

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

Analog-Output Subminiature Position Transducer with Extended Range

Key Features

1. 10.0-inch (254-mm) Maximum Travel
2. Analog Signal Using Precision Hybrid Potentiometer
3. AccuTrak™ Threaded Drum for Enhanced Repeatability
4. Bearing-Mounted Rotating Components
5. Optional Flexible Mounting Base
6. DirectConnect™ Sensor-To-Drum Technology = Zero Backlash, No Torsion Springs or Clutches



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

Potentiometer Specifications

Potentiometer Type	3-turn, precision, hybrid
Resistance: Value, Tolerance	5K ohms, ±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	±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	±0.007%/°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
Environmental Protection	NEMA 3S / IP 54, DO-160D (ED-14D) Env. Cat. E1E1ABSHXFDXSAXXXXXXXXXXX		

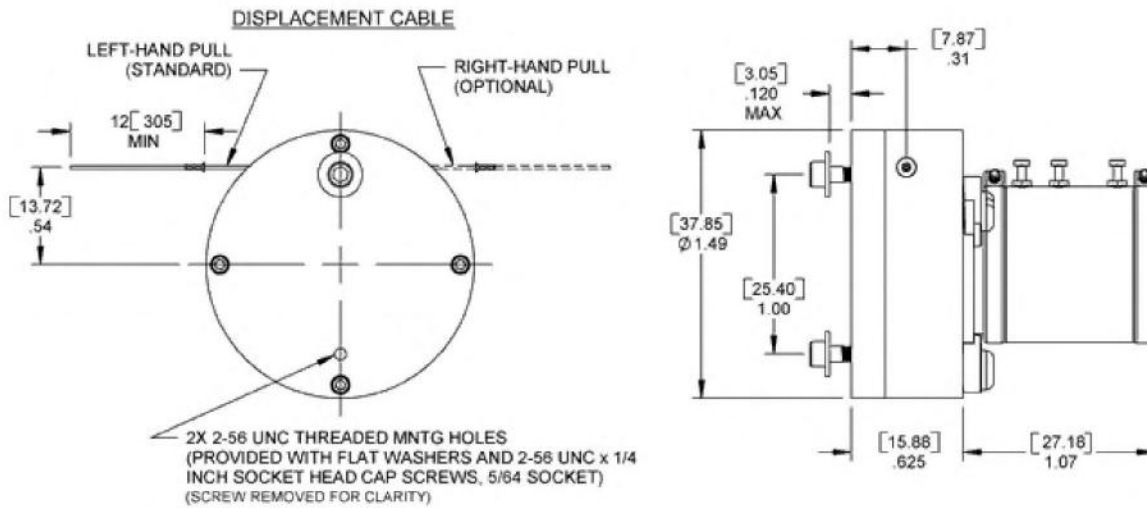
Model Numbers and Ordering Codes

180-0803-ab	position transducer (10.00-inch (254-mm) range)
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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

Left-Hand Pull	Right-Hand Pull	Signal
CCW	CW	input, V+
S	S	output, signal, S+
CW	CCW	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 180 - Rev -