PTL-TSD LVDT Probe



Specifications

Ultra-long service life

Repeatability 0.01% FS

Dual-shielded LVDT

Flexible cable, resistant to chemicals

Optional electrical connectors

Features

- All stainless steel housing
- Measuring range 0~40 mm selectable
- Linearity ±0.25%
- Shock and vibration resistant
- Wide temperature range, -25°C to 85°C
- External spring return mechanism
- Precision bearing return mechanism, smooth sliding, no sticking, minimal wear
- Integral mounting thread, easy to install
- Innovative winding design for short body length
- Built-in conditioner with analog output
- Internal shielding for strong anti-interference

The PTL-TSD is a dimensional measurement probe based on the Linear Variable Differential Transformer (LVDT) principle. It outputs a highly repeatable voltage proportional to displacement for high-precision, high-repeatability measurement in quality control and metrology applications.

The core and windings have no mechanical contact, ensuring a very long service life. The PTL-TSD's unique two-piece design allows the probe body and the cable to be repaired separately.

Environmental Parameters

Operating temperature: -25°C ~ 85°C

Temperature drift: <0.05%

Shock: 1000 g, 11 ms

Vibration: 20 g, 20 KHz

Applications

- In-line inspection of automotive parts
- CNC machining process verification
- Dimensional inspection of precision parts
- Manufacturing process condition monitoring
- Automatic factory SPC data collection
- Robotics
- Material deformation testing
- Food processing
- Servo valve signal feedback

Material Parameters

Housing: corrosion-resistant iron-nickel alloy

Core: high-stability nickel-iron alloy

Winding: ceramic quartz / plastic

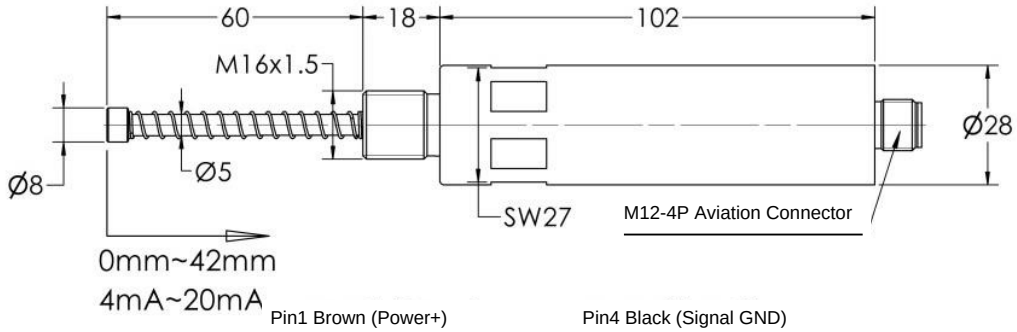
Magnet wire: coated copper wire

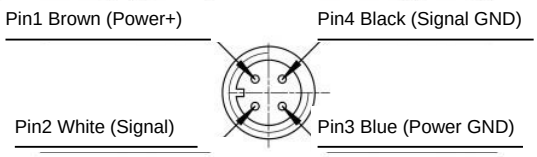
Electrical connection: M12 aviation connector

Performance Specifications

Parameter	PTL-TSD-10	PTL-TSD -20	PTL-TSD -30	PTL-TSD -40
Range (mm)	±5	± 10	±15	±20
Response Freq. (Hz)	50	50	50	50
Operating Pressure (MPa)	10	10	10	10
Protection Rating	IP68	IP68	IP68	IP68
Vibration	20g@2000Hz	20g@2000Hz	20g@2000Hz	20g@2000Hz
Shock Resistance	1000g@11ms	1000g@11ms	1000g@11ms	1000g@11ms
Return Life	>10 million cycles	>10 million cycles	>10 million cycles	>10 million cycles
Input Voltage	9~28VDC	9~28VDC	9~28VDC	9~28VDC

Dimensions and Wiring





M12 Connector Pin Definition

Ordering Information

PTL-TSD	-XXX	-XXXX
Analog Output LVDT	Range	Signal
	-010	-005V: 0~5VDC
	-020	-010V: 0~10VDC
	-030	-0210: 2~10VDC
	-040	-420E: 4-20mA
		-PN05: ±5V
		-PN10: ±10V

Notes:

- Electrical specifications based on 3 KHz excitation frequency
- For more options, consult the factory for customization

Warranty

KMBT products are warranted for one year from the date of shipment. Warranty does not cover product misuse; however, paid repair service is available.

Contact Information

sales@kmbigtree.com
www.kmbigtree.com