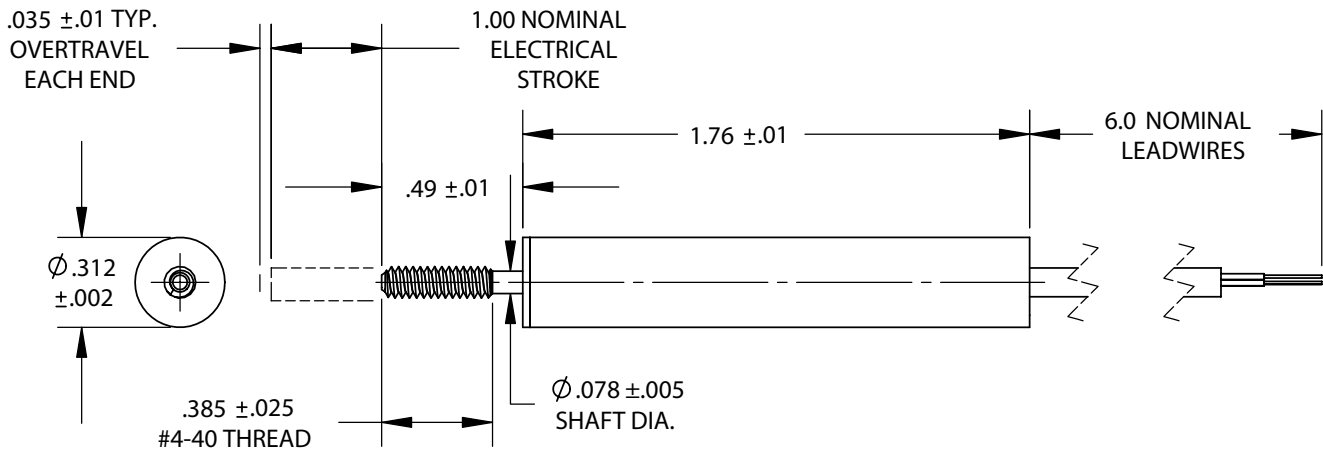


| | |
|--|---|
| <h2 style="margin: 0;">5903 Series</h2> <p style="margin: 0;">5/16 In. Dia. LINEAR MOTION PRECISION POTENTIOMETERS 1 In. ACTIVE STROKE</p> |  |
|--|---|

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 OVER MECH. STROKE |
| ELECTRICAL CONTINUITY STROKE: | ±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 MegΩ MIN. |

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 |

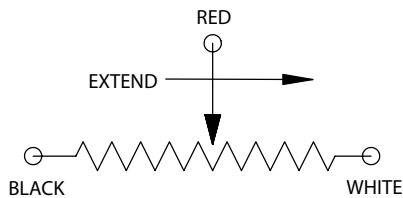
STANDARD ENVIRONMENTAL CHARACTERISTICS

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

STANDARD MATERIALS OF CONSTRUCTION

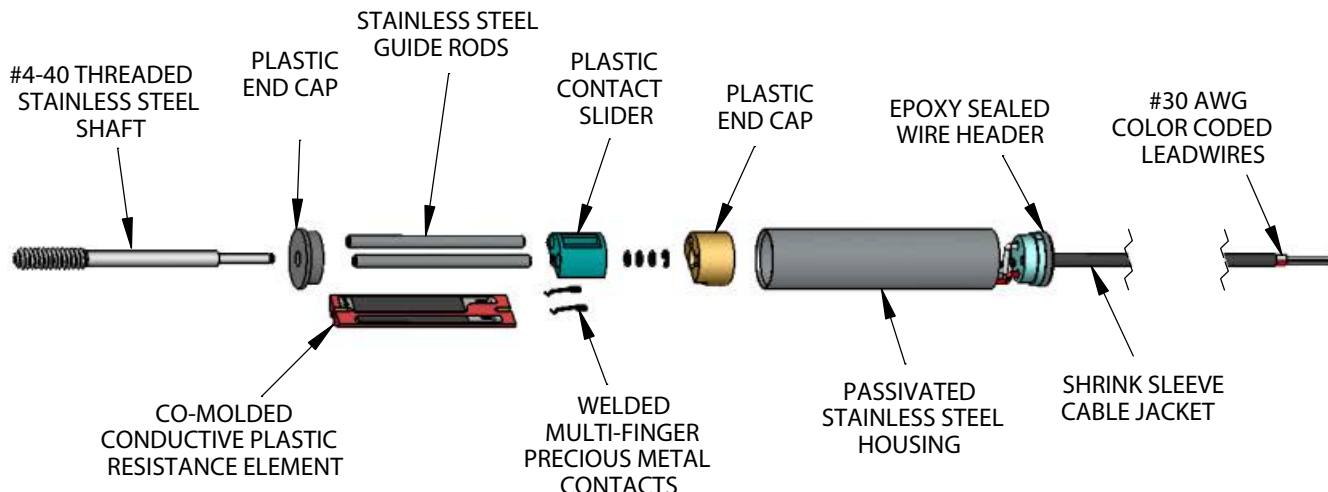
| | |
|-----------------------|--|
| HOUSING: | STAINLESS STEEL (TUBING) |
| SHAFT AND GUIDE RODS: | STAINLESS STEEL |
| RESISTANCE ELEMENT: | CO-MOLDED CONDUCTIVE PLASTIC |
| ELECTRICAL CONTACTS: | MULTI-FINGER PRECIOUS METAL |
| BEARINGS: | VECTRA E130i PLASTIC |
| LEADWIRES / JACKET: | #30 AWG TYPE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

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.

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