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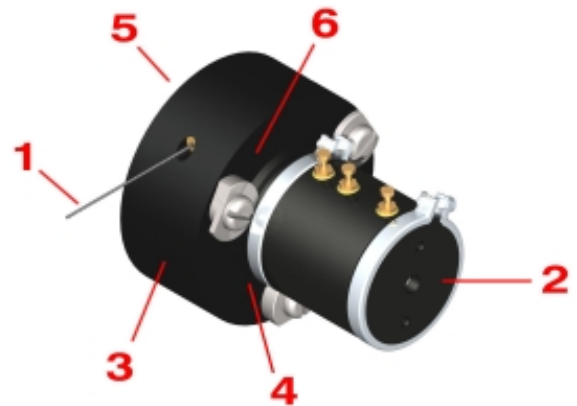
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Data Sheet - Model 180-0803 Analog-Output Subminiature Position Transducer with Extended Range

Analog-Output Subminiature Position Transducer with Extended Range

Key Features

- 10.0-inch (254-mm) Maximum Travel
- Analog Signal Using Precision Hybrid Potentiometer
- AccuTrak™ Threaded Drum for Enhanced Repeatability
- Bearing-Mounted Rotating Components
- Optional Flexible Mounting Base
- DirectConnect™ Sensor-To-Drum Technology = Zero Backlash, No Torsion Springs or Clutches



Potentiometer Specifications

Potentiometer Type	3-turn, precision, hybrid
Resistance: Value, Tolerance	5K ohms, $\pm 5\%$
Travel: Electrical, Mechanical	1080°, 1080° +10° -0°
Mechanical Life	5 million shaft revolutions min
Output Signal	analog signal from 0 to supply voltage (voltage divider circuit)
Power Rating	1.5 W at 122° F (50° C)
Supply Current	12 mA max
Supply Voltage	35 VDC (using voltage divider circuit) max
Independent Linearity Error	$\pm 0.5\%$ max per VRCl-P-100A
Output Smoothness	0.5% max
Insulation Resistance	1000 Mohms at 500 VDC min
Dielectric Strength	1000 VDC min
Resolution	infinite signal
Operating Temperature	-67° to 257° F (-55° to +125° C)
Shock	100 g for 6 ms
Vibration	10 to 2000 Hz at 15 g per Mil-R-39023
Temperature Coefficient	$\pm 0.007\%/^{\circ}\text{C}$ max

Other Specifications

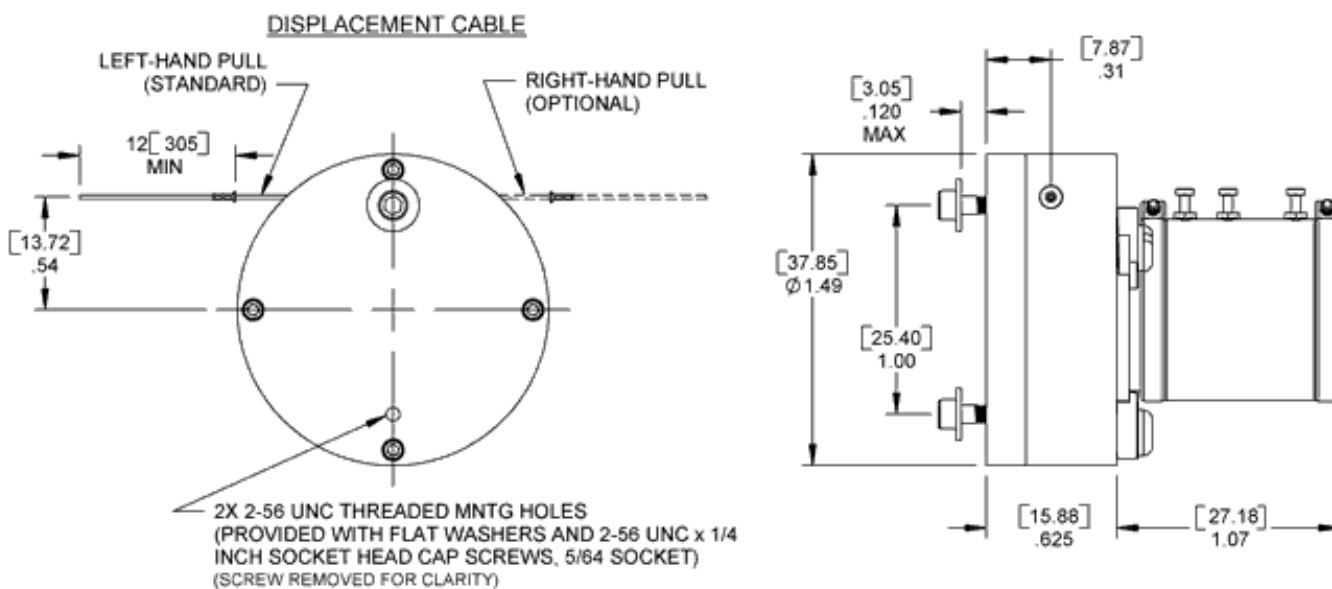
Case Materials	precision-machined anodized 2024 aluminum		
Displacement Cable	0.018-inch (0.46-mm) dia., 7-by-7 stranded stainless steel, 40-lb (177-N) min breaking strength		
Displacement Cable Hardware	1 each of 300196 loop sleeve , 300292 copper sleeve , 300688 ball-end plug , 300495 pull ring , 160026 brass swivel , and 301003 nickel swivel ; all items provided uncrimped		
Electrical Connections	Three solder terminals. Electrical cable and connectors options available.		
Nominal Mass	2 oz (57 g)		
Displacement Cable Tension and max Cable Acceleration (Nominal)	3 oz.	0.8 N	min
	14 oz.	3.9 N	max 9 g's max
Environmental Protection	NEMA 3S / IP 54, DO-160D (ED-14D) Env. Cat. E1E1ABSHXFDXSAXXXXXXXXXXX		

Model Numbers and Ordering Codes

180-0803-ab	position transducer (10.00-inch (254-mm) range)
Example: 180-0803-LN (left-hand displacement cable pull, no base)	

Variable	Value	Description
a	L	left-hand displacement cable pull
	R	right-hand displacement cable pull
b	N	no base
	C	base: L; pn 173015

Drawing



Electrical Connection for Increasing Output with Displacement Cable Extraction

<i>Left-Hand Pull</i> CCW S CW	<i>Right-Hand Pull</i> CW S CCW	<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](#).

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All dimensions are REFERENCE and are in inches [mm] Document number:S021L(040129)

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