

# MDL41

## Core Separated DC LVDT Displacement Sensor

**MeasureX**

### Features

- High Accuracy Non-contact Sensing Technology
- Measurement Range of 2.5mm to 500mm
- Compact and Rugged Model Suitable for Displacement, Position, Stroke and Thickness Measurement
- Absolute Displacement Output



### Description

MDL41 series with stainless steel sensor rod is a rugged linear variable differential transformer (LVDT) technology based displacement sensor with hermitically sealed integrated circuit (IP67) for harsh dynamic environments. This compact sensor offers great flexibility and reliability for a wide range of applications with highly competitive pricing.



MDL41 is available in displacement ranges from 2.5 to 500mm with an output of mA or V without requirement of any additional signal conditioner (digital and wireless outputs are available as well, for high quantity applications). It is suitable for displacement measurement for industrial applications that demand high accuracy. While the standard Precision is 0.5% FS, you can optionally get a precision of 0.25% FS. The robust construction of MDL41 with its high performance makes it ideal for demanding long term industrial applications such as tolerance control systems and automation systems. MDL41 is equipped with extension rod with flexible thread size and length based on your request. Non-conductive mounting block is optionally available for fast and easy installation.

### Applications

- Automation
- Hydraulic cylinder positioning
- Construction and mining industry
- Aerospace, automotive and rail
- Gap and tolerance control systems
- Industrial machinery positioning
- Valve position control
- Inspection and quality control systems

### Technical Specifications

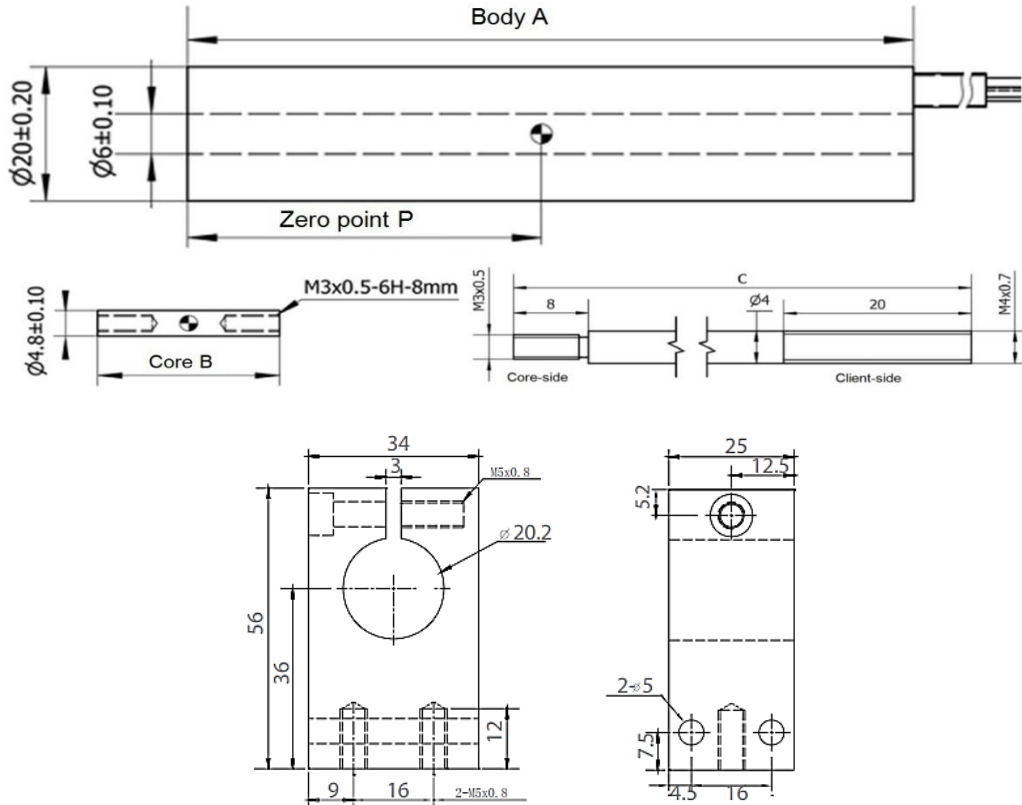
- **Ranges:** 2.5 to 500mm
- **Output:** 4/20mA (15~28VDC input)  
0/10V (15~28VDC input)  
0/5VDC (9~28VDC  $\pm 20\%$  input)  
0.5/4.5VDC (5VDC input)  
RS485 (9~12VDC input)
- **Current consumption:**  $\leq 10\text{mA}$  for VDC output
- **Nonlinearity:**  $\pm 0.5\%$  FS (standard),  $\pm 0.25\%$  FS (0.25% only for range less than 100mm)
- **Mechanical Repeatability:**  $\leq 0.01\%$  FS
- **Frequency response:** 250Hz
- **Noise Level (Ripple):**  $< 15\text{mVrms}$  or  $25\mu\text{Arms}$
- **Operating temp. range:** -20 to +85°C
- **Temp. coefficient of zero:**  $\leq 0.01\%$  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:** 2 or 3-wire shielded cable
- **Body material:** SS304
- **Core extension rod material:** non-magnetic SS304 or SS304L
- **Protection level:** IP67

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### Dimensions



MDL41 and Mounting block dimension

Table 1: Sensor dimension

Measuring range (mm)	2.5	5	10	15	25	50	100	250	500
Body A	80	90	110	130	170	210	290	498	800
Core B	20	30	40	50	70	80	120	150	180
Zero point P	21	26	36	46	66	86	126	230	381
Extension rod C	58	58	68	78	98	128	168	346	618

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

### Ordering Code

MDL41				
Range	2.5, 5, 10, 15, 25, 50, 100, 250, 500mm			
Nonlinearity	0.5%		0.25%(only for range less than 100mm)	
	Output Signal			
Electrical Connection	4/20mA		0/5V volts	
	0/10V volts		RS485	
1m Cable				
MDL41	25mm	0.5%	4/20mA	1m

**Note:** All specifications are subject to change without prior notice

Mounting block is available as an option for this product.

\*\*The default Non linearity whose stroke range is 100,250,500mm is 0.5% F.S\*\*

Ver. 5.5-18/04