

SDVB8 Series of Barrel type Displacement sensor

Introduction

LVDT is a high-tech product used to measure the elongation, vibration, thickness, expansion and so on, it is intended for widely application in Aerospace, Machinery, Construction, Textile, Railway, Coal mine, Metallurgy, Plastic, Chemical industry and Academic research.

DC LVDT performs excellently from 9-28 voltage DC power supply, suitable for high precision and high repeatability measurement, output standard signal of 0-5v or 4-20mA 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

- Outer diameter $\Phi 8\text{mm}$ spring-loaded
- AC power supply, external excellent signal demodulator
- Three wires voltage output 0-5V or 0-10V, two wires current output 4-20mA
- Measuring range from 0.1mm-10mm, high resolution, excellent repeatability
- Contactless operation, long service life

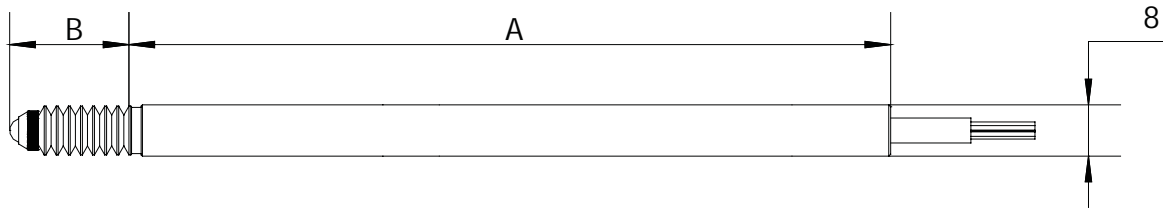
Applications

- Robot
- Trunnion detection
- Precise displacement measurement
- Glass production testing
- Auto parts online detection

Specifications

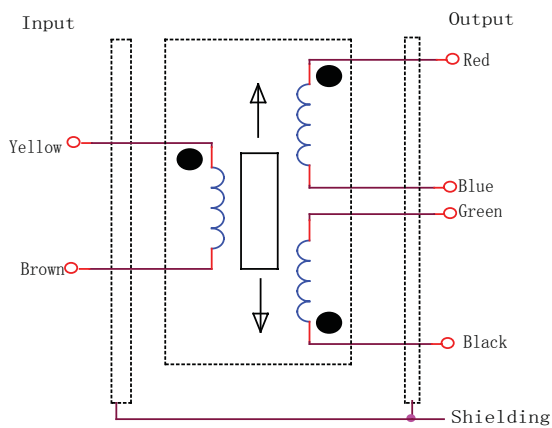
SDVB8 series of spring-loaded	
Incentive voltage	3Vrms (1~3Vrms)
Incentive frequency	5KHz (1~10KHz)
Measuring range	2.5, 5, 10mm
Output signal	0~5V (9 ~28V DC input voltage)
	0 ~10V (15 ~28V DC input voltage)
	4 ~20mA (2-wire, 15 ~28V DC input voltage)
	Digital output (9 ~28V DC input voltage)
Linearity	Analog output: $\pm 0.25\%$, $\pm 0.5\%$ optional; Digital output : 0.25% , 0.1% optional
Repeatability	$\leq 0.01\%$ of FS
Resolution	$\leq 0.01\mu\text{m}$ (Max), Digital output is 16 bit
Dynamic characteristics	10Hz (Max)
Operating temperature	$-25^{\circ}\text{C} \sim +85^{\circ}\text{C}$
Temperature coefficient	Null point $\leq 0.01\%/^{\circ}\text{C}$
	Sensitivity $\leq 0.025\%/^{\circ}\text{C}$

Mechanical Specifications



Specifications	SDVB8 series of spring-loaded		
Measuring range (mm)	2.5	5	10
Body A (mm)	88	98	118
Iron core B (mm)	8	11	18

Wiring



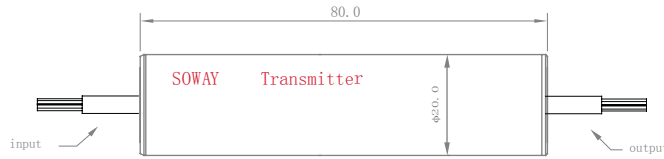
Caution

When "yellow" on the same phase as "black", connected "blue" and "green" can output signal between "red" and "black", output and input is same phase, when the iron core is shift toward the cable.

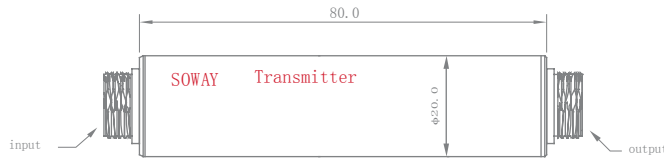
External transmitter mechanical sizes

Barrel type LVDT outer diameter is $\Phi 8\text{mm}$, No transmitter in case internal. The output cable can be provided with free conductor ends or a connector, the Barrel type LVDT can output standard signal of 0-5 V or 4-20 mA.





SMS-100A2 Sizes

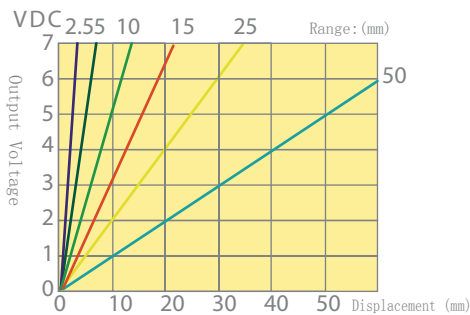


SMS-100A1 Sizes

Output Characteristics

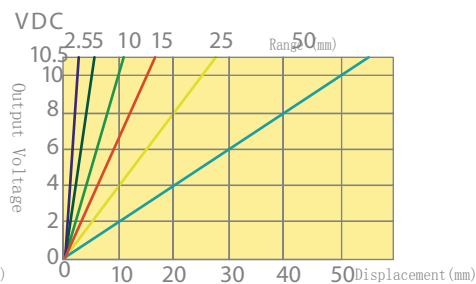
Relations of output voltage (0-5V) and displacement for series of SDVB 20 different measuring ranges:

(Input voltage 9-28VDC, 12VDC is recommended)



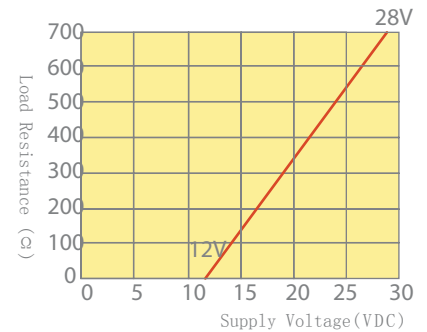
Relations of output voltage (0-10V) and displacement for series of SDVB 8 different measuring ranges:

(Input Voltage 15-28VDC, 15VDC is recommended)



Relations between the Max loop impedance and input voltage (Current output Model)

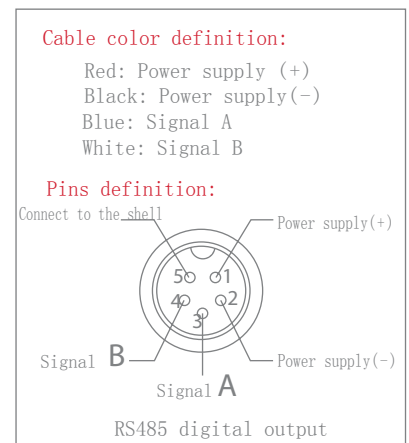
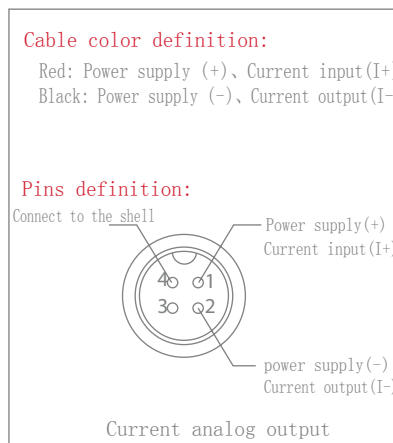
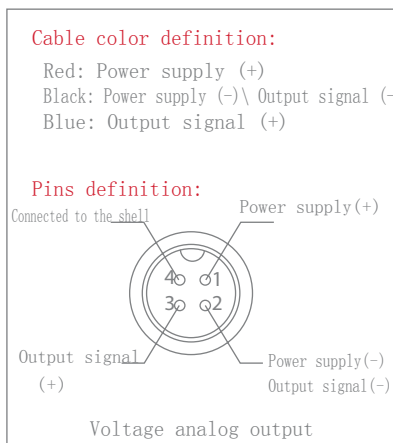
(Input voltage 15-28VDC, 24VDC is recommended, Load impedance 500 Ω)



wiring



The input voltage must be within the scope of specifications. (Refer to the performance parameter table), two output types, one is socket output the other is cable directly output.



Product model selection table

SDVB8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Selection description
Structure relations of electronic warehouse and coil	X												Standard type is default value; A: Double tube type, B: Electronic warehouse and coil separated type, C: No shell type, ..., Z: customized
Measuring Range		X	X	X									Unit:mm
Precision					A								0.25%
					B								0.50%
					C								1%
					D								3%
					E								5%
					S								0.1%(Only applies to digital output)
Output signal						X	X						See attached list one
Sensor installation specifications									X	X			See attached list two
Output type												D	Connector output
												P	Cable directly output (default length 1m)
												M	With digital display table output

Attached list one: Output signal

	<input type="checkbox"/>	<input type="checkbox"/>	
Analog output	Output model	Output range	
	A:Current output	1、4mA~20mA	
	V:Voltage output	1、0V~10V 4、-5V~5V 2、0V~5V 6、-10V~10V A、AC output	
Digital output	Output model	Data format and Baud rate	
	M:Modbus output (Factory default baud rate19200)	RTU format	ASCII
		0: 2400	A: 2400
		1: 4800	B: 4800
		2: 9600	C: 9600
		3: 19200	D: 19200
		4: 38400	E: 38400
		5: 76800	F: 76800
6: 115200	G: 115200		

Attached list two:Sensor installation specifications

<input type="checkbox"/>	<input type="checkbox"/>
C: Cylindrical	Code Thread (Outer diameter)
M: Standard thread	1 B 12
T: Fine thread	2 C 14
	3 D 16
	4 E 18
	5 F 20
	6 G 22
	7 H 24
	8 8 I 27
	9 J 27
	A 10 Z Customized

Selection example:

