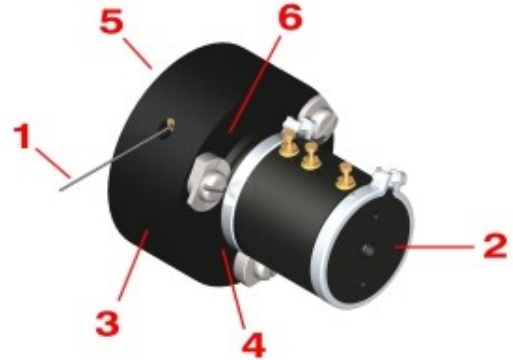


Data Sheet – Model 180–0803 Analog–Output Subminiature Position Transducer with Extended Range

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

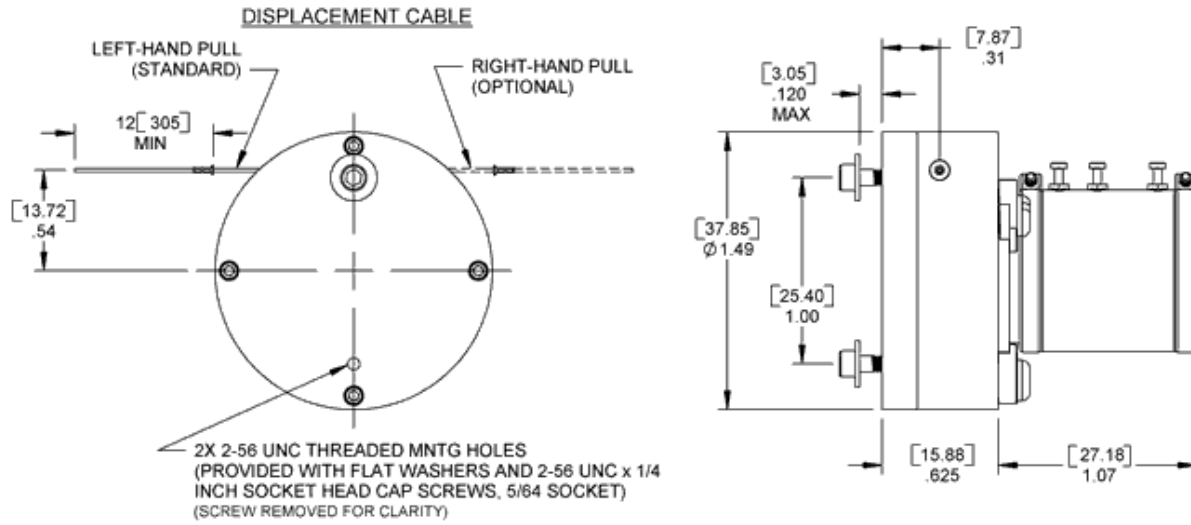
Case Materials	precision–machined anodized 2024 aluminum						
Displacement Cable	0.018–inch (0.46–mm) dia., 7–by–7 stranded stainless steel, 40–lb (177–N) min breaking strength						
Displacement Cable Hardware	1 each of 300196 loop sleeve, 300292 copper sleeve, 300688 ball–end plug, 300495 pull ring, 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)	<table border="0" style="width: 100%;"> <tr> <td style="width: 33%;">3 oz.</td> <td style="width: 33%;">0.8 N</td> <td style="width: 33%;">min</td> </tr> <tr> <td>14 oz.</td> <td>3.9 N</td> <td>max</td> </tr> </table>	3 oz.	0.8 N	min	14 oz.	3.9 N	max
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)
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

<p><i>Left-Hand Pull</i> CCW S CW</p>	<p><i>Right-Hand Pull</i> CW S CCW</p>	<p><i>Signal</i> input, V+ output, signal, S+ ground, common, V-, S-</p>
--	---	---

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)