SIER ELECTRONICS CO., LTD

SPT21W Submersible Level Transmitter

Features

- Integrated construction, unnecessary to do outer adjustment
- Sensor housing protection IP68
- All welded housing, excellent reliability and stability
- Molecular filter at end of air vent tube, water cannot penetrate
- Diverse designs, corrosion-resistant, suitable for multiple industrial application scenarios

Applications

- Fuel
- Pharmaceutical industry
- Metallurgy Industry
- Hydroelectric station
- Mining
- Water supply and drainage
- Hydrological exploration

Introduction

The SPT21W is a fully sealed submersible level transmitter. This part integrates an OEM pressure sensor, rigorously tested for long-term stability and reliability, with high-precision transmitter processing circuitry, both encapsulated within a stainless steel housing. The integrated structure and standardized signal output significantly enhance ease of field use and automation control.

The SPT21W transmitter features a stainless steel housing, ensuring excellent corrosion resistance in harsh environments. The internal circuit board undergoes specialized treatment to deliver exceptional waterproof and moisture-proof capabilities, guaranteeing stable operation in long-term submerged conditions. Additionally, the transmitter offers simplified installation and maintenance, allowing users to select varying cable lengths based on practical requirements to accommodate different measurement depths. With its wide measurement range, high accuracy, and adaptability to diverse industrial applications, the SPT21W transmitter is an ideal solution for liquid level measurement in industrial automation and process control systems.

Specification

Range	0mH_2O~1mH_2O…200mH_2O
Over pressure	≤2 times FS
Pressure type	Gauge/absolute
Accuracy	see Accuracy definition

Long term stability	≤±0.1%FS/year
Offset thermal drift	0.05%FS/℃(≤10mH_2O)； 0.03%FS/℃(＞10mH_2O)
Span thermal drift	0.05%FS/℃(≤10mH_2O)； 0.03%FS/℃(＞10mH_2O)
Compensated temp. range	0~50℃
Application temp. range	-10~80℃
Storage temp. range	-40~100℃
Housing protection	IP68

Accuracy

(Test condition: Environment temperature：25±5℃ Relative humidity：45%~75%)

Pressure Type	Range	Accuracy
Gauge (G)	0mH_2O~10mH_2O＜X＜3.5mH_2O	±1%FS
	3.5mH_2O≤X≤10mH_2O	±0.5%FS
	10mH_2O≤X≤200mH_2O	±0.25%FS
		±0.5%FS（default）
Absolute (A)	0mH_2O~7mH_2O＜X≤10mH_2O	±1%FS
	10mH_2O＜X≤200mH_2O	±0.5%FS

Output Signals

2-wire current	4~20mA
3-wire voltage	DC 0~10V
	DC 0~5V
	DC 1~5V
	DC 0.5~4.5V
	DC 0.5~2.5V
	DC 0.1~2.1V
3-wire proportional voltage	DC 0.5~4.5V
RS485	

For other output requirements, please contact us.

Power Supply

Output signals	Power supply	
	Default	Optional
4~20mA	DC 11~28V	DC 8~32V
DC 0~10V	DC 11~28V	DC 11~32V
DC 0~5V	DC 11~28V	DC 11~32V
DC 1~5V	DC 11~28V	DC 11~32V

DC 0.5~4.5V	DC 5V±0.1V	DC 8~32V
DC 0.5~2.5V	DC 5V±0.1V	DC 8~32V、DC3.3V
DC 0.1~2.1V	DC 5V±0.1V	DC 8~32V、DC3.3V
DC 0.5~4.5V (proportional	DC 5V±0.5V	/
RS485	DC 11~28V	DC 5V

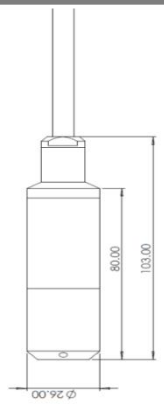
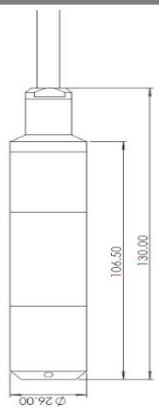
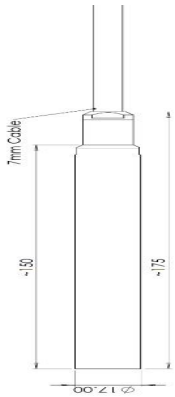
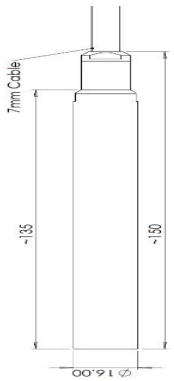
Load Resistance(Ω)

Current outout	≤（power supply-11V）/0.02A
Voltage output	≥10k

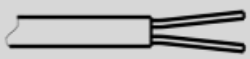
Material

Housing	SS304/SS316L
Diaphragm	SS316L
O-ring	Viton/FKM
Cable	Φ7.5 mm Polyurethane Cable

Outline Dimension（unit：mm）

Analog Output Type	RS485 type	OD17mm	OD16mm
			

Electrical Connection

Air conduit cable				
		2-wire	3-wire	4-wir（RS485）
	U_B	Red	Red	Red
	0V	Green	Black	Black
	S+	-	Yellow（Green）	-
	RS485A	-	-	Yellow
	RS485B	-	-	Green

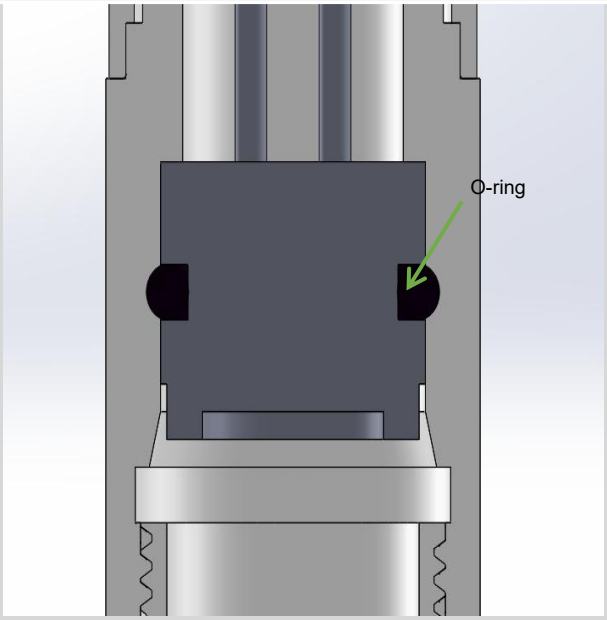
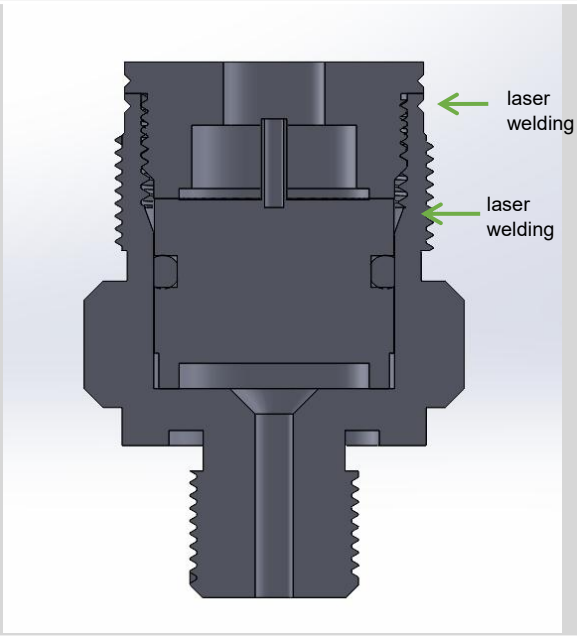
Description

UB : Power +

0V : Power -

S+ : Analog output

Sensor Sealing

O-ring Sealing （O-ring material : fluorine rubber, ethylene propylene diene monomer, nitrile rubber）	**Soldering**
	

Optional accessories

Name	Shape	Description
STS01 calibrator		Power supply : 220VAC Features : 4.5-inch LCD screen, touch buttons Functions : testing, calibration, zeroing, range migration, unit conversion Operating Instructions Operating Video

SD01 loop powered displayer		Display range -1999~9999 Input: 2-wire 4~20mA Output: 2-wire 4~20mA
Installation hook		For hanging level transmitters
Waterproof Junction Box		Protect the wire connection from moisture, dust and other external environmental factors.

Order Guide

SPT21W	Submersible Level Transmitter			
	Range	0~200mH_2O		
	[0～X mH_2O] L	X：actual measured range, L: cable length, recommended cable length L=X+(1～2)m		
		Code	Output Signal	
		E	4～20mADC	2-wire
		J	0～5VDC	3-wire
		V	0～10VDC	3-wire
		R	RS485	4-wire
		R4	RS485 & 4-20mA	4-wire
		H	4～20mADC & HART 7	2-wire

Code	Material	
	Isolated Diaphragm	Housing

				22	SS316L		SS304	
				24	SS316L		SS316L	
				26	Titanium		Titanium	
					Code	Others		
					1	Accuracy±0.25%FS		
					2	Accuracy±0.5%FS		
					3	Accuracy±0.1%FS		
						D1	φ26mm	
						D2	φ17mm	
						D3	φ16mm	
							F	Explosion-proof Ex ia IIB T6 Ga
							S	Lightning-proof /surge protection
								X1 Mounting Hooks
								X2 Waterproof Junction Box
SPT21W	[0～1mH_2O]	E	22	1	D1	F	X1	the whole spec

Ordering Notes

1,As for accuracy, see "Accuracy" on Page 2 for details;

2, The application temperature range of fluororubber O-ring sealing is -20℃ ~250℃ , when applicationtemperature <-20℃ , EPDM O-ring is needed. ;

3, When ordering 5V DC/3.3V DC power products with cable connection, the cable length should be less than10m;

4, If accessories is needed, please contact us and specify it in the order;

5, If metrology verification certificate is needed or there are other requirements, please contact us and specify it in the order.

Contact

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