

MDL44

Ultrahigh Precision Spring Loaded LVDT Displacement Sensor

MeasureX

Features

- Repeatability of better than 1µm
- Miniature Size (8mm Diameter)
- Option for AC or DC output
- High quality external signal conditioner
- Measurement range of up to 8mm



Description

MDL44 series with stainless steel sensor rod is a rugged miniature linear variable differential transformer (LVDT) technology based displacement sensor with an external amplifier suitable for dynamic automation and research applications. In addition to having low hysteresis and excellent repeatability it offers great flexibility and reliability for a wide range of applications with highly competitive pricing.

MDL44 is available in displacement ranges from 0-2mm to 0-8mm with an output of AC or DC analogue (mA or V). It is suitable for displacement measurement for industrial applications that demand high accuracy. While the standard non linearity is 0.25% FS, you can optionally get non linearity of 0.1% FS as an option. The robust construction of MDL44 with its high performance makes it ideal for demanding long term industrial and research applications such as power turbines, hydraulics, aircraft, satellites and many others. This 8mm diameter miniature type displacement gauge offers ultra-precise measurement of dimensions in a wide variety of Q.C, SPC and industrial metrology applications. The probe head is made of zirconia which is abrasion resistant, provides highest level of durability and wear resistant for long term applications.

Applications

- Automation
- Power turbines and Nuclear reactors
- Ultrahigh Precision displacement gauging
- Aerospace, automotive and rail
- Robotic Gauging
- Flatness, roundness, cylindricity, concentricity and runout measurement
- Gas assembly line inspection
- Inspection and quality control systems

Technical Specifications

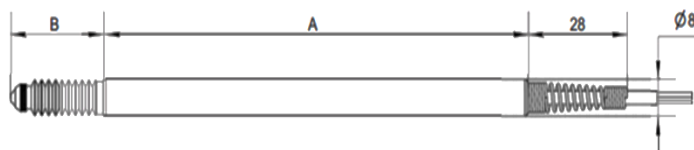
- **Ranges:** 0 -2 to 0-8mm
- **Output:** AC (with 3Vrms power supply)
DC: 4-20mA, 0/10V, 0/5V
(with 24VDC ±20% power supply)
- **Nonlinearity:** ±0.25% FS, ±0.1% FS(optional)
- **Mechanical Repeatability:** ≤ 1µm
- **Frequency response:** 10Hz
- **Resolution:** ≤ 0.01µm
- **Body material:** SS304
- **Operating temp. range:** -10 to +65°C
- **Temp. coefficient of zero:** ≤ 0.01% FS/°C
- **Temp. coefficient of span:** ≤ 0.025% FS /°C
- **Load resistance (4/20mA output):** 500Ω at 24VDC input
- **Mounting block:** available as option
- **Electrical connection:** 1m cable with option of pin connection between sensor and amplifier and selectable length for 2 or 3-wire cable from the amplifier

MDL44

Ultrahigh Precision Spring Loaded LVDT Displacement Sensor

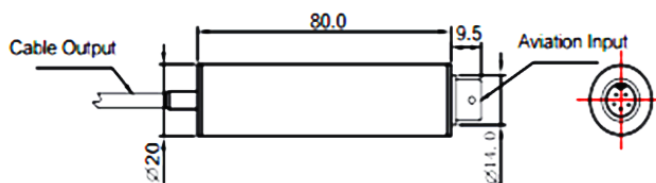
MeasureX

Dimensions

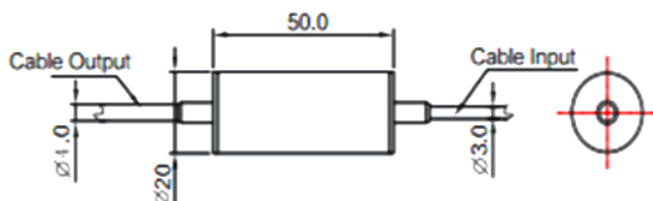


MDL44 sensor body dimension

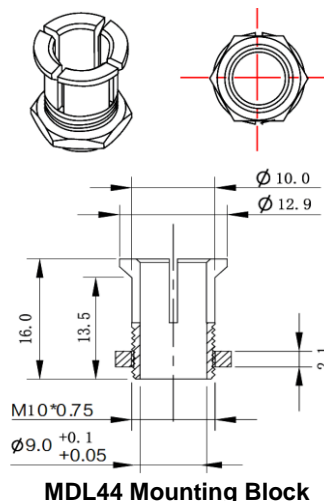
Measurement Range (mm)	2	5	8
A	65.5	115	121
B	19.6	23.3	30.3



MDL44 amplifier with pin connection



MDL44 amplifier with cable connection



MDL44 Mounting Block

Wiring Diagram (for voltage output)

Power+: Red
 Power- : Black
 Signal+: Blue
 SHIELD:



Ordering Code

MDL44				
	Range	2, 5, 8 mm (or other ranges on request)		
		Nonlinearity		
		0.25%	0.1%(optional)	
		Output Signal		
		4/20mA (current)	0/5V (Voltage)	
		0/10V (voltage)	± 5V (Voltage)	
		±10V (Voltage)	AC	
		Electrical Connection (sensor to amplifier/ amplifier to logger)		
		1m/1m		
		1m/pin/1m		
		others		
MDL44	5mm	0.25%	4/20mA	1m/1m

- o Note: All specifications are subject to change without prior notice
- o Mounting block is available as an option for this product. Please specify in your order if required.

Ver. 4.1-17/05