

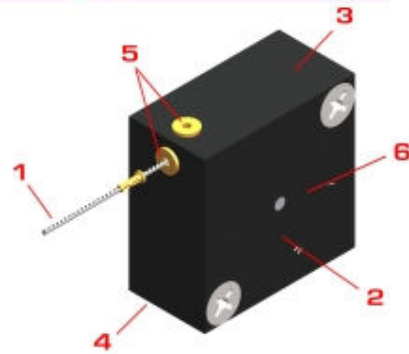
Series 150 Subminiature Position Transducer



World's Smallest Cable Position Transducer

Key Features

1. 1.5-Inch (38-mm) Maximum Travel
2. Analog Signal Using Precision Conductive Plastic Potentiometer
3. AccuTrak™ Grooved Drum for Enhanced Repeatability
4. Small, Robust Design
5. Choice of Displacement Cable Pull Direction
6. 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

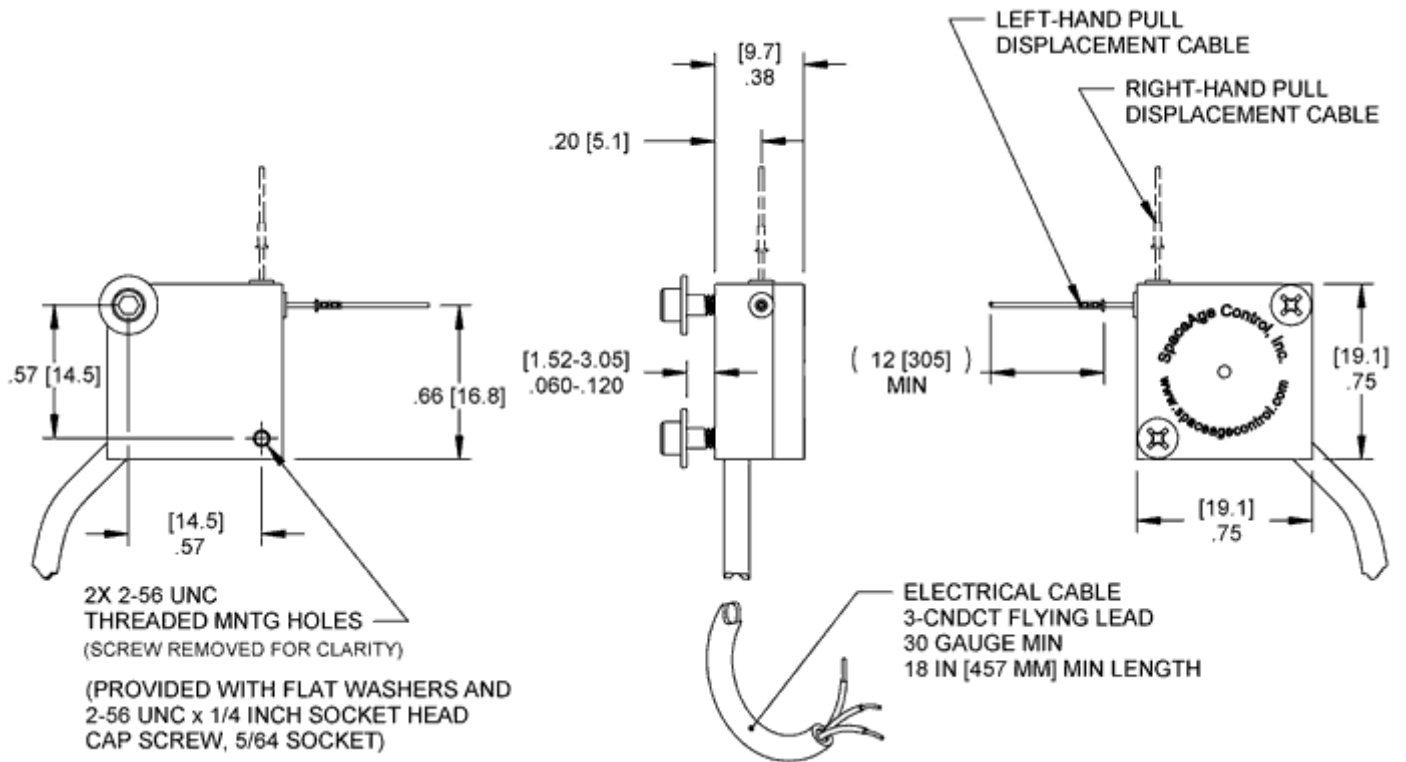
Case Materials	precision-machined anodized 2024 aluminum
Displacement Cable	0.018-inch (0.46-mm) dia., 7-by-7 stranded stainless steel, 40-lb (177-N) min breaking strength
Displacement Cable Hardware	1 each of 300196 loop sleeve , 300292 copper sleeve , 300688 ball-end plug , 300495 pull ring , 160026 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. E1E1ABXHFXDXXSAXXXXXXXXXXX

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)	

Variable	Value	Description
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		
Left-Hand Pull black white red	Right-Hand Pull red white black	Signal input, V+ output, signal, S+ ground, common, V-, S-

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

All dimensions are REFERENCE and are in inches [mm] • Data Sheet Series 150 Rev. -Semi-custom part numbers are indicated by an extra variable, (-X) at the end of the part number. Example: 150-0121-abc-x.

The -x indicates a semi-custom unit.

The information in this datasheet has been carefully reviewed and is believed to be accurate, however no responsibility is assumed for inaccuracies. Strainsense Limited reserves the right to make changes without further notice to any product herein and makes no warranty or guarantee regarding the suitability of its product for any particular purpose. Strainsense Limited does not assume any liability arising out of the application or use of any product or circuit and specifically disclaims any liability including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications and the operating parameters must be validated by the customer's technical experts. Strainsense Limited does not convey any license or rights from the manufacturer or others.