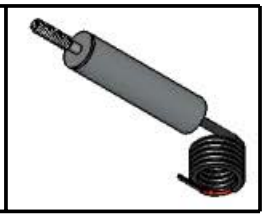
5903 Series

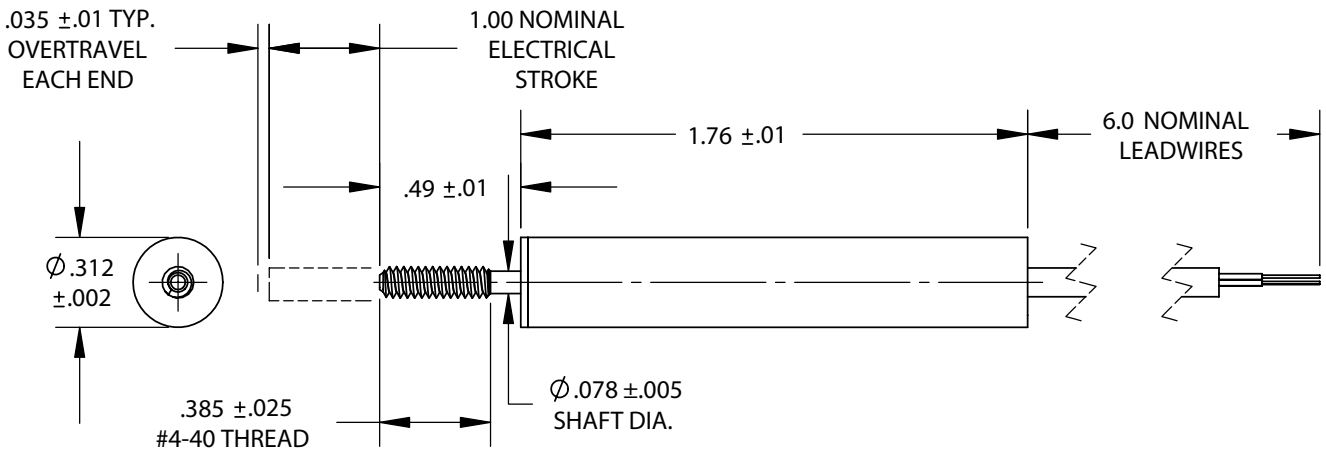
5/16 In. Dia. LINEAR MOTION
PRECISION POTENTIOMETERS
1 In. ACTIVE STROKE



STANDARD PRODUCT OFFERING

MS PART NUMBER	RESISTANCE
5903-0110-030	1KΩ ±10%
5903-0510-030	5KΩ ±10%
5903-1010-030	10KΩ ±10%

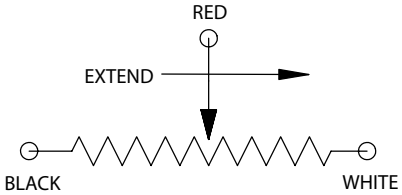
STANDARD PRODUCTS ALSO AVAILABLE WITH .5 In., .75 In., 1.5 In. AND 2.0 In. STROKE LENGTHS



STANDARD MODEL
ELECTRICAL CHARACTERISTICS

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

SCHEMATIC DIAGRAM



STANDARD MODEL
MECHANICAL CHARACTERISTICS

MECHANICAL STROKE:	1.070±.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

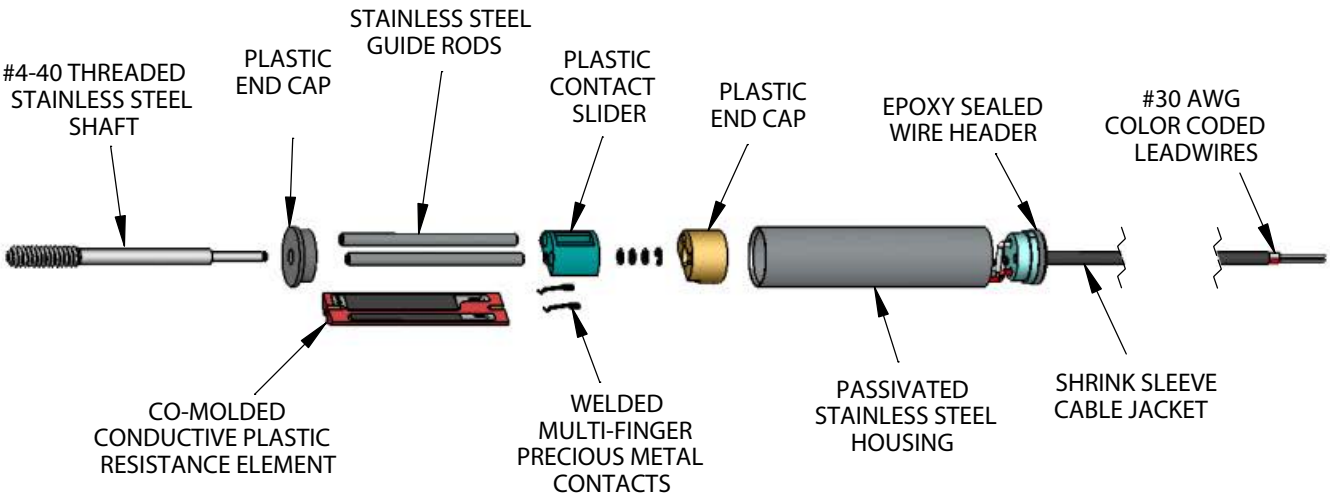
OPERATING TEMP. RANGE:	-65°C To +125°C
OPERATING LIFE:	100 x 10^6 STROKES MIN.

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

5903 Series

5/16 In. Dia. LINEAR MOTION PRECISION POTENTIOMETERS



STANDARD ELECTRICAL CHARACTERISTICS

RESISTANCES (±10%):	1KΩ, 2KΩ, and 5kΩ
ACTIVE ELECTRICAL STROKE:	0.5, 0.75, 1.0, 1.5, and 2.0 Inches
ELECTRICAL CONTINUITY:	THROUGHOUT MECH. STROKE
INDEPENDENT LINEARITY:	±1.0%
END VOLTAGE:	0.5% MAX.
VOLTAGE RESOLUTION:	VIRTUALLY INFINITE
OUTPUT SMOOTHNESS:	0.1% MAX.
RESISTANCE TEMP. COEFFICIENT:	500PPM/°C MAX.
POWER RATING @ 70°C:	1.0 WATT MAX. PER STROKE INCH
WIPER CONTACT CURRENT:	10 MilliAmps MAX.
DIELECTRIC STRENGTH:	1000 VRMS
INSULATION RESISTANCE:	100 MegΩ 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°C To +125°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 (500Ω TO 30kΩ) AND TOLERANCES AS LOW AS ±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 CAPABILITES SUCH AS MOISTURE SEALS, HIGH SHOCK AND VIBRATION CAPABILITIES.