SIER ELECTRONICS CO., LTD

SPT21 General Type Pressure Transmitter

Features

- Reliable, easy maintenance
- Short protection and reverse polarity protection
- Gauge, absolute and sealed gauge optional
- Offset and full scale adjustable

Applications

- Petroleum
- Electricity
- Mechanical manufacturing
- Hydraulic and pneumatic control
- Pipeline system
- Hydrology and water resources

Introduction

SPT21 is a pressure transmitter independently developed by our company for general industrial applications. It integrates a highly stable and reliable diffusion silicon pressure sensor, an application-specific integrated circuit (ASIC), and a robust high-strength stainless steel housing. The product supports multiple threaded connection ports and standard signal output options, facilitating convenient integration and operation with field control instruments, PLCs, and other industrial equipment.

Specification

Pressure range	-1…0~0.1…1000bar
Over pressure	1.5 times FS or 1000bar (min. value is valid)
Pressure type	Gauge/absolute/sealed gauge optional
Accuracy	see Accuracy definition
Long term stability	≤±0.3%FS/year
Offset thermal drift	0.05%FS/℃(≤1bar)； 0.03%FS/℃(＞1bar)
Span thermal drift	0.05%FS/℃(≤1bar)； 0.03%FS/℃(＞1bar)
Compensated temp.	0~50℃ range≤1bar; -10~70℃ range＞1bar
Application temp.	-30~80℃
Storage temp.	-40~120℃
Housing protection	IP65 (default) / IP67/68 (customized)

Accuracy

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

Pressure Type	Range	Accuracy
Gauge (G)	0bar~0.1bar＜X＜0.35bar	±1%FS
	0.35bar≤X≤35bar	±0.5%FS（default）
		±0.25%FS
	-1bar~ -0.35bar＜X≤2bar	±0.5%FS
	-1bar~ -0.35bar＜X≤2bar~35bar	±0.25%FS
Absolute (A)	0bar~0.7bar＜X≤1bar	±1%FS
	1bar＜X≤10bar	±0.5%FS
	10bar＜X≤1000bar	±0.25%FS
		±0.5%FS（default）
Sealed gauge (S)	35bar＜X≤1000bar	±0.5%FS

Output Signals

2-wire current	4~20mA
3-wire current	4~20mA（default）
	0~20mA
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 output)	DC 5V±0.5V	/
RS485	DC 11~28V	DC 5V±0.1V

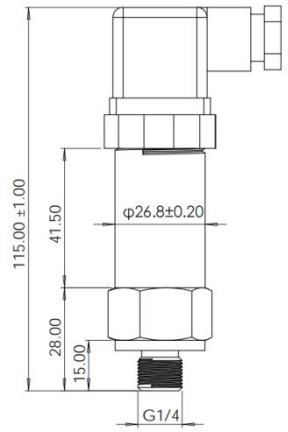
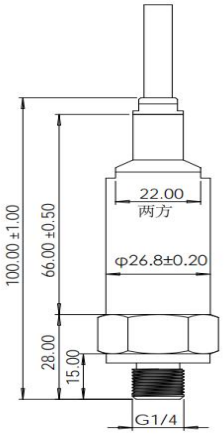
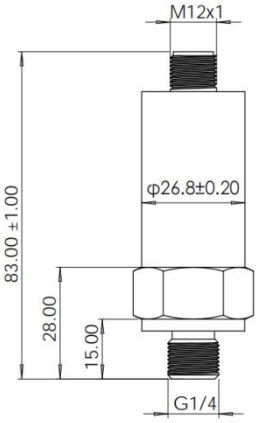
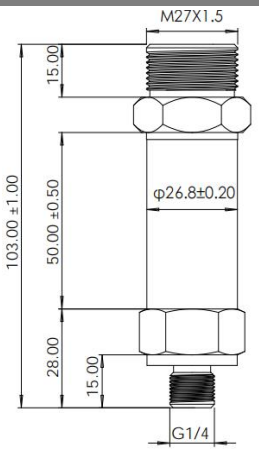
Load Resistance(Ω)

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

Material

Housing	SS304/SS316L
Pressure port	SS304/SS316L/Hastelloy C/Titanium Alloy
Diaphragm	SS316L/Tantalum
Sealing gasket	NBR (default) / Viton
Plug Housing	Glass Fiber Nylon
Cable	Polyethylene / Polyurethane / Polyvinyl Chloride / Teflon

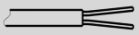
Outline Dimension（unit：mm）

Hirschmann 4-pole plug-in type	Cable exit type	M12 4-pole plug-in type	Explosion-proof type
			

Please contact us if you request anything else.

Electrical Connection

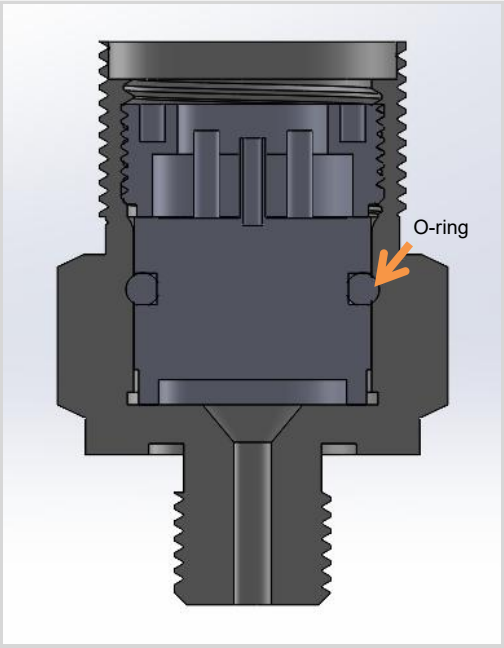
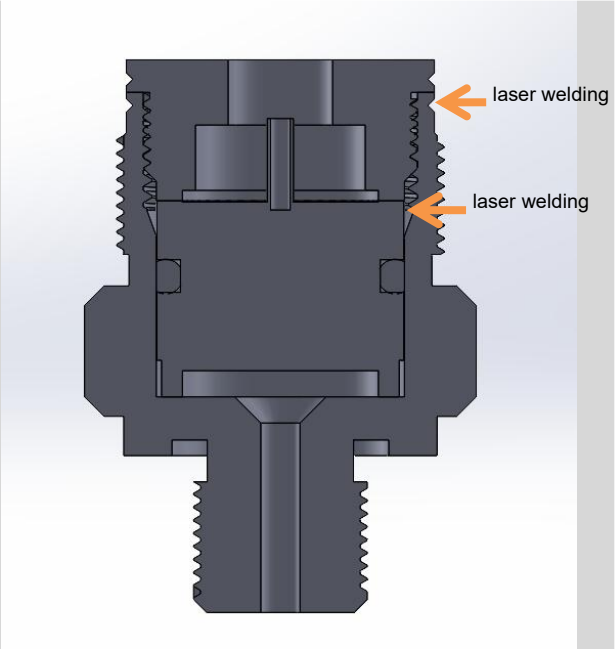
Hirschmann			
		2-wire	3-wire
	U_B	1	1
	0V	2	2
	S+	-	3

Air conduit cable			
		2-wire	3-wire
	U_B	black	red
	0V	black	black
	S+	-	Yellow

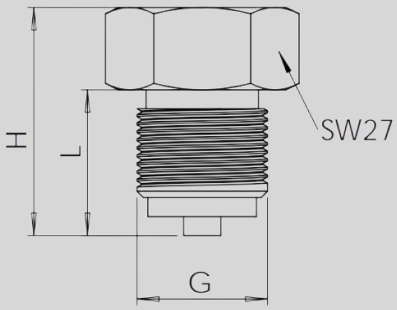
M12 plug			
		2-wire	3-wire
	U_B	1	1
	0V	2	2
	S+	-	3

Description
UB : Power +
0V : Power -
S+ : Analog output

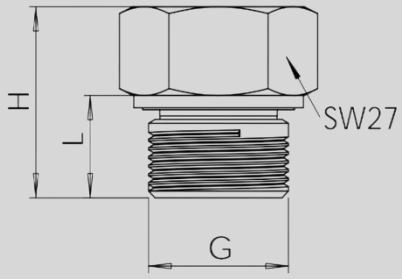
Sensor Sealing

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

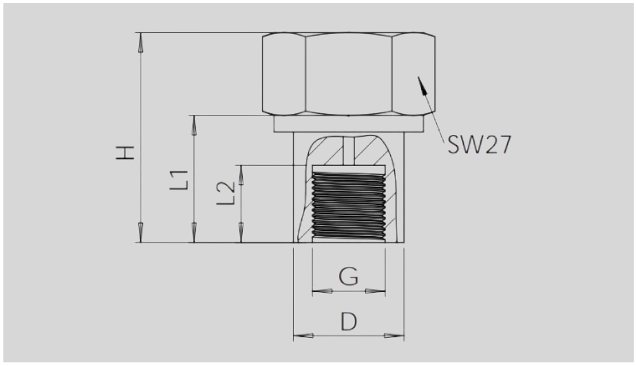
Process connection(Unit:mm)



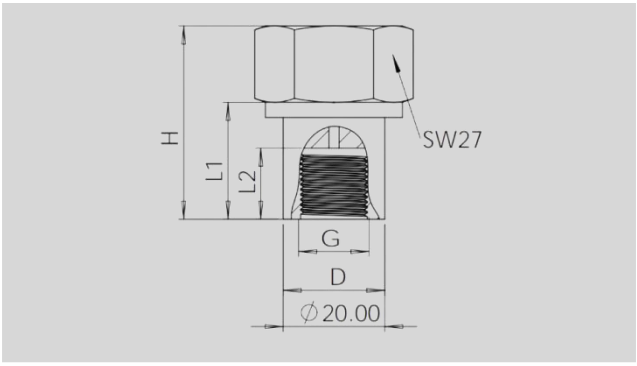
EN837		
G	H	L
$G_{1/8}$	20	10
$G_{1/4}$	25	15
$G_{3/8}$	26	16
$G_{1/2}$	36	23
M20X1.5	36	23



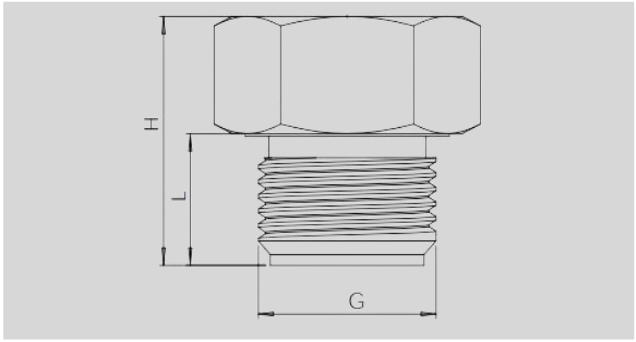
straight thread		
G	H	L
$G_{1/4}$	28	15
$G_{1/2}$	28	15
M14X1.5	28	15
M20X1.5	28	15



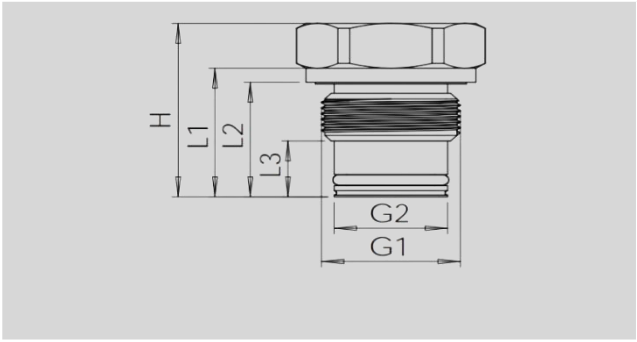
G female thread				
G	H	L1	L2	D
$G_{1/4}$	38	23	14	φ20



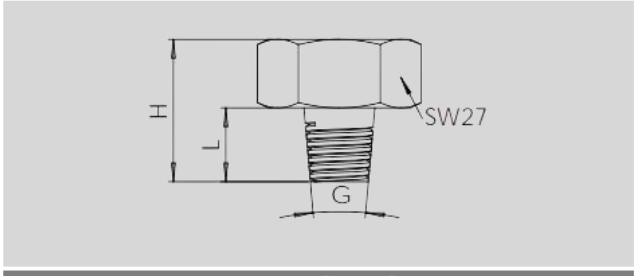
NPT female thread				
G	H	L1	L2	D
$NPT_{1/4}$	38	23	14	φ20



flush membrane			
G	H	L	SW
$G_{1/2}$	25.5	13.5	27
G_1	32.5	22.5	41



flush membrane front O-ring seal						
G1	G2	H	L1	L2	L3	SW
$G_{1/2}$	Φ18	31	23	21	10	27
G_1	Φ30	31	23	21	10	41



taper thread		
G	H	L
$NPT_{1/8}$	23	10
$NPT_{1/4}$	28	15
$NPT_{1/2}$	34	18
$R_{1/4}$	27	14
$R_{3/8}$	28	15
$R_{1/2}$	32	19
$PT_{1/4}$	27	14
$PT_{3/8}$	28	15
$PT_{1/2}$	32	19

Optional accessories

Name	Shape	Description
Damper		Material : copper or stainless steel Uses : Reduce the effects of cavitation, liquid hammer and pressure peak on the sensor in air or liquid with flow rate changes.
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
SPT-LCD display		Display : 4 + 1 / 2 digit display Input : 2-wire 4 ~ 20mA Output : 2-wire 4 ~ 20mA Optional with control function
SPT-LED display		Display : 4 + 1 / 2 digit display Input : 2-wire 4 ~ 20mA Output : 2-wire 4 ~ 20mA Optional with control function
SD01 loop powered display		Display range -1999~9999 Input: 2-wire 4~20mA Output: 2-wire 4~20mA
M12 plug-in cable		thread M12×0.75

Order Information

SPT21	General Type Pressure Transmitter							
	Range	-1…0~0.1…1000bar						
		-10…0~0.1…40bar（flush membrane）						
	[0~X]bar	X：the actual measured pressure						
		Code	Output signal					
		E	4~20mADC					
		J	0~5VDC					
		V	0~10VDC					
		V1	0.5~4.5VDC					
		R	RS485					
			Code	Construction material				
				Diaphragm	Pressure port	Housing		
			22	SS316L	SS304	SS304		
			24	SS316L	SS316L	SS316L		
			26	Titanium	Titanium	Titanium		
				Code	Accuracy			
				1	Accuracy±0.25%FS			
				2	Accuracy±0.5%FS (Default accuracy)			
				3	Accuracy±0.1%FS			
					B1	DIN43650 connector①		
					B2	Cable Exit		
					B3	M12 connector①		
						C1	M20*1.5 male thread	
						C2	G1/4 male thread	
						C3	G1/2 male thread	
						PC3	G1/2 flush membrane	
							G	Gauge
							S	Sealed gauge
							A	Absolute
SPT21	[0~1bar]	E	22	1	B1	C1	G	the whole spec

Ordering Notes

1.When ' 1 ' in the selection table selects B1 / B3, if you need to lead out the cable, please note in the order ;

2, As for product accuracy, see page 2 ' accuracy ' ;

3.Product sealing ring material default for fluorine rubber, the minimum use temperature is-20 °C, if the product temperature is < -20 °C, need to be noted in the order temperature range ; other sealing schemes can be used on demand, such as ethylene propylene diene rubber sealing ring, the minimum use temperature is-40 °C ;

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

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

6, 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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