

SDVH12B Spring loaded Displacement Sensor

Introduction

The linear variable differential transformer (LVDT) has been widely used in applications such as power turbines, hydraulics, automation, aircraft, satellites, nuclear reactors, and many others. These transducers have low hysteresis and excellent repeatability.

LVDTs are rugged in hermetically sealed sensors, constructed entirely of stainless steel 304 intended for environments with high humidity, dust and other harsh ones. They are designed to operate in conjunction with computer-based data processors (standard) or PLCs (option).



Features

- SS304 housing, spring loaded
- DC operated, Built-in signal conditioner
- External transmitter at the end, 3-wire voltage output 0-5V or 0-10V, and 2-wire current output 4-20mA are available.
- Measurement ranges from 0mm to 100mm, high resolution and repeatability.

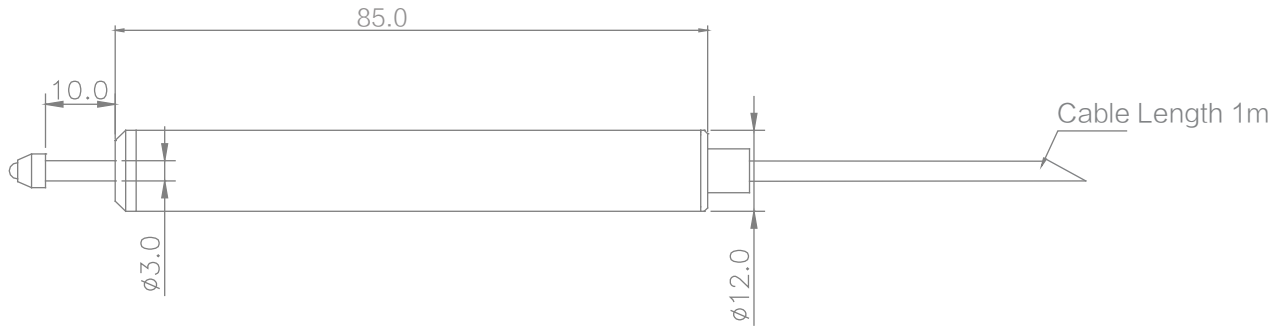
Applications

- TIR measurements
- Hydraulic cylinder position sensing
- Valve position sensing
- Roller gaps alignment
- Brake system inspections

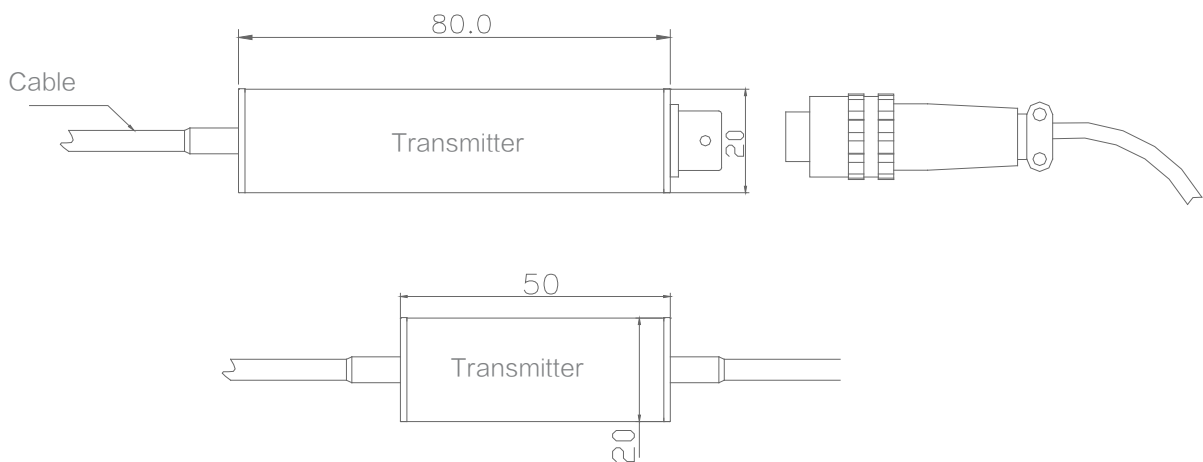
Parameter

SDVH12B Spring Loaded Displ. Sensor	
Power	9 ~28V DC
Operating Current	Current of voltage output ≤12mA
	2-wire current output of 4~20mA, Output: 4~20mA
Displ. Range	0-5 mm
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 RS485(9 ~12V DC Input Voltage)
Linearity Error	Analog Output : ± 0.25%, ± 0.5% etc; Digital Output : 0.25%, 0.1%, etc. Optional
Resolution	≤0.1 μ m(Max.), 16 bit for digital output
Dynamical Property	5Hz(Max.)
Operating Temp	-25°C ~ +85°C
Temp. Coefficient	Null Position ≤0.01%F.S./°C
	Sensitivity ≤0.025%F.S./°C

Dimension



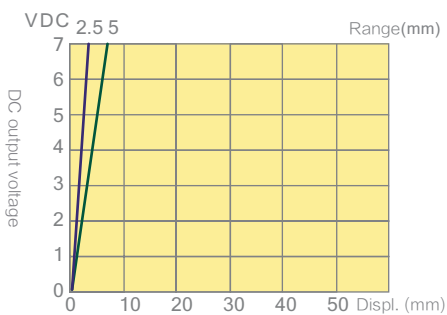
Transmitter



Output

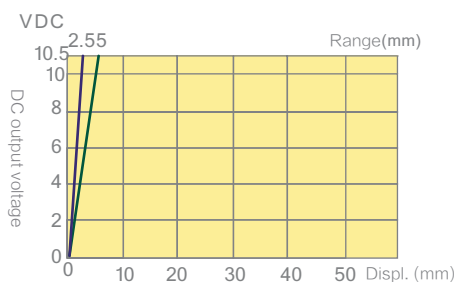
SDVH12 of different ranges(output 0-5V)
Voltage vs Displacement

DC Input 9-28V (12V DC recommended)



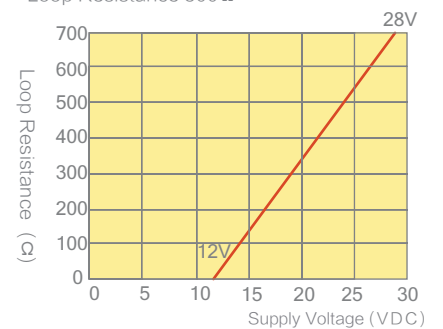
SDVH12 of different ranges(output 0-10V)
Voltage vs Displacement

DC Input 15-28V (15V DC recommended)



LVDT of Current Output
Loop Resistance (Max.) vs Supply Voltage

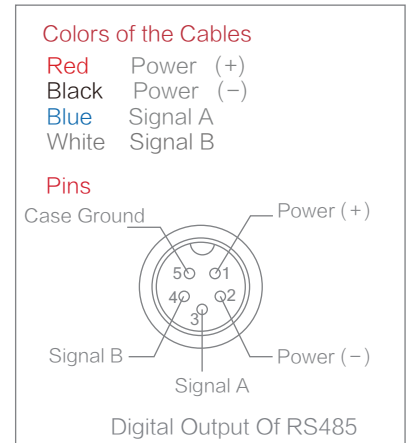
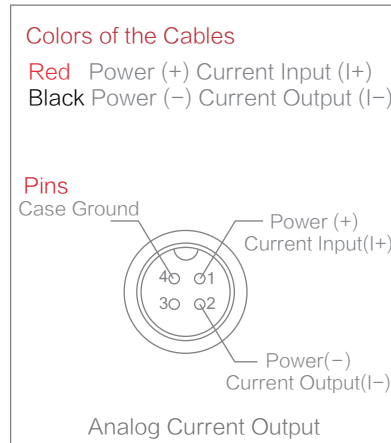
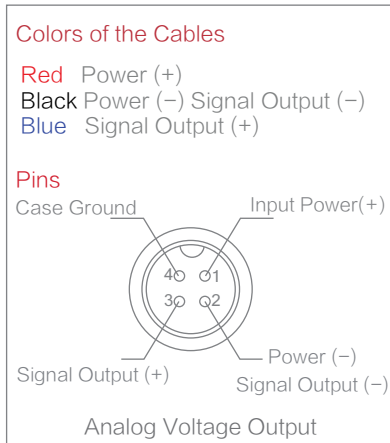
Input Voltage 15-28V DC
Input Voltage 24V DC(Recommended)
Loop Resistance 500 Ω



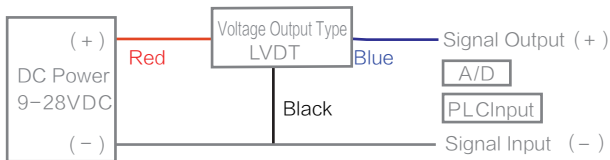
Connection



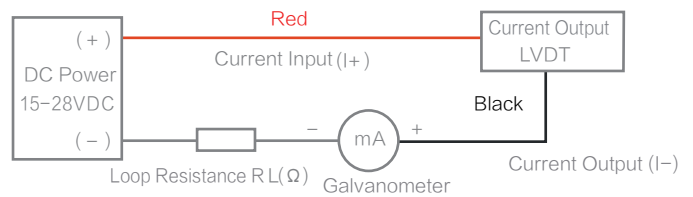
The voltage output of linear power supply needs to be used within range. Please connect the pins according to the illustrations below, Available for both cable type and plug type.



◆ Circuit of 2-wire Voltage Output Type



◆ Circuit of 2-wire Current Output Type



◆ Circuit of 2-wire PLC Type:



Ordering Guide

SDVH12B	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transmitter and Coils	X														Nil: Integrated A: Dual-tube B: Separate core C:Housingless... Z:Contact us for other structures
Range(number means ranges)	X	X	X												Ranges are in mm
Non-Linearity	A														0.25%
	B														0.50%
	C														1%
	D														3%
	E														5%
	S														0.1%(only for digital output)
Output Information						X	X								See Table.1
Thread Size									X	X					See Table.2
Outgoing Cables													D		With connectors
													P		Axial cable

Table1. Output Information

	☐	☐	
Analog Output	Output Type	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 Type	Data & Baud Rate	
	M:Modbus (Standard baud rate:9600)	RTU mode	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	

Table 2. Thread size

☐	☐			
C:Cylindrical	Code	Thread(mm)	Code	Thread(mm)
M: Metric	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	28
	9		J	
	A	10	Z	Options

Example:

SDVH 12 B -10 A- V2- C F P

