

SDVG20F LVDT Level 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. In this LVDT level sensor configuration, a stainless-steel float coupled to a non-magnetic stainless steel rod which is attached to the high-permeability, armature core of the LVDT. In operation, as fluid level changes, the float moves up or down, raising the LVDT core along with it. Electronics of the LVDT are hermetically sealed inside a stainless-steel housing for protection against fluid and other environmental elements.



Features

- SS304 housing, Spring loaded
- DC operated, Built-in signal conditioner
- Measurement ranges from 0mm to 500mm, high resolution and repeatability.
- Contactless, Long lifespan

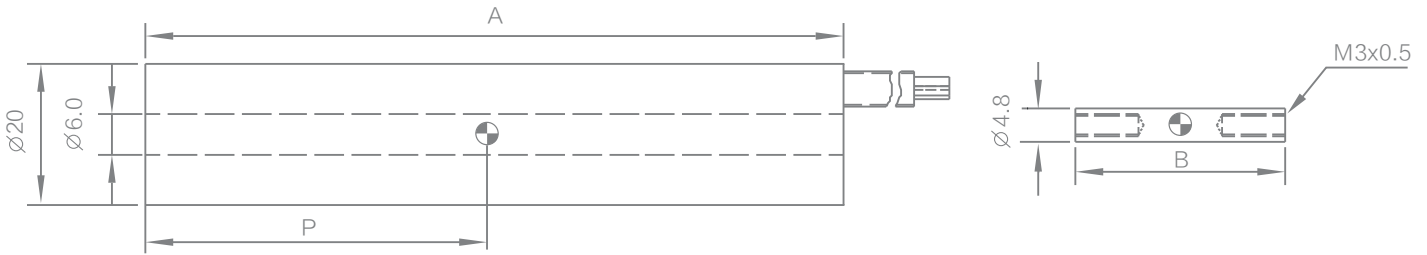
Applications

- Level measurement of laboratory
- Level sensing in gauging tank
- Fuel level feedback

Parameter

SDVG20F Level Sensor	
Supply Power	9 ~28V DC
Operating Current	Current of voltage output ≤12mA
	Output: 4~20mA; 2-wire current output of 4~20mA
Displ. Range	2.5, 5, 10, 15, 25, 50, 100, 250, 500mm
Output Signal	0 ~ 5V (9 ~28V DC Input)
	0 ~10V (15 ~28V DC Input)
	4 ~20mA (2-wire, 15 ~28V DC Input Voltage)
	RS485 Modbus (9 ~12V DC Input Voltage)
Linearity Error	Analog Output : ± 0.25%, ± 0.5% Optional; Digital Output: 0.25%, 0.1% Optional
Resolution	≤0.01 μm(Max.), 16 bit for Digital Output
Dynamical Property	Standard 50Hz (Option)
Operating Temp.	-77°F ~185°F (-25°C ~ +85°C)
Temp. Coefficient	Null Position ≤0.01%F.S/°C
	Sensitivity ≤0.025%F.S/°C

Dimension

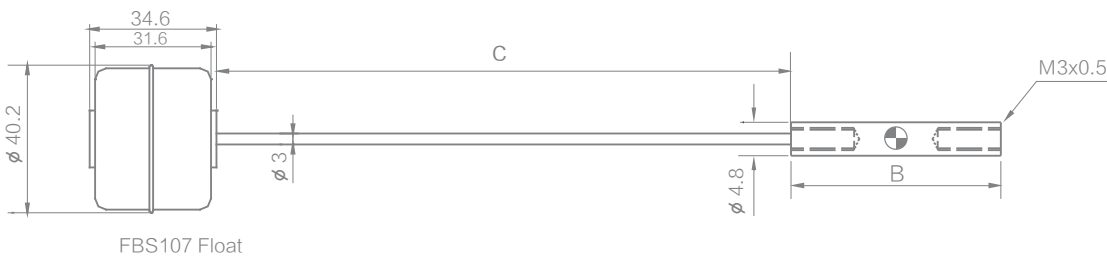


Parameter	SDVG20F Separate Core								
Displ. Range (mm)	2.5	5	10	15	25	50	100	250	500
Length A(mm)	80	90	110	130	170	210	290	498	800
Length B (mm)	20	30	40	50	70	80	120	150	180
Null Position P(mm)	21	26	36	46	66	86	126	230	381



Caution

1. The output increases when the connecting rod moves axially.
2. Core center nominal position at null.



Caution

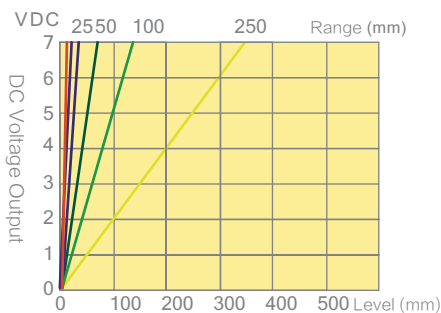
Note: For a separate core LVDT, the core and an object being measured should be connected by a rod. Material of the connecting rod must be non-magnetic such as SS304 and SS316. Options available for threads of the rod on two sides.

Parameter	SDVG20F Level Sensor								
Displ. Range	2.5	5	10	15	25	50	100	250	500
Length C	50	50	60	70	90	120	160	338	610

Output

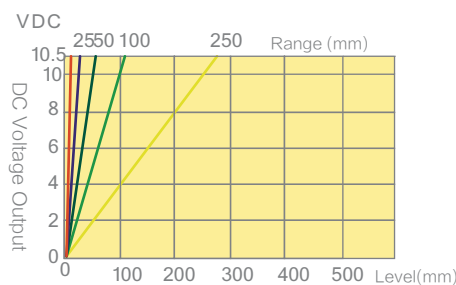
SDVG20 of different ranges(output 0–5V) Voltage vs Level

DC Input 9–28V (12V DC recommended)



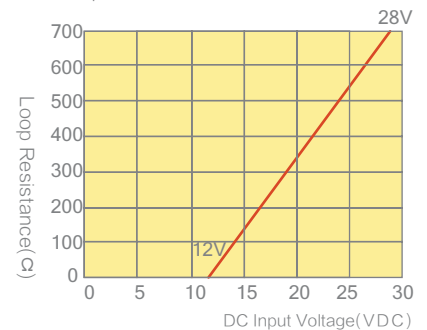
SDVG20 of different ranges(output 0–10V) Voltage vs Level

DC Input 15–28V (15V DC recommended)



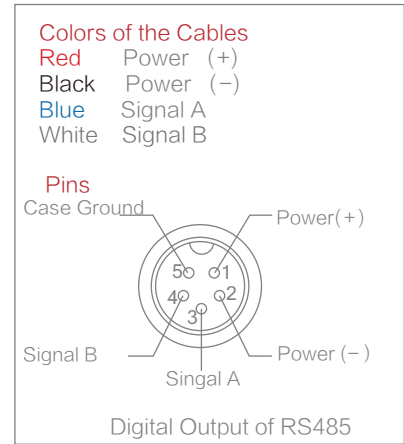
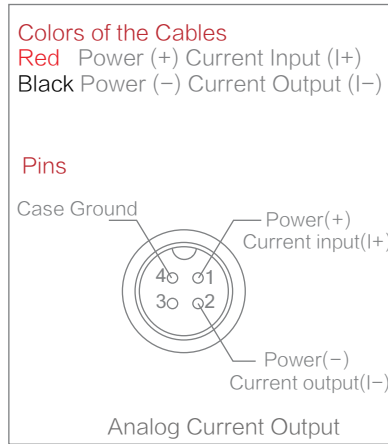
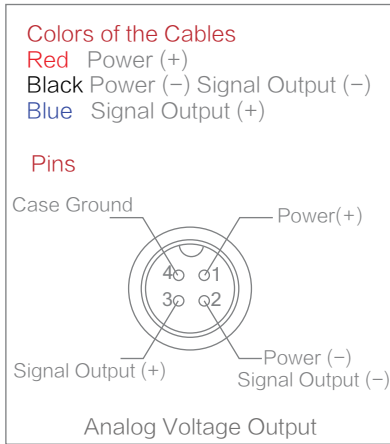
LVDT of Current Output Loop Resistance (Max.) vs Supply Voltage

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

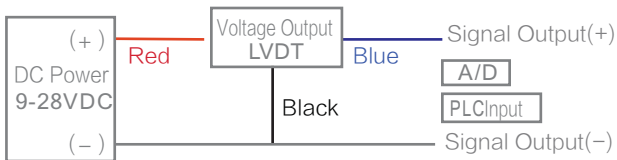


Connections

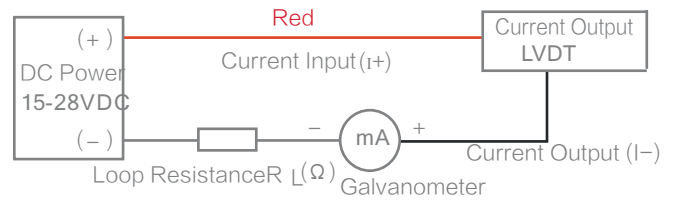
! The voltage output of linear power supply needs to be used within range. Please connect the pins according to the illustrations below, Available for cable type and plug type



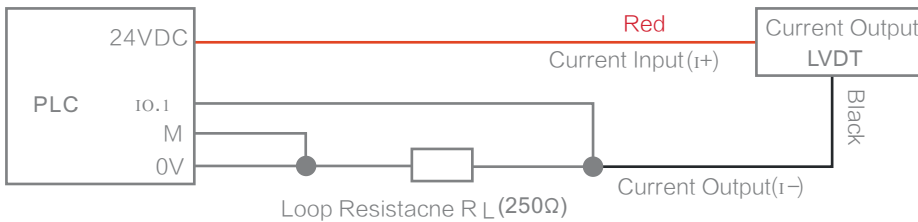
◆ Circuit of 2-wire Voltage Output Type



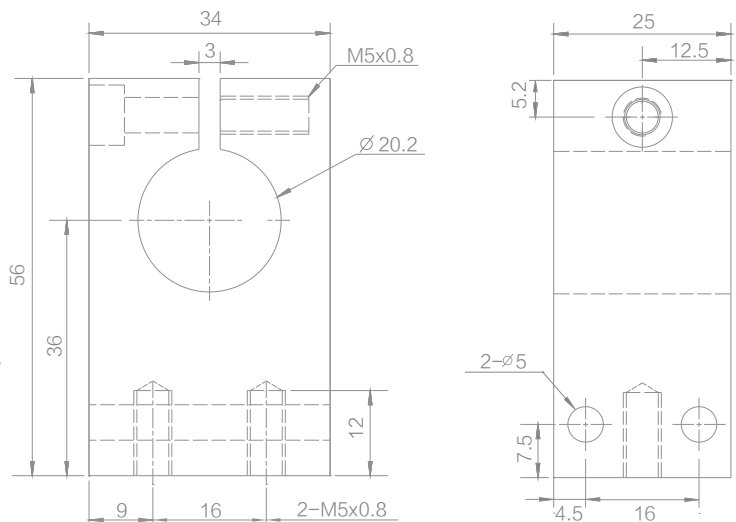
◆ Circuit of 2-wire Current Output Type:



◆ Circuit of PLC Type



Dimensions Of Mounting Blocks



! Mounting blocks must be low-CTE and non-magnetic. Magnetic mounting blocks such as iron ones are not allowed.

✓ Mounting blocks can be customized.

Ordering Information

SDVG20	<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"/>	Information in detail
Transmitter and Coil	F											Nil: Integrated A: Dual-tube B: Separate core C:Housingless.... Z:Contact us for other structures
Range(in mm)		X	X	X								All ranges in mm
Non-linearity	A											0.25%
	B											0.50%
	C											1%
	D											3%
	E											5%
	S											
Output Information						X	X					See table1
Thread Size								X	X			See table2
Cable Exit										D		Aviation Connector
										P		Axial cables (Standard1m)

Table1:Signal Output Information

	<input type="checkbox"/>	<input type="checkbox"/>	
Analog Output	Output Type	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:Mod bus (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

<input type="checkbox"/>	<input type="checkbox"/>
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

SDVG 20F -50 A - V2 - C F P

