

SPT21WSP 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
- Various styles, corrosion resistance, suitable for a variety of industrial application scenarios



Applications

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

Introduction

SPT21WSP level transmitter is a fully sealed submersible level measuring instrument that uses the stainless steel construction. The product utilizes a high stable and reliable OEM pressure sensing element and a high precise processing circuit, and adopts the digital temperature compensation technology and non-linear correction technology to achieve high accuracy measurement. The waterproof vented cable of the transmitter is connected to the housing with a hermetic seal, which allows the long-term use of the instrument in the liquids. Its integrated structure and standard output signal make it convenient for the field use and automatic control.

The housing of SPT21WSP transmitter is made of 316L stainless steel, which ensures its corrosion resistance in harsh environments. The internal circuit board has been specially treated to provide excellent waterproof and moisture-proof capability, thus guaranteeing the transmitter's stable operation in long-term water-soaked environments. In addition, the transmitter is easy to install and maintain, and users can choose different lengths of cables according to the actual demands to adapt to different depths of the liquid level measurement. SPT21WSP transmitter has a wide range of measurement, high accuracy, to meet the demands of a variety of industrial applications, it is the ideal liquid level measurement equipment in industrial automation and process control.

Specifications

Range	0mH ₂ O~1mH ₂ O...200mH ₂ O
Over pressure	≤2 times FS
Pressure Type	gauge, absolute

Accuracy	see Accuracy definition
Long-term Stability	$\leq \pm 0.1\% \text{FS/year}$
Zero temp. coefficient	$0.05\% \text{FS}/^{\circ}\text{C}$ ($\leq 10 \text{mH}_2\text{O}$); $0.03\% \text{FS}/^{\circ}\text{C}$ ($> 10 \text{mH}_2\text{O}$)
FS temp. coefficient	$0.05\% \text{FS}/^{\circ}\text{C}$ ($\leq 10 \text{mH}_2\text{O}$); $0.03\% \text{FS}/^{\circ}\text{C}$ ($> 10 \text{mH}_2\text{O}$)
Compensated Temperature	$0 \sim 50^{\circ}\text{C}$ range $\leq 10 \text{mH}_2\text{O}$; $-10 \sim 70^{\circ}\text{C}$ range $> 10 \text{mH}_2\text{O}$
Application Temperature	$-10 \sim 80^{\circ}\text{C}$
Storage Temperature	$-40 \sim 100^{\circ}\text{C}$
Housing Protection	IP68

Accuracy

(Test condition: Environment temperature: $25 \pm 5^{\circ}\text{C}$ Relative humidity: 45%~75%)

Pressure Type	Range	Accuracy
Gauge (G)	$0 \text{mH}_2\text{O} \sim 1 \text{mH}_2\text{O} < X < 2 \text{mH}_2\text{O}$	$\pm 1\% \text{FS}$
	$2 \text{mH}_2\text{O} \leq X \leq 10 \text{mH}_2\text{O}$	$\pm 0.25\% \text{FS}$
		$\pm 0.5\% \text{FS}(\text{default})$
	$10 \text{mH}_2\text{O} \leq X \leq 200 \text{mH}_2\text{O}$	$\pm 0.1\% \text{FS}$
		$\pm 0.25\% \text{FS}$
		$\pm 0.5\% \text{FS}(\text{default})$
Absolute (A)	$0 \text{mH}_2\text{O} \sim 7 \text{mH}_2\text{O} < X \leq 10 \text{mH}_2\text{O}$	$\pm 1\% \text{FS}$
	$10 \text{mH}_2\text{O} < X \leq 200 \text{mH}_2\text{O}$	$\pm 0.25\% \text{FS}$
		$\pm 0.5\% \text{FS}(\text{default})$

Output Signals

2-wire current	$4 \sim 20 \text{mA}$
3-wire current	$4 \sim 20 \text{mA}$ (default)
	$0 \sim 20 \text{mA}$
3-wire voltage	DC $0 \sim 10 \text{V}$
	DC $0 \sim 5 \text{V}$
	DC $1 \sim 5 \text{V}$
	DC $0.5 \sim 4.5 \text{V}$
	DC $0.5 \sim 2.5 \text{V}$
	DC $0.1 \sim 2.1 \text{V}$
3-wire proportional voltage	DC $0.5 \sim 4.5 \text{V}$
RS485	

For other output requirements, please contact us.

Power Supply

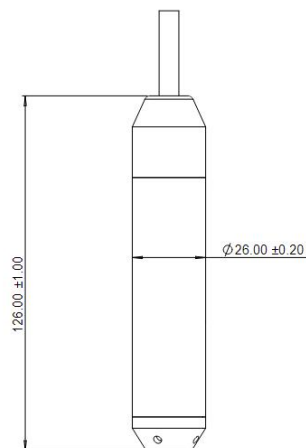
Output signals	Power supply	
	Default	Optional
4~20mA	DC 11~28V	DC 8~32V
DC 0~10V	DC 11~28V	DC 11~32V
DC 0~5V	DC 11~28V	DC 11~32V
DC 1~5V	DC 11~28V	DC 11~32V
DC 0.5~4.5V	DC 5V±0.1V	DC 8~32V
DC 0.5~2.5V	DC 5V±0.1V	DC 8~32V、DC3.3V
DC 0.1~2.1V	DC 5V±0.1V	DC 8~32V、DC3.3V
DC 0.5~4.5V (proportional output)	DC 5V±0.5V	/
RS485	DC 11~28V	DC5V

Load Resistance(Ω)

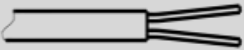
Current outout	$\leq (\text{power supply}-11\text{V}) / 0.02\text{A}$
Voltage output	$\geq 10\text{k}$

Material

Housing	SS304/316
Isolated Diaphragm	SS316L
O-ring	Fluororubber
Cable	PE/PUR/PVC/PTFE

Outline Dimension (unit: mm)

Electrical Connection

Wire cable					
		2-wire	3-wire current	3-wire voltage	4-wire (RS485)
	U_B	Red	Red	Red	Red
	0V	Green	Black	Black	Black
	S+	-	Green	Yellow	-
	RS485A	-	-	-	Yellow
	RS485B	-	-	-	Green

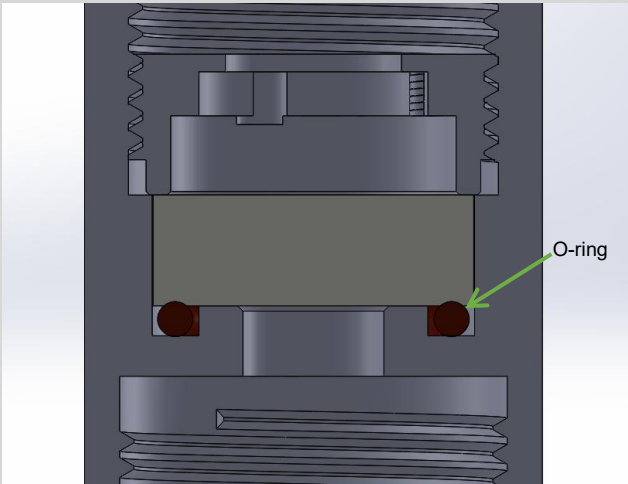
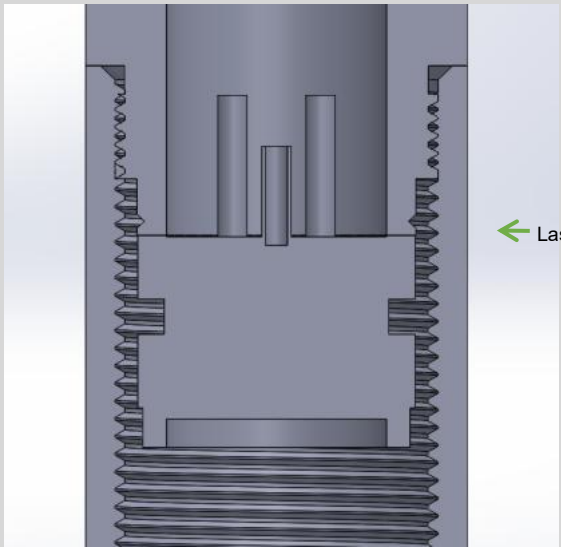
Definition:

U_B : Power Positive

0V: Power Negative

S+: Analog output

Sensor Sealing

O-ring Sealing (ceramic) P-(O-ring material:Fluororubber/EPDM)	Welding (diffused silicon)
	

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.

Ordering Guide

SPT21WSP	Level Transmitter		
	Range	0~200mH ₂ O	
	[0~X mH ₂ O] 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

SPT21WSP Level Transmitter Datasheet

				Code	Material		
					Isolated Diaphragm	Housing	
					22	SS316L	SS304
					24	SS316L	SS316L
					26	Titanium	Titanium
				Code	Others		
					1	Accuracy $\pm 1\%$ FS	
					2	Accuracy $\pm 0.5\%$ FS	
					3	Accuracy $\pm 0.25\%$ FS	
					4	Accuracy $\pm 0.1\%$ FS	
					D1	$\phi 26\text{mm}$	
						X1	Mounting Hooks
						X2	Junction box
SPT21WSP	[0~1mH ₂ O]	E	22	1	D1	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 $-20^{\circ}\text{C} \sim 250^{\circ}\text{C}$, when application temperature $< -20^{\circ}\text{C}$, EPDM O-ring is needed. ;
- 3, When ordering 5V DC/3.3V DC power products with cable connection, the cable length should be less than 10m;
- 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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