

VTR SERIES

SPRING LOADED LVDT DISPLACEMENT SENSOR

FEATURES

- ⊙ Spring loaded
- ⊙ Compact $\Phi 20$ mm stainless steel housing
- ⊙ Built-in high-performance demodulator
- ⊙ Reliable under harsh conditions (moisture, dust)
- ⊙ Non-contact design, wear-free, long service life



INTRODUCTION

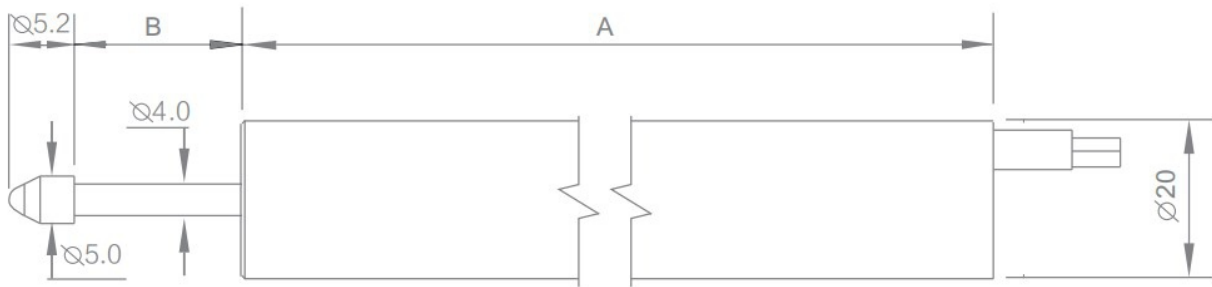
The VTR Series LVDT Displacement Sensor is a high-precision linear measurement solution for industrial and research applications. Based on the Linear Variable Differential Transformer (LVDT) principle, it is designed to measure elongation, vibration, thickness, and expansion with outstanding accuracy and stability. Widely used in aerospace, machinery, construction, textiles, railways, mining, metallurgy, plastics, chemicals, and academic research, it ensures reliable performance even in demanding environments.

The VTR Series adopts a DC single power supply (9–28V) design, with electronics sealed inside a 304 stainless steel housing. It provides standard output signals of 0–5V, 0–10V, or 4–20mA, making it directly compatible with PLCs and computer systems.

SPECIFICATIONS

Power supply	9 ~28V DC (0~5V, RS485) 15~28V DC (4 ~20mA, 0 ~10V)
Stroke	2.5, 5, 10, 15, 25, 50, 100mm
Output signal	4 ~20mA, 0 ~10V, 0~5V, RS485
Working current	Current of voltage output: $\leq 12\text{mA}$ 2-wire current output of 4~20mA: 4~20mA
Linearity error	Analog Output $\pm 0.25\%$, $\pm 0.5\%$ Optional Digital Output: 0.25%, 0.1% Optional
Temperature coefficient	Zero point $\leq 0.01\% \text{F.S} / ^\circ\text{C}$ Sensitivity $\leq 0.025\% \text{F.S} / ^\circ\text{C}$
Working temp.	$-25^\circ\text{C} \sim +85^\circ\text{C}$
Repeatability	$\leq 0.1\mu\text{m}(\text{Max})$, 16 bit for Digital Output
Dynamical Property	5Hz(Max.)

DRAWING



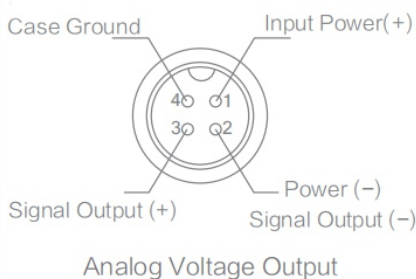
Range(mm)	2.5	5	10	15	25	50	100
Housing length(A mm)	106	116	136	156	196	236	346
Probe length (B mm)	5	8	15	22	34	60	115

Default setting: Output increases as probe moves toward cable outlet

ELECTRICAL CONNECTION

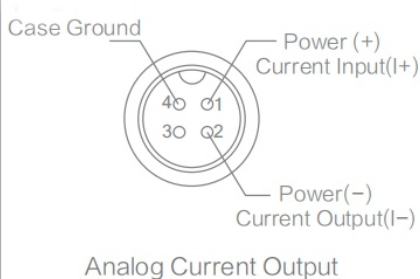
Cable colors

Red Power (+)
Black Power (-) Signal Output (-)
Blue Signal Output (+)



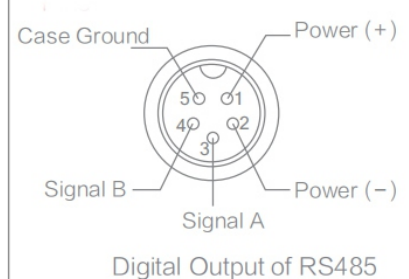
Cable colors

Red Power (+) Current Input (I+)
Black Power (-) Current Output (I-)

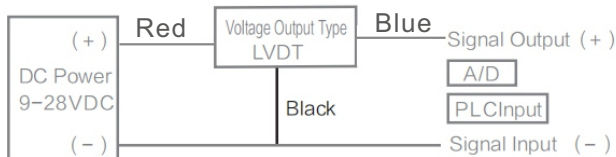


Cable colors

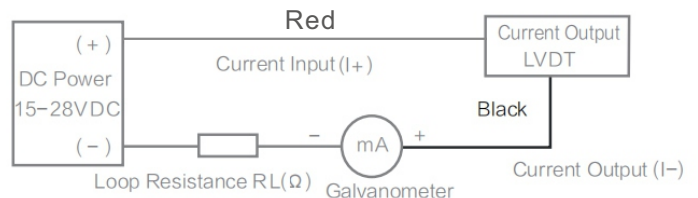
Red Power (+)
Black Power (-)
Blue Signal A
White Signal B



• Circuit of 2-wire Voltage Output Type



• Circuit of 2-wire Current Output Type



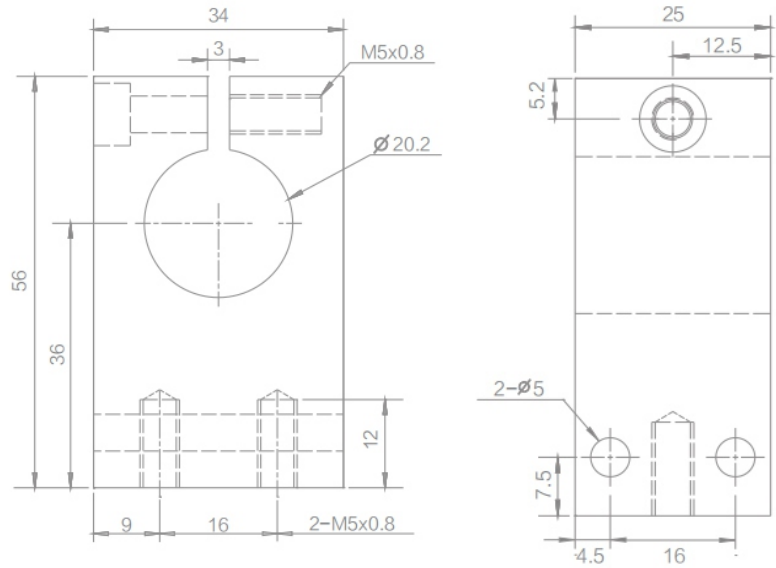
• Circuit of 2-wire PLC Type:



INSTALLATION



Installation: Use non-metallic clamps with low thermal expansion to avoid performance impact.
Standard and custom fixtures available.



ORDER FORMAT

VTR - M - 5 - C2 - F1

Accuracy Code

0.25%	H
0.5%	M
1%	E
3%	L
0.1%(Digital output only)	C

Range Code

2.5mm	2.5
5mm	5
10mm	10
15mm	15
25mm	25
50mm	50
100mm	100

Electrical connection Code

Cable leads with 1m	F1
Cable leads with 2m	F2
Cable leads with 2m	F3
Connector type	C

Output signal Code

4-20mA	C2
0-10V	V1
0-5V	V2
Modbus RTU	M1
Modbus ASCII	M2