



5903 Series

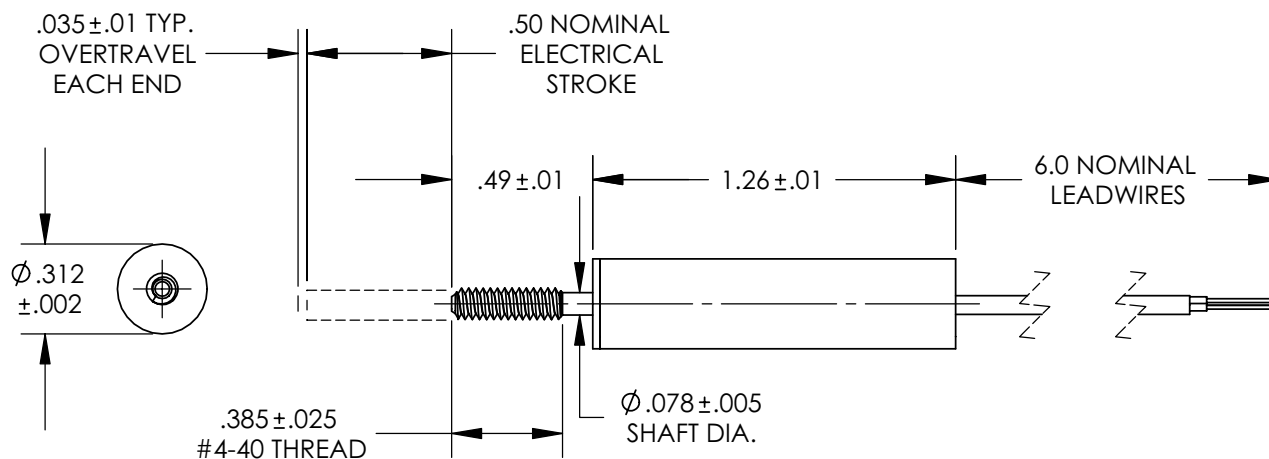
5/16 In. Dia. LINEAR MOTION
PRECISION POTENTIOMETERS
1/2 In. ACTIVE STROKE



STANDARD PRODUCT OFFERING

| SS&C PART NUMBER | RESISTANCE |
|------------------|------------------------|
| 5903-0105-030 | 1K Ω \pm 10% |
| 5903-0505-030 | 5K Ω \pm 10% |
| 5903-1005-030 | 10K Ω \pm 10% |

STANDARD PRODUCTS ALSO AVAILABLE
WITH .75 In., 1.0 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: | 0.50 In. NOMINAL OTHER STROKE LENGTHS AVAILABLE AS NOTED |
| ELECTRICAL CONTINUITY STROKE: | OVER 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: | 0.75 WATT MAX. |
| WIPER CONTACT CURRENT: | 10 MilliAmps MAX. |
| DIELECTRIC STRENGTH: | 1000 VRMS |
| INSULATION RESISTANCE: | 100 Meg Ω MIN. |

STANDARD MODEL MECHANICAL CHARACTERISTICS

| | |
|------------------------|------------------------|
| MECHANICAL STROKE: | 0.570 \pm .020 |
| ACTUATING FORCE: | 0.75 Oz. MAX. |
| SHAFT ROTATION: | CONTINUOUS (NO EFFECT) |
| TOTAL WEIGHT (1-GANG): | 0.70 Oz. MAX. |
| ALLOWABLE SHAFT PLAY: | .005 MAX. MISALIGNMENT |

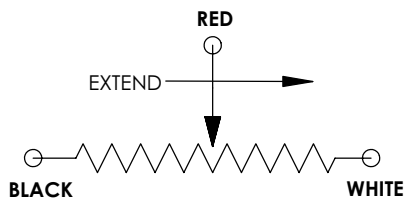
STANDARD ENVIRONMENTAL CHARACTERISTICS

| | |
|------------------------|---------------------------------------|
| OPERATING TEMP. RANGE: | -65 $^{\circ}$ C To +125 $^{\circ}$ 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

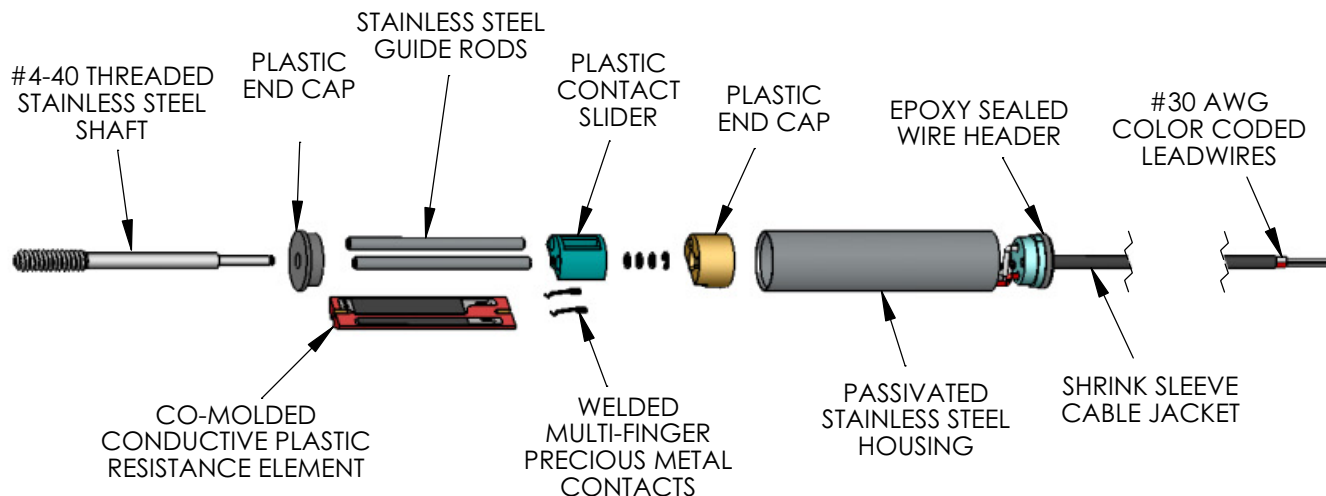


CONTACT:

SPECTRUM SENSORS & CONTROLS, INC.
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E-MAIL: sales@specsensors.com

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: | ± 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 ± 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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