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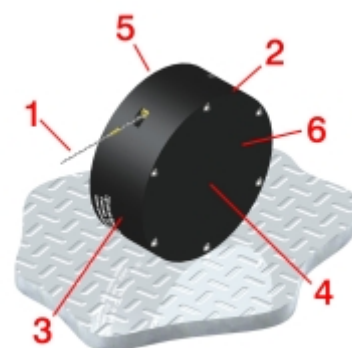
Data Sheet - Model 174-0321T High-Frequency-Response Position Transducer

For Crash Test, Impact Testing, and High-Acceleration Applications

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

Key Features

1. 4-Inch (102-mm) Maximum Travel
2. Analog Signal Using Precision Conductive Plastic Potentiometer
3. AccuTrak™ Grooved Drum for Enhanced Repeatability and Longer Cable Life
4. Bearing-Mounted Rotating Components
5. High-Tension Displacement Cable
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	100 million shaft revolutions min
Output Signal	analog signal from 0 to supply voltage (voltage divider circuit)
Power Rating	1.0 W at 158° F (70° C)
Supply Current	12 mA max
Supply Voltage	35 VDC max (using voltage divider circuit)
Independent Linearity Error	$\pm 0.5\%$ max per VRCI-P-100A
Output Smoothness	0.1% max
Insulation Resistance	1000 Mohms at 500 VDC min
Dielectric Strength	1000 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
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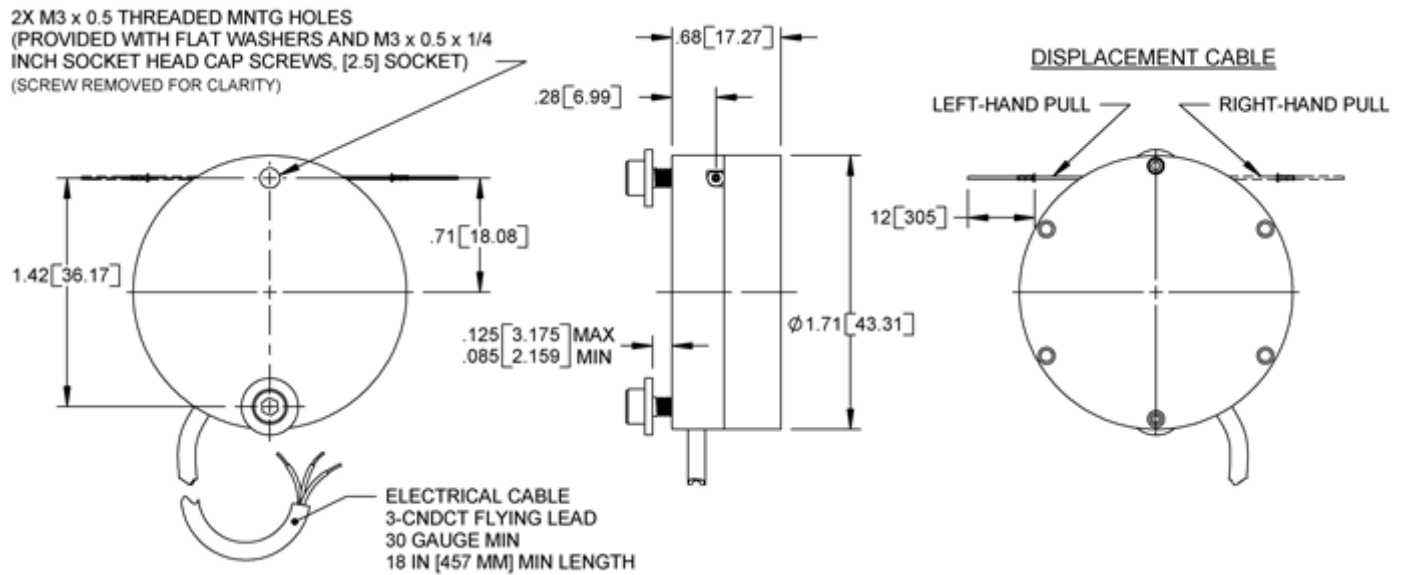
Displacement Cable	0.024-inch (0.61-mm) dia., 7-by-7 stranded stainless steel, 70-lb (311-N) min breaking strength
Displacement Cable Hardware	1 each of 300196 loop sleeve , 300292 copper sleeve , 160032 copper sleeve , 300688 ball-end plug , 300495 pull ring , and 301003 nickel swivel ; all items provided uncrimped
Nominal Mass	3 oz (85 g)
Displacement Cable Tension (Nominal)	56 oz (15.5 N) min
Cable Acceleration (Nominal)	50 g's max
Environmental Protection	NEMA 3S / IP 54, DO-160D (ED-14D) Env. Cat. E1E1ABSHXFDXSAXXXXXXXXXXX

Model Numbers and Ordering Codes

174-0321Ta	position transducer (4.00-inch (102-mm) range)
Example: 174-0321T (left-hand displacement cable pull)	

Variable	Value	Description
a	-	left-hand displacement cable pull
	R	right-hand displacement cable pull

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

Need something not shown? Complete a [Custom Solution Request](#).

All dimensions are REFERENCE and are in inches [mm] • Data Sheet Model 174-0321T Rev. -
Semi-custom part numbers are indicated by an extra variable, (-X) at the end of the part number.

Example: 174-0321T-a-x. The -x indicates a semi-custom unit. The product definition and build data are defined in the "Special Instruction" section of the Job Traveler.

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