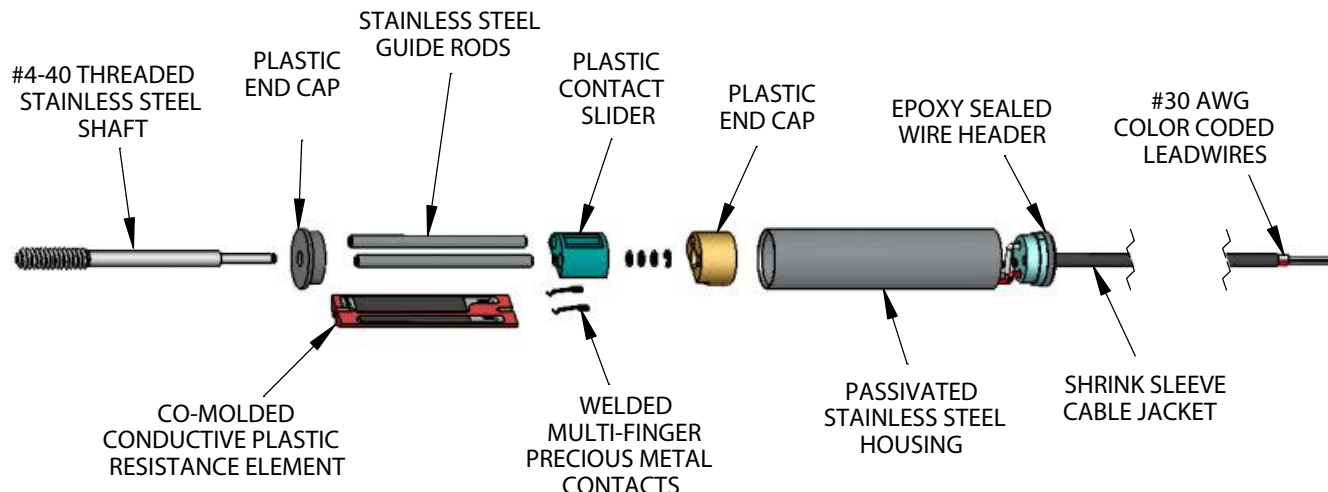
HOUSING:	STAINLESS STEEL (TUBING)
SHAFT AND GUIDE RODS:	STAINLESS STEEL
RESISTANCE ELEMENT:	CO-MOLDED CONDUCTIVE PLASTIC
ELECTRICAL CONTACTS:	MULTI-FINGER PRECIOUS METAL
BEARINGS:	VECTRA E130i PLASTIC
LEADWIRES / JACKET:	#30 AWG TYPE ET (TEFLON) SHRINK TUBING JACKET

SCHEMATIC DIAGRAM



5903 Series

5/16 In. Dia. LINEAR MOTION
PRECISION POTENTIOMETERS



STANDARD ELECTRICAL CHARACTERISTICS

RESISTANCES ($\pm 10\%$):	1K Ω , 2K Ω , and 5k Ω
ACTIVE ELECTRICAL STROKE:	0.5, 0.75, 1.0, 1.5, and 2.0 Inches
ELECTRICAL CONTINUITY:	THROUGHOUT MECH. STROKE
INDEPENDENT LINEARITY:	$\pm 1.0\%$
END VOLTAGE:	0.5% MAX.
VOLTAGE RESOLUTION:	VIRTUALLY INFINITE
OUTPUT SMOOTHNESS:	0.1% MAX.
RESISTANCE TEMP. COEFFICIENT:	500PPM/ $^{\circ}$ C MAX.
POWER RATING @ 70 $^{\circ}$ C:	1.0 WATT MAX. PER STROKE INCH
WIPER CONTACT CURRENT:	10 MilliAmps MAX.
DIELECTRIC STRENGTH:	1000 VRMS
INSULATION RESISTANCE:	100 Meg Ω MIN.

STANDARD MECHANICAL CHARACTERISTICS

MECHANICAL STROKE:	ACTIVE STROKE + 0.07 IN.
SHAFT ACTIVATION FORCE:	0.75 Oz. MAX.
MAX. SHAFT MISALIGNMENT:	0.005 In. PERMISSIBLE

STANDARD ENVIRONMENTAL CHARACTERISTICS

OPERATING TEMP. RANGE:	-65 $^{\circ}$ C To +125 $^{\circ}$ C
ROTATIONAL OPERATING LIFE:	100 x 10 ⁶ STROKES MIN.

STANDARD MATERIALS OF CONSTRUCTION

HOUSING:	STAINLESS STEEL
SHAFT AND GUIDE RODS:	STAINLESS STEEL
RESISTANCE ELEMENT:	CO-MOLDED CONDUCTIVE PLASTIC
ELECTRICAL CONTACTS:	MULTI-FINGER PRECIOUS METAL
LEADWIRES / CABLE:	#30 AWG TYPE ET (TEFLON)

AVAILABLE OPTIONS

CUSTOM RESISTANCE VALUES (500 Ω TO 30k Ω)
AND TOLERANCES AS LOW AS $\pm 5\%$

SPECIAL LINEARITIES AS LOW AS 0.2%, ABSOLUTE
(INDEXED) OR INDEPENDENT OVER SPECIFIED
REGIONS.

SPECIAL ELECTRICAL STROKES (3.5 Inch MAX.)

SPECIAL CABLE OR CONNECTORS

SPECIAL SHAFT LENGTHS AND FEATURES SUCH
AS FLATS, SLOTS, STEPS, YOKES, CLAMPS, AND
ROD ENDS.

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