

SIER ELECTRONICS CO., LTD

SPT21C Cost Effective Pressure Transmitter

Features

- Reliable, easy maintenance
- Short protection and reverse polarity protection
- Gauge, absolute and sealed gauge optional
- Compact size

Applications

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



Introduction

SPT21C is a high-precision, highly stable piezoresistive pressure transmitter that incorporates a highly reliable pressure sensor and specialized circuit board. Featuring a compact design and compatibility with mass production, this product demonstrates strong market competitiveness while delivering exceptional performance and reliability. It is ideally suited for measurement and control applications in water systems, petroleum, chemical processing, power generation, hydrology, flow/pressure measurement, and related industrial fields.

Specification

Pressure range	-1...0~1...400bar
Over pressure	1.5 times FS or 1100bar (min. value is valid)
Pressure type	Gauge/absolute/sealed gauge optional
Process connection	G1/4 male thread (customized)
Accuracy	see Accuracy definition
Long term stability	$\leq \pm 0.3\%FS/\text{year}$
Offset thermal drift	$0.05\%FS/^{\circ}C (> 1\text{bar})$
Span thermal drift	$0.05\%FS/^{\circ}C (> 1\text{bar})$
Compensated temp.	-10~70°C
Application temp.	-30~80°C
Storage temp.	-40~120°C
Housing protection	IP65 (default) / IP67/68 (customized)

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

Pressure Type	Range	Accuracy
Gauge (G)	$-1\text{bar} \sim 0\text{bar} \dots 1\text{bar} \leq X \leq 35\text{bar}$	$\pm 0.5\% \text{FS}$ (default)
		$\pm 0.25\% \text{FS}$
Absolute (A)	$0\text{bar} \sim 1\text{bar} < X \leq 35\text{bar}$	$\pm 0.25\% \text{FS}$
		$\pm 0.5\% \text{FS}$ (default)
Sealed gauge (S)	$35\text{bar} < X \leq 400\text{bar}$	$\pm 0.5\% \text{FS}$

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

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 $\pm$ 0.1V	DC 8~32V
DC 0.5~2.5V	DC 5V $\pm$ 0.1V	DC 8~32V、DC3.3V
DC 0.1~2.1V	DC 5V $\pm$ 0.1V	DC 8~32V、DC3.3V
DC 0.5~4.5V (proportional output)	DC 5V $\pm$ 0.5V	

Load Resistance(Ω)

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

Material

Housing	SS304/SS316L
Pressure interface	SS304/SS316L/Hastelloy C/Titanium Alloy
Diaphragm	SS316L/Tantalum/Titanium
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	M12 4-pole plug-in 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

U_B : Power +

0V : Power -

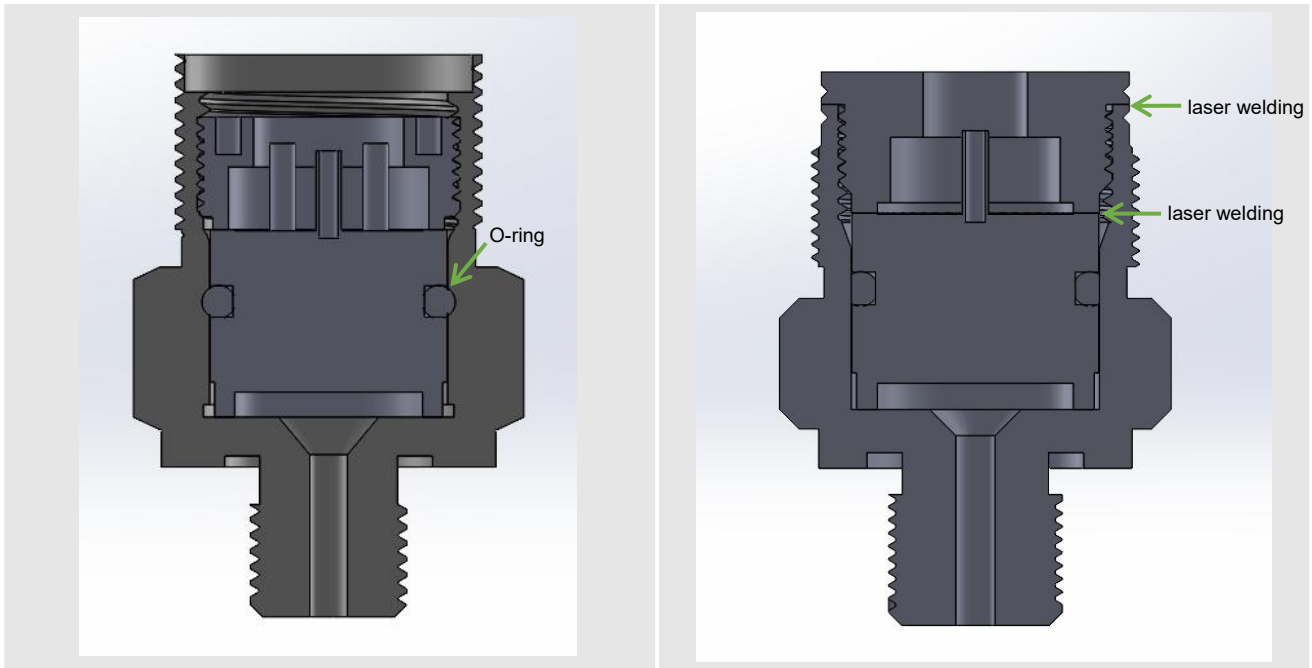
S+ : Analog output

Sensor Sealing

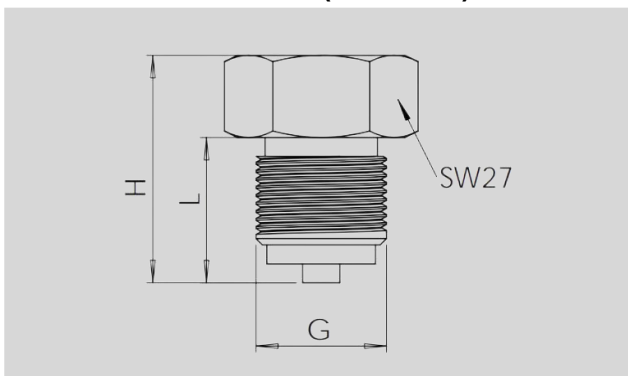
O-ring Sealing

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

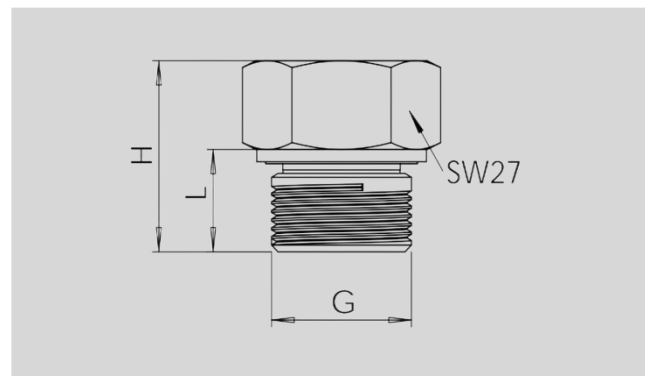
Soldering



Process connection(Unit:mm)

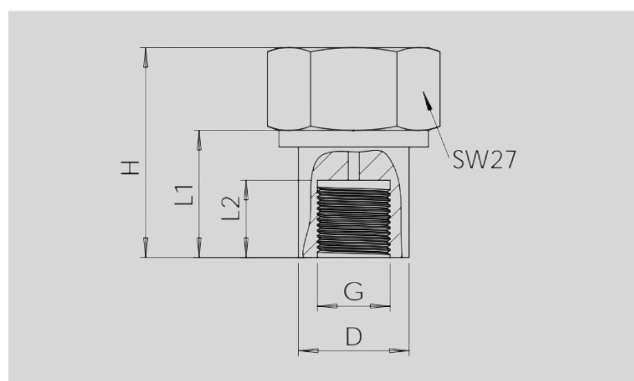


EN837		
G	H	L
G _{1/8}	20	10
G _{1/4}	25	15
G _{3/8}	26	16
G _{1/2}	36	23
M20X1.5	36	23



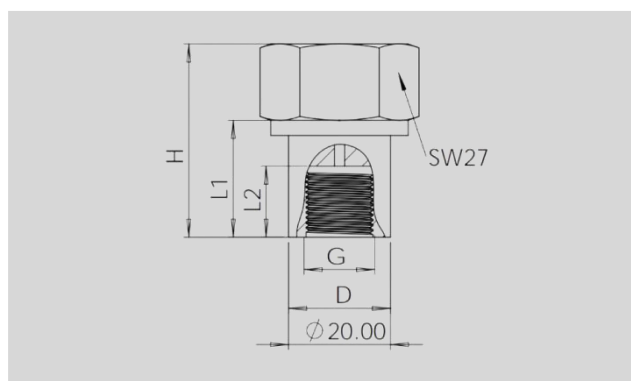
straight thread		
G	H	L
G _{1/4}	28	15
G _{1/2}	28	15
M14X1.5	28	15
M20X1.5	28	15

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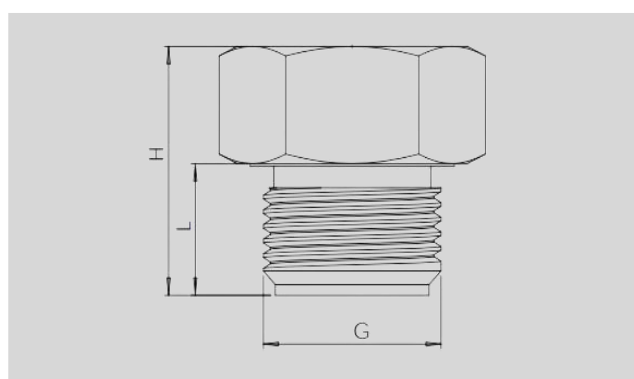
G female thread

G	H	L1	L2	D
G _{1/4}	38	23	14	φ20



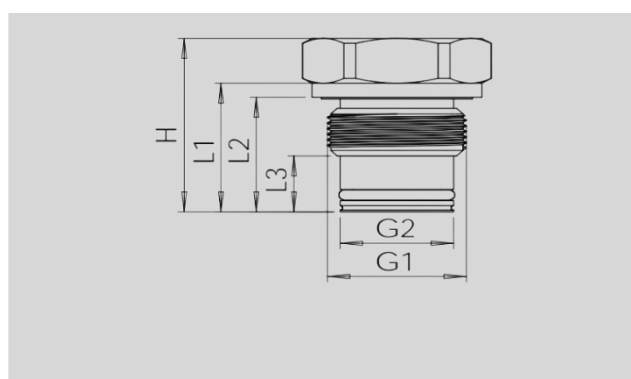
NPT female thread

G	H	L1	L2	D
NPT _{1/4}	38	23	14	φ20



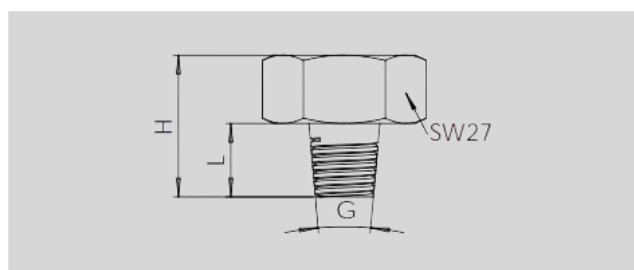
flush membrane

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

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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

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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

SPT21C	Cost Effective Pressure Transmitter			
	Range	-1...0~1...400bar		
	[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		
	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	
	Code	2	Accuracy±0.5%FS (default)	
		B1	Hirschmann connectors ^①	
	Code	B2	Cable connection	
		B3	M12 plug ^①	
	Code	C1	M20*1.5 male thread	
		C2	G1/4 male thread	

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							C3	G1/2 male thread
							PC3	G1/2 flush membrane
							G	Gauge
							S	Sealed gauge
							A	Absolute
SPT21C	[0~10bar]	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 than 10m;
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

A: 2nd Floor, Building No.A2, Western sensor park, No.30 Jiangtan Xi Road, Baoji 721004, Shaanxi, China
 Tel: +86 917 3652001
 Fax: +86 917 3652001
 Email: kenny@sirelectro.com
 Web: www.sirelectro.com