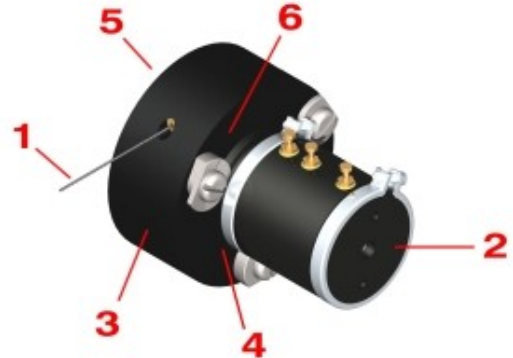


# Data Sheet – Model 180–0803 Analog–Output Subminiature Position Transducer with Extended Range

## 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



### 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

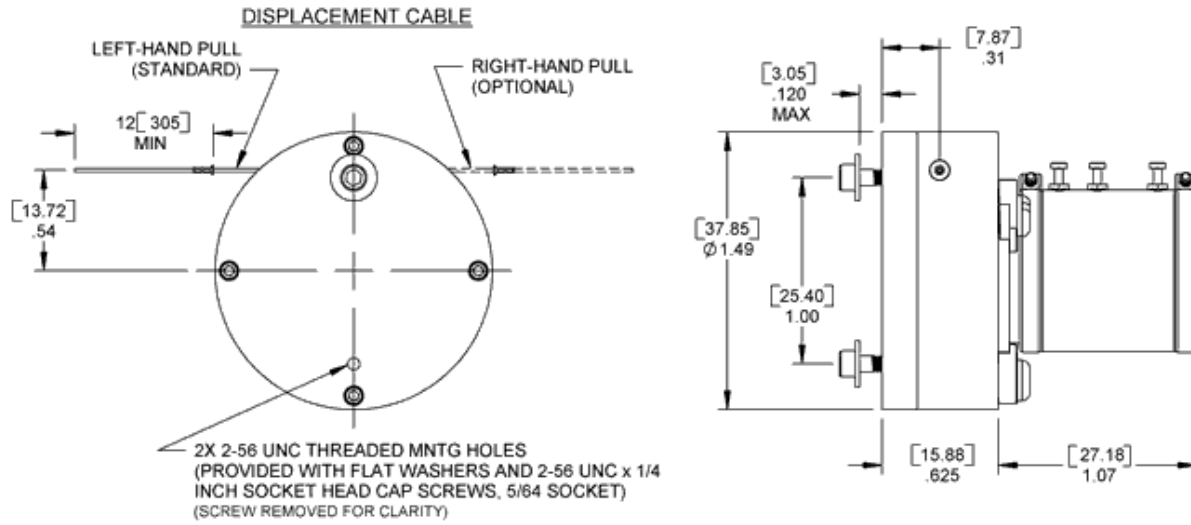
Case Materials	precision–machined anodized 2024 aluminum		
Displacement Cable	0.018–inch (0.46–mm) dia., 7–by–7 stranded stainless steel, 40–lb (177–N) min breaking strength		
Displacement Cable Hardware	1 each of 300196 loop sleeve, 300292 copper sleeve, 300688 ball–end plug, 300495 pull ring, 160026 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 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 <a href="#">173015</a>

### 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](#).

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