SDVE28B-63 DC Explosion Proof Linear Position Sensors

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.

DC-operated LVDTs are rugged hermetically sealed sensors, stainless steel 304 housing.They are designed for environments containing moisture, dirt,etc.They are designed to operate in conjunction with computer-based data processors(standard) or PLCs(option).

Benefits

- SS304 construction, Explosion proof
- DC operated, Built-in signal conditioner
- 3-wire voltage output 0-5V or 0-10V
  2-wire current output 4-20mA
- Measurement ranges from 0mm to 15mm, high resolution and repeatability.
- Contactless, Long lifespan

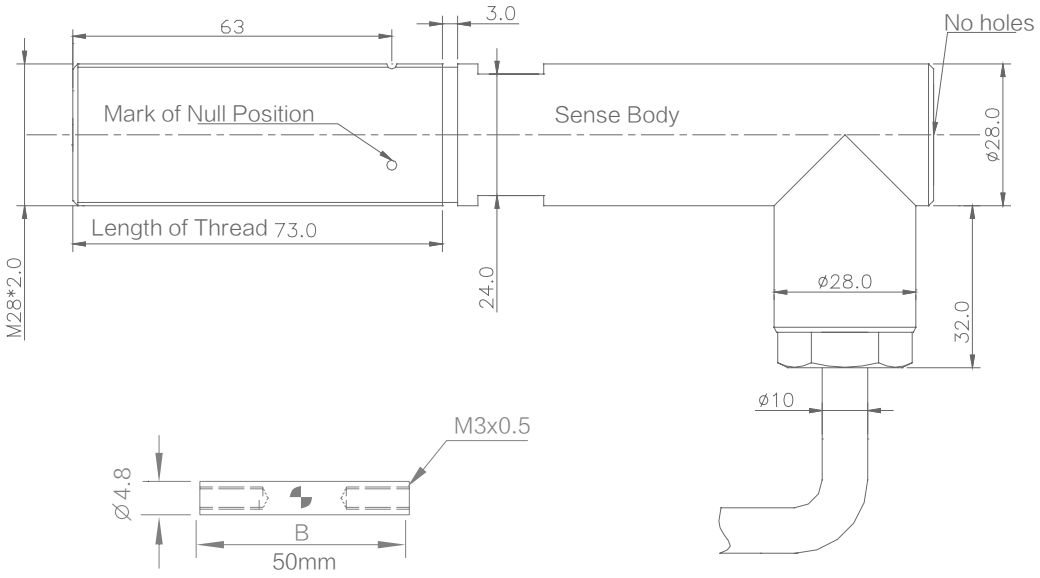
Applications

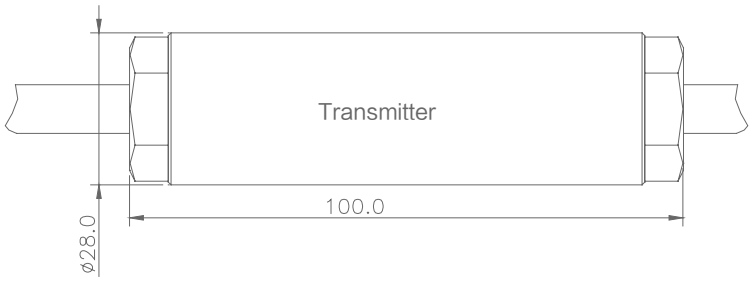
- Petrochemical and natrual gas industry
- Combustible and explosive environment
- Military weapons manufacture
- Hazardous areas with explosive dust and gas

Parameter

	SDVE28Explosion Proof Linear Position Sensors
Input Power	9 ~28V DC
Operating Current	Current of voltage output ≤12mA
	2-wire current output of 4~20mA Output: 4~20mA
Range of displacement	0-63mm
Output Signal	0～5V (9 ~28V DC Input)
	0 ~10V (15 ~28V DC Input)
	4 ~20mA (2-wire, 15 ~28V DC Input)
	Digital Output RS485 (9 ~12V DC Input)
Linearity Error	Analog Output 0.25%, 0.5% Optional ; Digital Output 0.25%,0.1% etc. Optional
Repeatability Error	≤0.01% F.S.
Resolution	≤0.1 μm(Max), Digital Output: 16 bit
Dynamical property	Standard 50Hz (Option)
Operating Temp	-25℃ ~ +85℃
Thermal coefficient	Null Position≤0.01%F.S./ ℃
	Sensitivity≤0.025% F.S./ ℃

Dimension



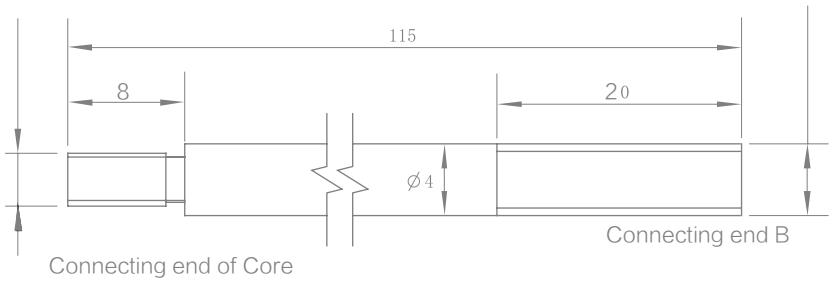


Cautions

1.The output increses when the connceting rod moves axially.

2. Core center nomial position at null.

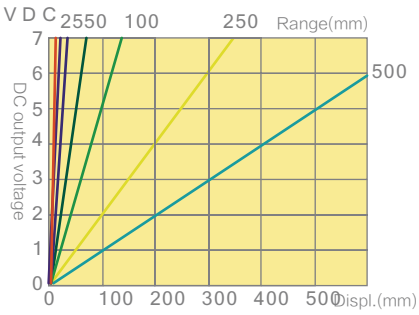
Core Extension Rod



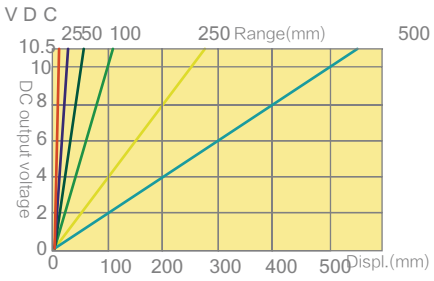
Note: For a separate core LVDT, the core and an object being measured should be connected by a rod. Material of the connecting rod must be non-magnetic such as SS304 and SS316. Options available for threads of the rod on two sides.

Output

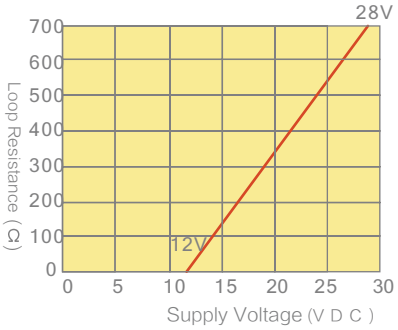
SDVE28 of different ranges(output 0-5V)
Voltage vs Displacement
DC Input 9~28V (12V DC recommended)



SDVE28 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 Resistance500Ω

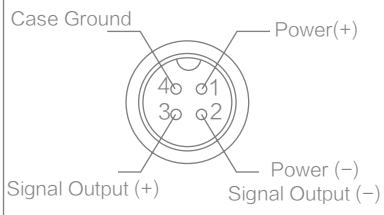


Connection

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

Colors of the Cables
Red Power (+)
Black Power (−) Signal Output (−)
Blue Signal Output (+)

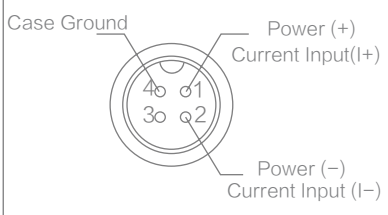
Pins



Analog Voltage Output

Colors of the Cables
Red Power (+) Current Input (I+)
Black Power (−) Current Output (I−)

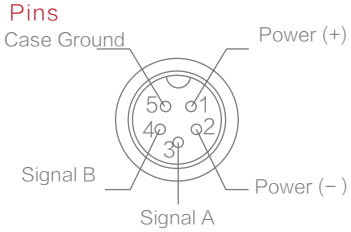
Pins



Analog Current Output

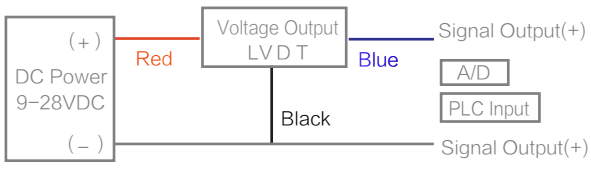
Colors of the Cables
Red Power (+)
Black Power (−)
Blue Signal A
White Signal B

Pins

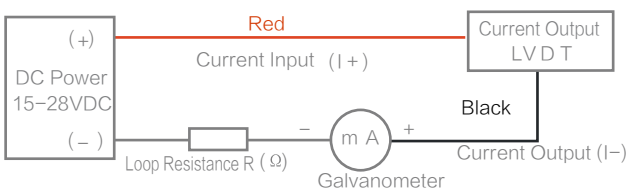


Digital Output of RS485

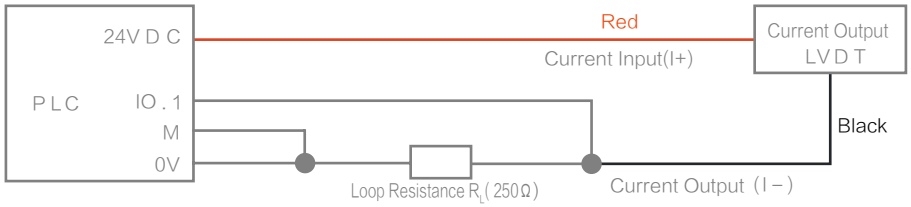
◆ Circuit of 2-wire voltage output type



◆ Circuit of 2-wire current output type



◆ Circuit of PLC type



Ordering Information

SDVE28	□	–	□	□	□	□	–	□	□	–	□	□	□	
Transmitter and coil	B													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	Axially(standard 1m)
													M	With digital readout

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 0: 2400 1: 4800 2: 9600 3: 19200 4: 38400 5: 76800 6: 115200	ASCII A: 2400 B: 4800 C: 9600 D: 19200 E: 38400 F: 76800 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:

SDVE 28 B -63 A- A1- C I P

- P: Axial cable 1m
- I: O.D 28mm
- C: Cylindrical
- A1: Current Output: 4~20mA
- A: Non-Linearity: 0.25%F.S.
- 63: Displacement range: 63mm
- B: Separate core
- 28: Sensor Body O.D 28mm
- SDVE: Explosion proof