

SDVB Series

■ General Purpose LVDT

The new generation LVDT SBD20 has been designed to sensor displacement, oscillation, thickness variation of workpiece. It is intended for widely application in aerospace, machinery, construction, textile, railway, coal mine, metallurgy, plastic, chemical industry and academic research.

The spring-loaded DC-LVDT performs excellently with a maximum measuring range of 50mm maximum resilience of 200 gram. It operates from a single-ended 9-28 DC power supply, output standard signal of 0-5 DC or 4-20 mA to be identified by computer or PLC. The sensor probe shaft is constructed entirely of anti-friction chromium tool steel, and electrical circuit is rugged hermetically sealed in SUS 304 stainless steel sleeve to resist hostile environment of damp and dust, etc.

■ Features

- Diameter Φ 20mm, SUS 304, Spring-loaded.
- Operated from single-ended, 9-28 VDC supply, built-in excellent signal demodulator
- Output voltage 0-5V or 0-10V(3 wire), output current 4-20 mA (2 wire)
- Standard range from 1mm-50mm, high resolution, excellent repeatability
- Contactless operation, long life.

■ Applications

- Axial/Radial pulsation measurement
- Valve Position Sensing
- Gap controlling in rolling mill
- Fabricated Metal Products Gaging



Spring-loaded DC-LVDT Displacement Sensors

SDVB Series

■ Specifications

Input Voltage	DC 9V-28V, AC 5V
Input Current	input current $\leq 10\text{mA}$ (Voltage output type)
	input current 4-20mA (2 wire, Current output type)
Measuring stroke	0~2.5mm to 0~500mm Wide Selection of Measurement Ranges
Output signal	0.5-4.5VDC(5V DC input voltage)
	0-5VDC(9V-28V DC input voltage)
	0-10VDC(15V-28V DC input voltage)
	4-20 mA(2 wire, 15V-28V DC input voltage)
Ripple	Less than 15mV rms or 25 μArms
linearity	$\pm 0.25\%$, $\pm 0.5\%$ optional
Repeatability	$< 0.01\%$ of FS
Operating temperature	-25 $^{\circ}\text{C}$ ~ +85 $^{\circ}\text{C}$
Thermal coefficient of Scale Factor	Null point $\leq 0.01\%/^{\circ}\text{C}$
	Sensitivity $\leq 0.025\%/^{\circ}\text{C}$

■ Mechanical Specifications

Separate Core DC- LVDT SDVB20 series mechanical specification:

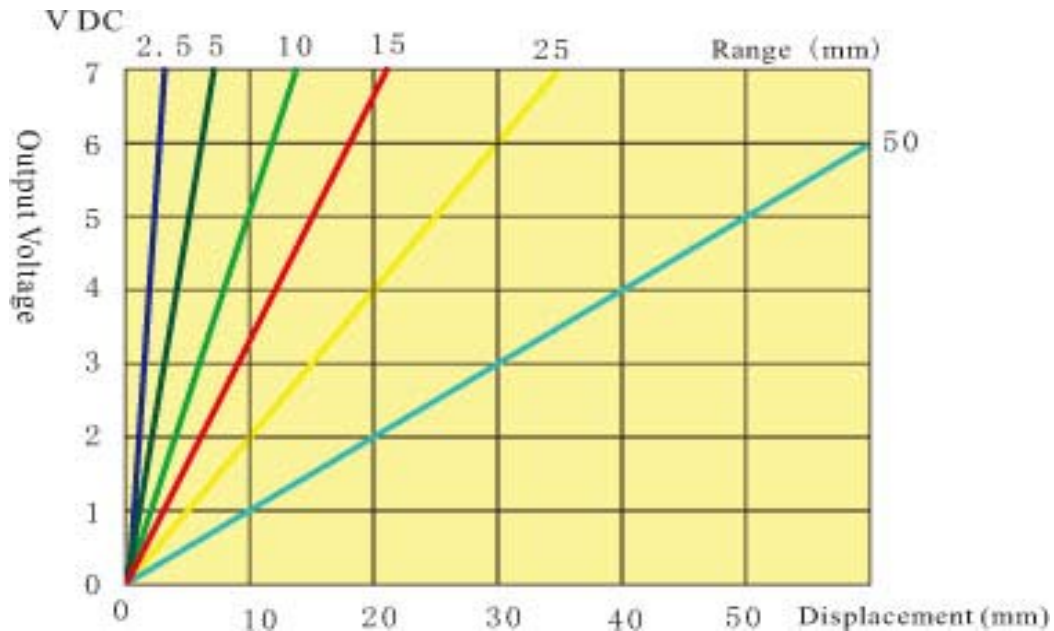
Specifications	SDVB DC spring-loaded LVDT					
Measuring range (mm)	2.5	5	10	15	25	50
Body A (mm)	80	90	110	130	170	210
Exposed length of guided core B(mm)	5	8	15	22	34	60

Note: The factory default setting is that output signal increases when the guided core is compressed

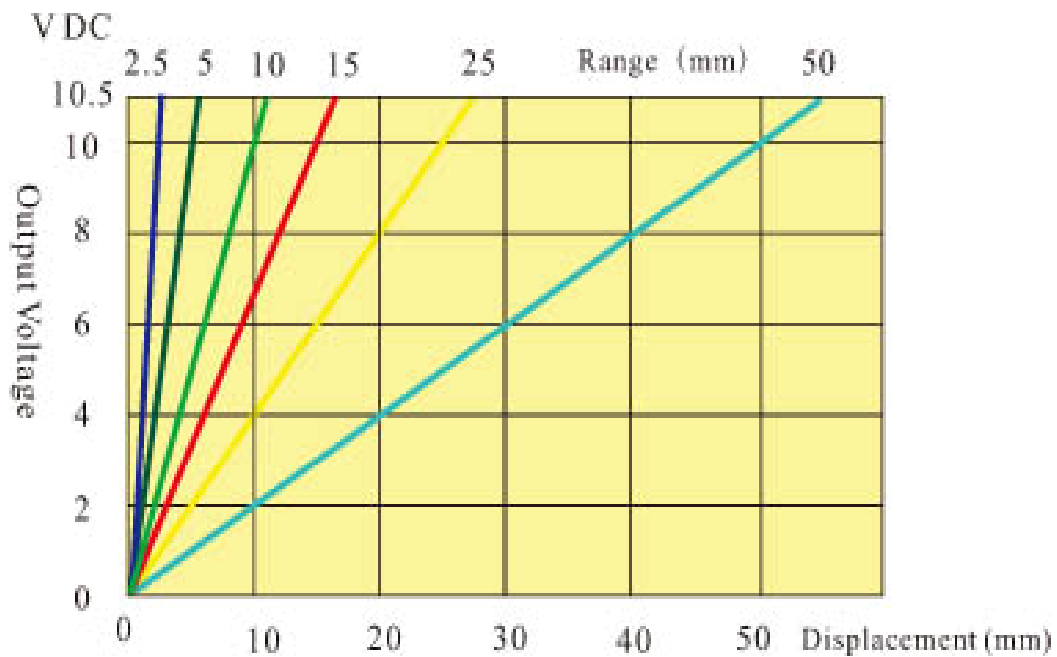
* Customer can define diameter and measuring range of LVDT

■ Output Characteristics

Relations of output voltage(0~5V) and displacement for available measuring ranges
(Input voltage 9- 28VDC, 12VDC is recommended)

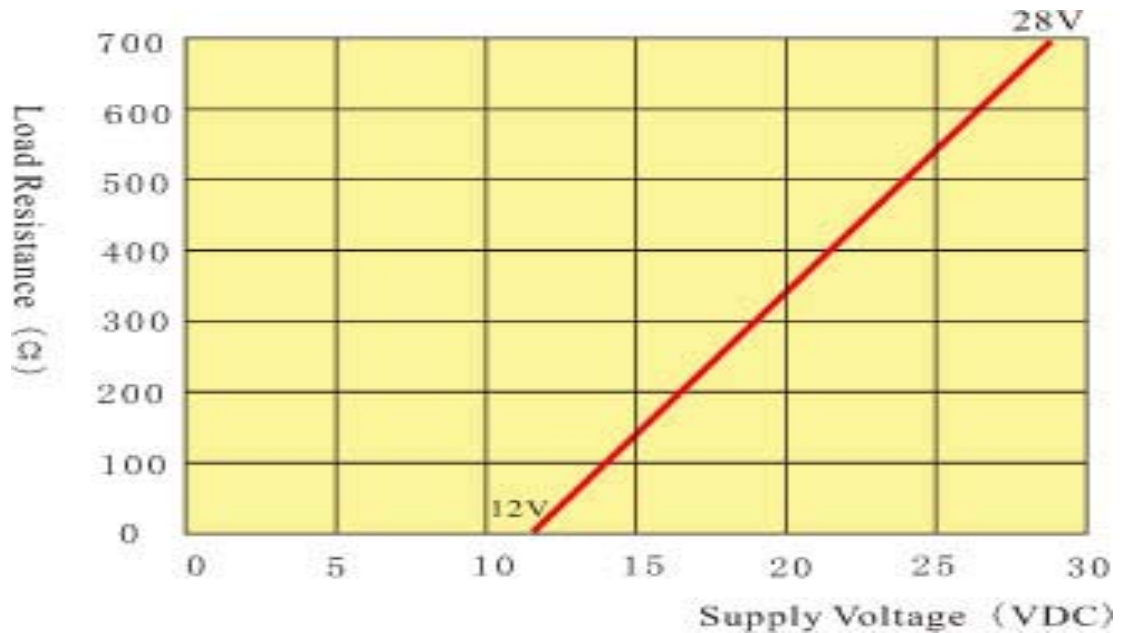


Relations of output voltage 0~10V and displacement for available measuring ranges
(Input voltage 15- 28VDC, 15VDC is recommended)



SDVB Series

Relations between the Max loop impedance and input voltage (Current output Model)
(Input voltage 15~28VDC, 24VDC is recommended, Load impedance 500Ω)



■ Wiring

The input voltage must be within the scope of specifications.

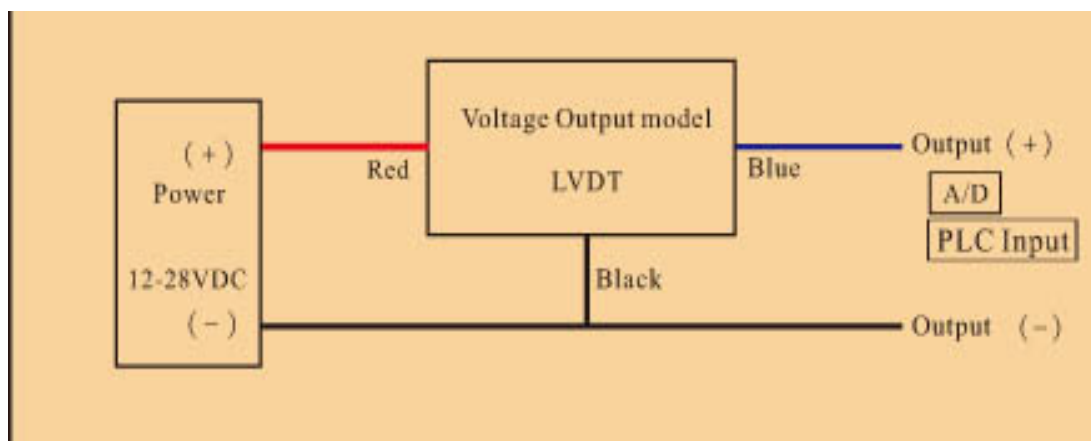
The wiring diagram as below;

Red wire —Power (+)

Black wire —Power (-), Output of signal (-)

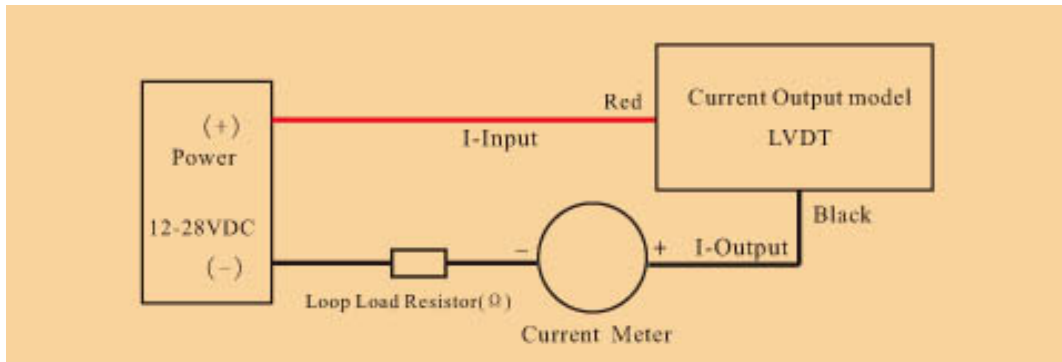
Blue wire —Signal output

Diagram for Voltage Output Model:

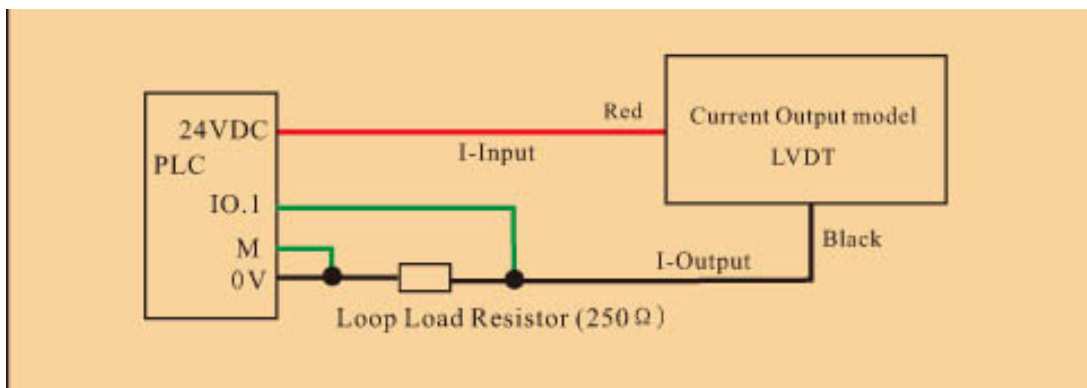


SDVB Series

Two Wires Current Output Wiring:



PLC Wiring (Two Wires Current Output):



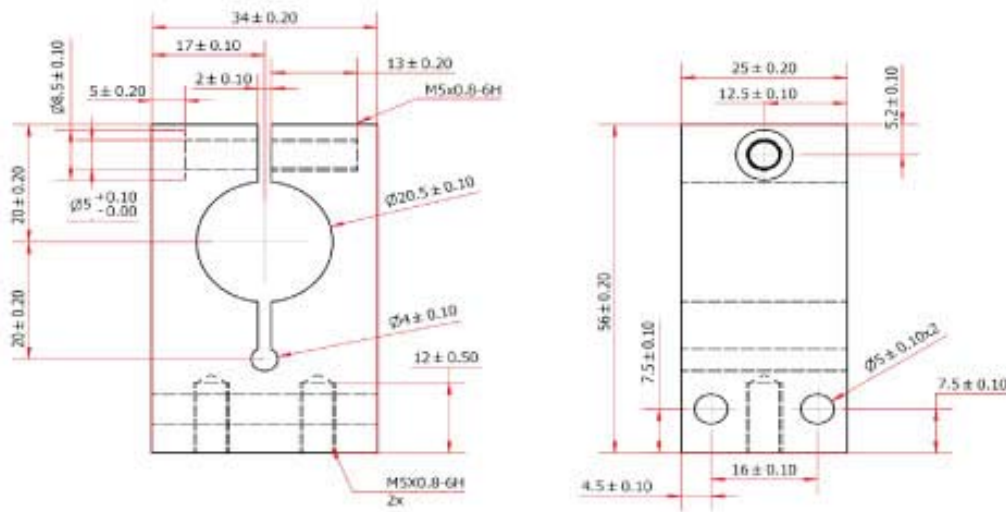
■ Mounting Blocks

LVDT Installations require a convenient method to mount the units, Constructed of reinforced phenolic and other nonconductive materials with a low- temperature coefficient of expansion. Ready- made mounting blocks are available for all LVDT Series in our catalog; mounting blocks are convenient inexpensive and fast solution for LVDT Installation.



SDVB Series

■ Dimensions of mounting block



Separate Core DC-LVDT Displacement Sensors

SDVG Series

■ General Purpose LVDT

The new generation LVDT SDVG has been designed to sensor displacement, oscillation, thickness variation of workpiece. It is intended for widely application in aerospace, machinery, construction, textile, railway, coal mine, metallurgy, plastic, chemical industry and academic research.

The DC-LVDT performs excellently from a single-ended 9-28 DC power supply, output standard signal of 0-5 DC or 4-20 mA to be identified by computer or PLC. The integrated circuit is hermetically sealed in SUS 304 stainless steel sleeve, ensure that the transducers keep working accurately and reliably in hostile environment of damp and dust, corrosion, etc.

■ Features

- Diameter Φ 20mm, SUS 304, Spring-loaded.
- Operated from single-ended, 9-28 VDC supply, built-in excellent signal demodulator
- Output voltage 0-5V or 0-10V(3 wire), output current 4-20 mA (2 wire)
- Standard range from 1mm-50mm, high resolution, excellent repeatability
- Contactless operation, long life.

■ Applications

- Machine tool positioning
- Hydraulic cylinder positioning
- Gap controlling in rolling mill
- Value position location and control



Separate Core DC-LVDT Displacement Sensors

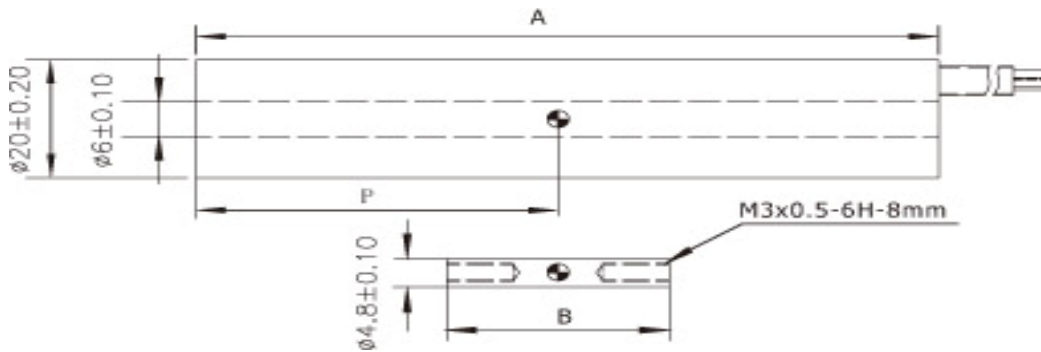
SDVG Series

■ Specifications

Input Voltage	DC 9V-28V, AC 5V
Input Current	input current $\leq 10\text{mA}$ (Voltage output typ e) input current 4-20mA (2 wire, Current output typ e)
Measuring stroke	0~2.5mm to 0~500mm Wide Selection of Measurement Ranges
Output signal	0.5-4.5VDC(5V DC input voltage)
	0-5VDC(9V-28V DC input voltage)
	0-10VDC(15V-28V DC input voltage)
	4-20 mA (2 wire, 15V-28V DC input voltage)
Ripple	Less than 15mV rms or 25 μArms
linearity	$\pm 0.25\%$, $\pm 0.5\%$ optional
Repeatability	$< 0.01\%$ of FS
Operating temperature	$-25\text{ }^\circ\text{C} \sim +85\text{ }^\circ\text{C}$
Thermal coefficient of Scale Factor	Null point $\leq 0.01\%/^\circ\text{C}$
	Sensitivity $\leq 0.025\%/^\circ\text{C}$

■ Mechanical Specifications

Separate Core DC- LVDT SDVG20 series mechanical specification:



Specifications	SDVG DC Separate core LVDT								
Measuring range (mm)	2.5	5	10	15	25	50	100	250	500
Body A (mm)	80	90	110	130	170	210	290	498	800
Core B(mm)	20	30	40	50	70	80	120	150	180
Zero point P(mm)	21	26	36	46	66	86	126	230	381

Note: The factory default setting is that output signal increases when the guided core is compressed

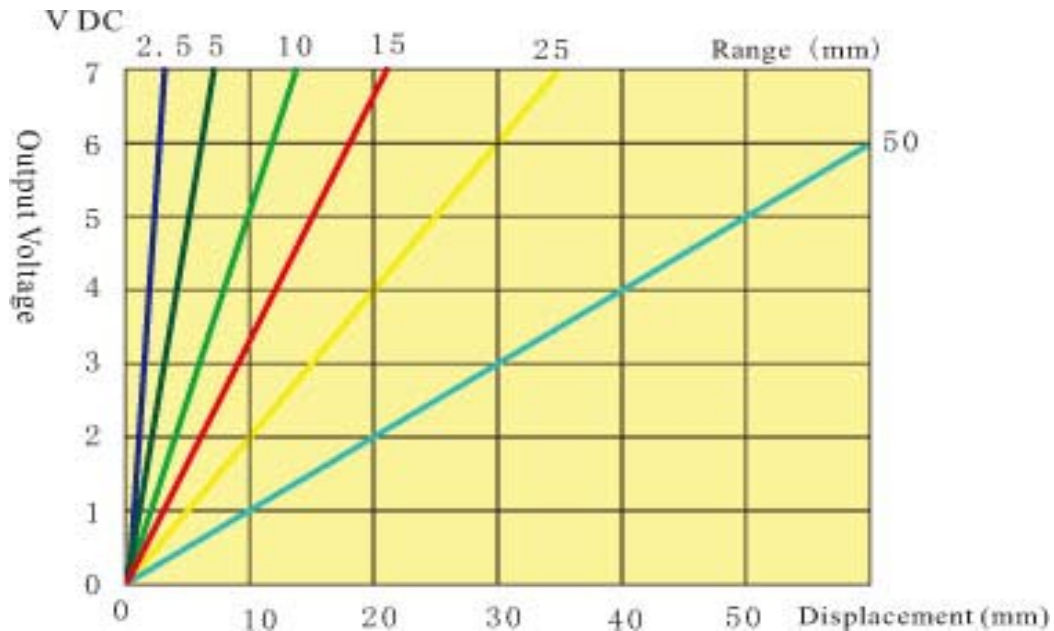
* Customer can define diameter and measuring range of LVDT

Separate Core DC-LVDT Displacement Sensors

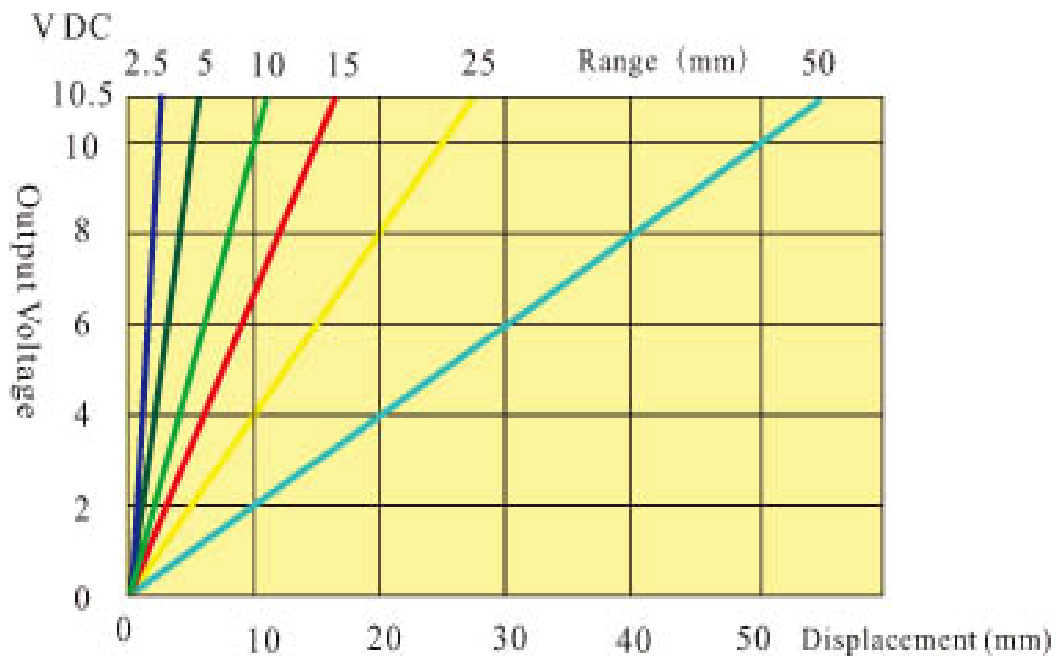
SDVG Series

■ Output Characteristics

Relations of output voltage(0~5V) and displacement for available measuring ranges
(Input voltage 9- 28VDC, 12VDC is recommended)

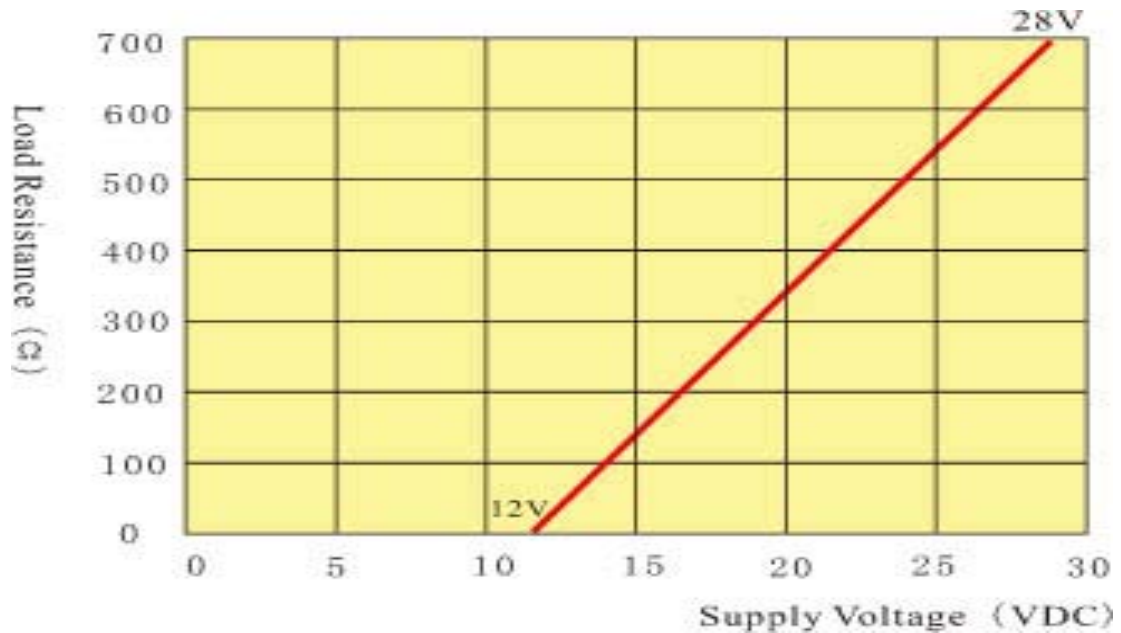


Relations of output voltage 0~10V and displacement for available measuring ranges
(Input voltage 15- 28VDC, 15VDC is recommended)



SDVG Series

Relations between the Max loop impedance and input voltage (Current output Model)
(Input voltage 15~28VDC, 24VDC is recommended, Load impedance 500Ω)



■ Wiring

The input voltage must be within the scope of specifications.

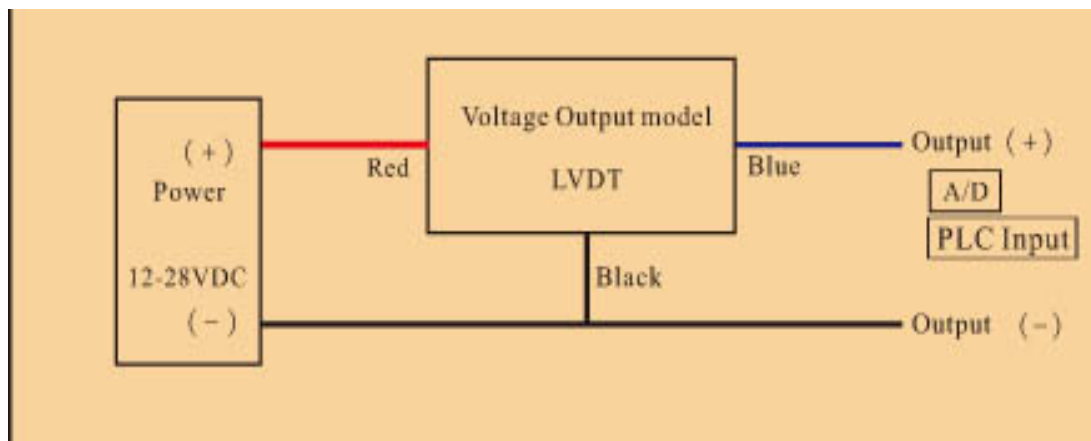
The wiring diagram as below;

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Black wire —Power (-)、 Output of signal (-)

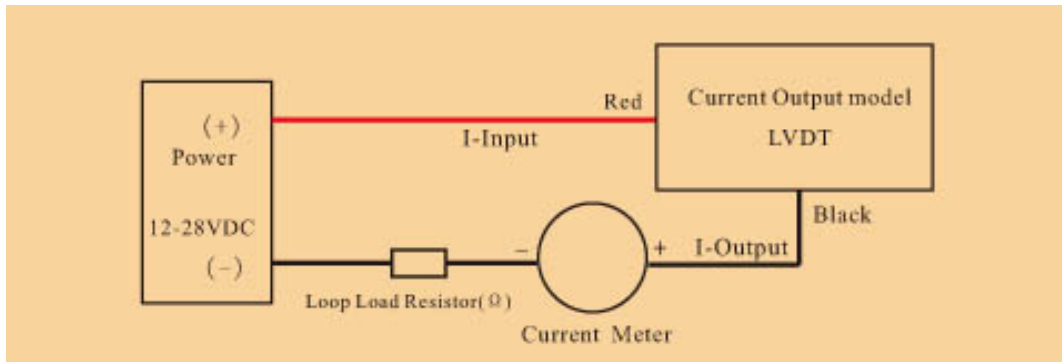
Blue wire —Signal output

Diagram for Voltage Output Model:

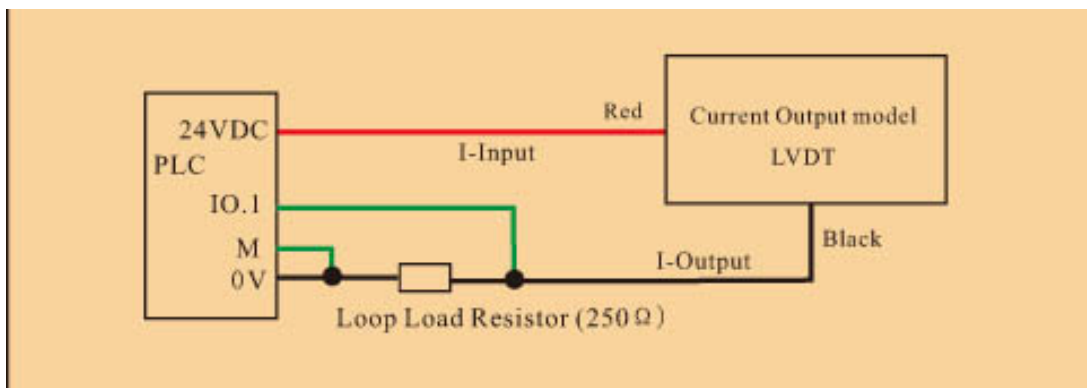


SDVG Series

Two Wires Current Output Wiring:



PLC Wiring (Two Wires Current Output):



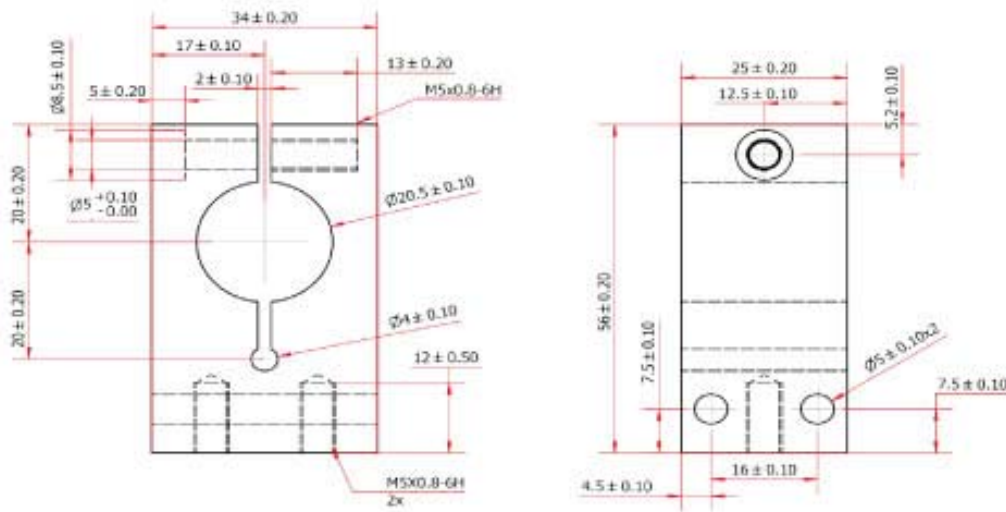
■ Mounting Blocks

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SDVG Series

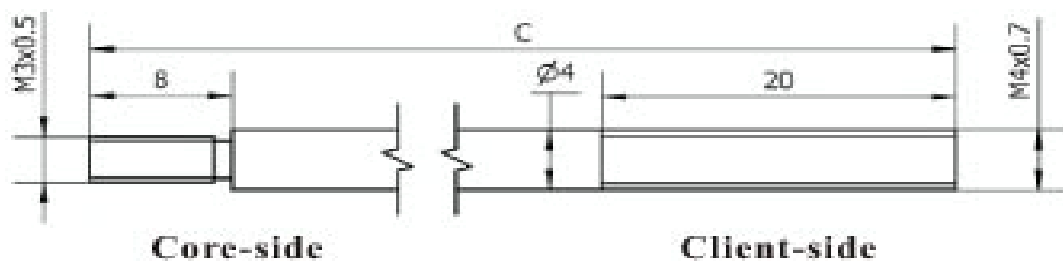
■ Dimensions of mounting block



■ Core Extension Rod

The core is cut to length and threaded to facilitate attachment to an extension rod that transfers motion or position from the object being measured to the LVDT core.

Note: Core extension rods should be made from non-magnetic stainless steel (SUS304, SUS316). They can also be made from plastics or laminates, provided that these materials offer adequate mechanical strength and are not used over a wide temperature range.



Parameters	SDVG Separated Core DC-LVDT								
Linearity stroke (mm)	2.5	5	10	15	25	50	100	250	500
Extension rod C (mm)	58	58	68	78	98	128	168	346	618

* Customer can define the length and thread of extension rod.