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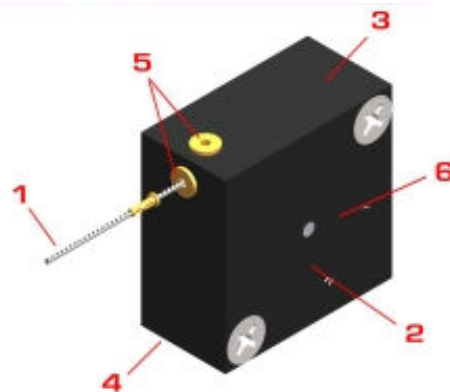
Data Sheet - Series 150 Subminiature Position Transducer

World's Smallest Cable Position Transducer

Shaded characteristics are verified during production and test. All others are for REFERENCE and information only.

Key Features

- 1.5-Inch (38-mm) Maximum Travel
- Analog Signal Using Precision Conductive Plastic Potentiometer
- AccuTrak™ Grooved Drum for Enhanced Repeatability
- Small, Robust Design
- Choice of Displacement Cable Pull Direction
- DirectConnect™ Sensor-To-Drum Technology = Zero Backlash, No Torsion Springs or Clutches



Potentiometer Specifications

| | |
|--------------------------------|--|
| Potentiometer Type | 1-turn, precision, conductive plastic |
| Resistance: Value, Tolerance | 5K ohms, $\pm 10\%$ |
| Travel: Electrical, Mechanical | 340°, 340° min |
| Mechanical Life | 5 million shaft revolutions min |
| Output Signal | analog signal from 0 to supply voltage (voltage divider circuit) |
| Power Rating | 0.75 W at 158° F (70° C) |
| Supply Current | 12 mA max |
| Supply Voltage | 35 VDC max (using voltage divider circuit) |
| Independent Linearity Error | $\pm 1.0\%$ max per VRCI-P-100A |
| Output Smoothness | 0.1% max |
| Insulation Resistance | 1000 Mohms at 500 VDC min |
| Dielectric Strength | 500 VDC min |
| Resolution | infinite signal |
| Operating Temperature | -85° to +257° F (-65° to +125° C) |
| Shock, Vibration | 100 g for 6 ms, 10 to 2000 Hz at 15 g per Mil-R-39023 |
| Temperature Coefficient | ± 400 ppm/°C max |

Other Specifications

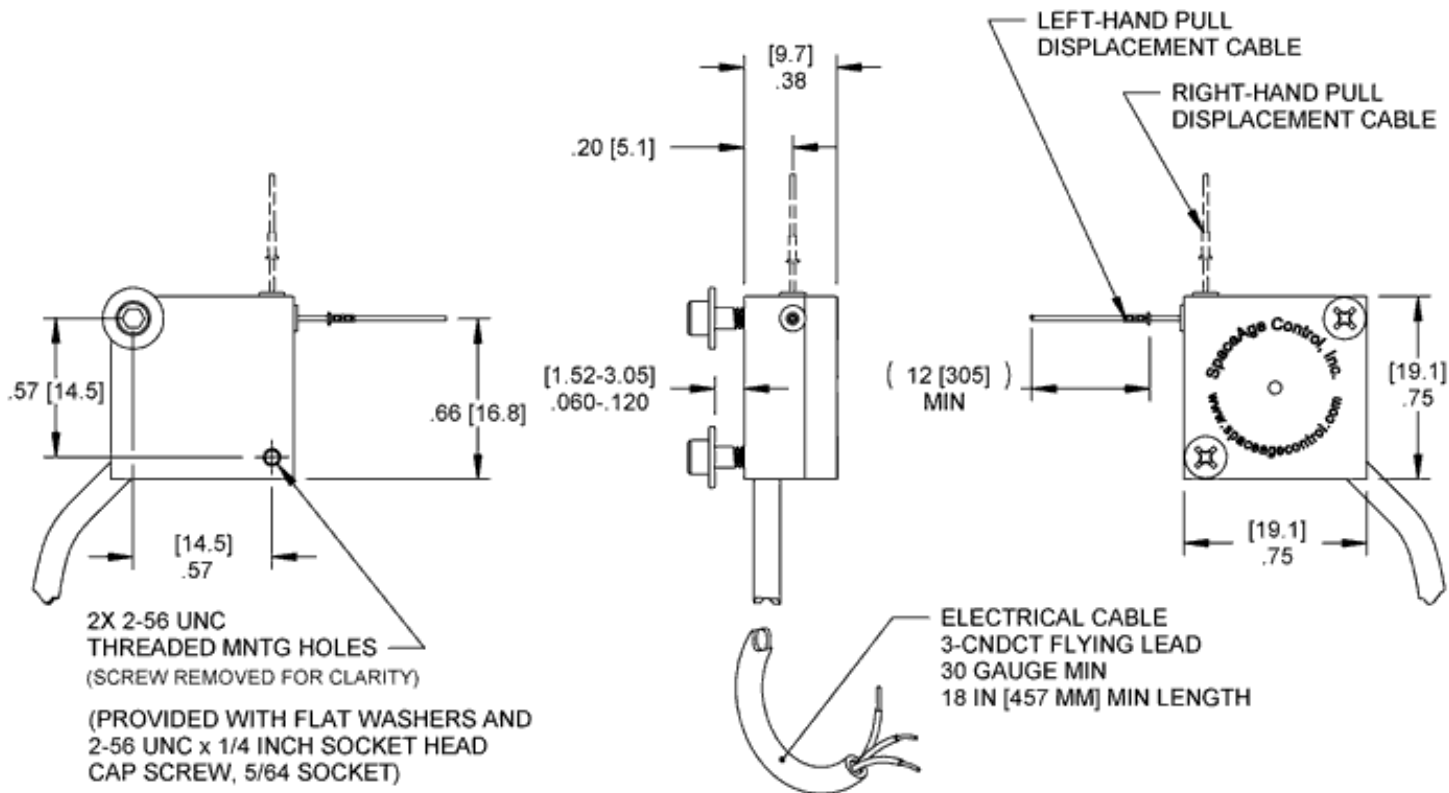
| | |
|---|---|
| Case Materials | precision-machined anodized 2024 aluminum |
| Displacement Cable | 0.018-inch (0.46-mm) dia., 7-by-7 stranded stainless steel, 40-lb (177-N) min breaking strength |
| Displacement Cable Hardware | 1 each of 300196 loop sleeve , 300292 copper sleeve , 300688 ball-end plug , 300495 pull ring , 160026 brass swivel , and 301003 nickel swivel ; all items provided uncrimped |
| Nominal Mass | 0.5 oz (15.0 g) |
| Displacement Cable Tension and Cable Acceleration (Nominal): Opt. 1 | 1 oz 0.3 N min 6 oz 1.7 N max 29 g max |
| Displacement Cable Tension and Cable Acceleration (Nominal): Opt. 2 | 3 oz 0.8 N min 14 oz 3.9 N max 49 g max |
| Environmental Protection | NEMA 3S / IP 54; DO-160D (ED-14D) Env. Cat. E1E1ABXHFDXSAXXXXXXXXXXX |

Model Numbers and Ordering Codes

| | |
|---|---|
| 150-0121-abc | position transducer (1.50-inch (38-mm) range) |
| Example: 150-0121-L2N (left-hand displacement cable pull, cable tension: -020, no base) | |

| <i>Variable</i> | <i>Value</i> | <i>Description</i> |
|-----------------|--------------|------------------------------------|
| a | L | left-hand displacement cable pull |
| | R | right-hand displacement cable pull |
| b | 1 | cable tension: -010 |
| | 2 | cable tension: -020 |
| c | N | no base |
| | B | base: L; pn 150015 |

Drawing



| Electrical Connection for Increasing Output with Displacement Cable Extraction | | |
|--|---|--|
| <i>Left-Hand Pull</i> black white red | <i>Right-Hand Pull</i> red white black | <i>Signal</i> input, V+ output, signal, S+ ground, common, V-, S- |

For crimping of hardware to displacement cable, consider the [160001-01 installation kit](#).

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All dimensions are REFERENCE and are in inches [mm] • Data Sheet Series 150 Rev. -

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