

## SS309 series piezoresistive differential pressure transmitters

### Features

- CE conformity
- Stainless steel 316L diaphragm
- Differential pressure from 0.2 to 25 bar
- Piezoresistive technology, silicone oil filled
- Isolated construction, able to test various media
- A wide range of pressure and electrical connections
- Output signals: 4-20mA and 0-10V, 0-5V voltage output



### Descriptions

SS309 series differential pressure sensor is very rugged and designed for use as a wet/wet differential pressure transmitter, it can be used to measure gas or liquid pressure compatible with stainless steel wetted parts and viton. A high performance piezoresistive differential pressure transducer is sealed by O-ring inside as the pressure sensing element, silicone oil is filled in the transducer housing between the silicon chip and stainless steel 316L diaphragm, the measured pressure act on the silicon chip through the diaphragm and silicone oil.

SS309 series has two pressure ports for high and low pressures, the output signal generated by the piezoresistive bridge sensor is amplified into a useable voltage or 4-20mA output signal, it comes in a variety of mechanical and electrical configurations, is ideal for differential pressure measurement of petroleum, chemical industry, power station and also used for flow measurement.

### Fixing & suggestions

- |   |
|---|
| 1, Suggest to make two pressure ports horizontally to reduce installation direction effect.   |
| 2, Suggest to install a tri-valve between the measured point and transmitter to make the media adding on the transmitter's positive and negative cavities slowly. |

### Technical data

Performance (EN 60770)

Accuracy @ 25 °C	± 0.5% F.S. (incl. non-linearity, hysteresis and repeatability)
Response time	≤ 4 ms
Pressure type	Differential
Long term stability	≤ 0.2% F.S./Year
Temperature coefficient	± 0.03% F.S./°C

Pressure & overload (Unit: bar)

Pressure	0.35	0.7	1.0	2.0	3.5	7.0	10	16	20	25
Overload	1.0	2.5	2.5	5.0	5.0	10	15	20	30	30
Static pressure	16	16	16	16	16	16	25	25	40	40

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### Electrical specifications

Output signal	4-20mA	0-10V	0-5V/0.5-4.5V	0.5-4.5V	10%-90%
Supply voltage	9-30Vdc	12-30Vdc	9-30Vdc	5Vdc	5V ratio-metric
Polarity protected	yes	yes	yes	yes	yes
Short-circuit protected	yes	yes	yes	yes	yes
Zero and span adjustment	No	No	No	No	No
Surge protection	yes	yes	yes	yes	yes

### Environmental conditions

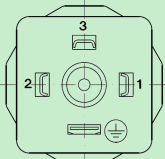
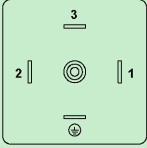
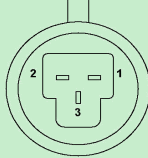
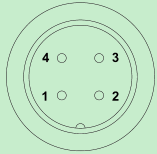
Medium temp range	-20 → +100 °C
Ambient temp range	-20 → +80 °C (depending on electrical connection)
Compensated temp range	0 → +70 °C
EMC - Emission	EN 61000-6-3
EMC - Immunity	EN 61000-6-1
Insulation resistance	> 100 MΩ at 250 V

### Mechanical characteristics

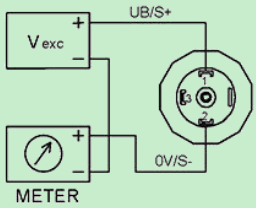
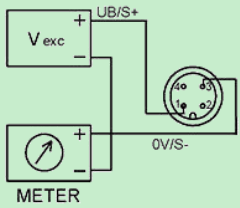
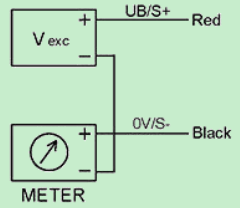
Materials	Diaphragm	Stainless steel 316L (typical)	More options see <a href="#">page 5</a>
	Housing	Stainless steel 304 (typical)	Stainless steel 316L (optional)
	Pressure connection	Stainless steel 304 (typical)	Stainless steel 316L (optional)
	Electrical connection	Depending on the connection type	
	O-ring	FKM / Viton (typical)	EPDM (optional)
Pressure connection	1/4" BSP, 1/4" NPT, 9/16-18 UNF, M14 x 1.5		More options see <a href="#">page 5</a>
Electrical connection	DIN43650A, DIN43650C, Cable outlet, M12 × 1, LED Display		
Weight	500g (depending on pressure connection and electrical connection)		
Sealing rating	IP 65 (fulfilled together with mating connector)		

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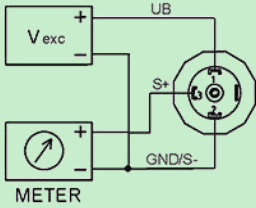
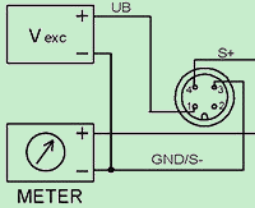
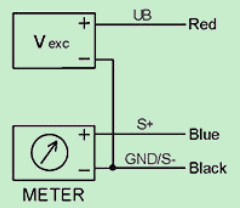
### Electrical connector type

DIN43650A	DIN43650C	3-pin Packard	M12 × 1
			

### Electrical connections for 4-20mA current output signal (2 wire)

DIN43650	M12 × 1	Cable outlet
Pin 1: + supply    Pin 2: + output	Pin 1: + supply    Pin 3: + output	Red: + supply    Black: + output
		

### Electrical connections for 0-10V, 0-5V, 0.5-4.5V voltage output signal (3 wire)

DIN43650	M12 × 1	Cable outlet
Pin 1: + supply    Pin 2: GND Pin 3: + output	Pin 1: + supply    Pin 3: GND Pin 4: + output	Red: + supply    Black: GND Blue: + output
		

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Dimensions for electrical connections and housing (Unit: mm)

DIN43650A	DIN43650C	Cable outlet
H = 79 mm	H = 79 mm	H = 64 mm

M12 × 1	LED Display
H = 67 mm	H = 127 mm

Dimensions for pressure connections (Unit: mm)

G 1/2" thread	G 1/4" thread	1/2" NPT thread	1/4" NPT thread
LENGTH=93 mm	LENGTH=93 mm	LENGTH=90 mm	LENGTH=90 mm

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### Part number chart (How to order)

PART NUMBER REQUIRED: **SS309.PL.01.A.02.A.06 (EXAMPLE)**

1	Pressure range(bar) PB(0...0.2) PC(0...0.35) PD(0...0.5) PE(0...0.7) PF(0...1) PG(0...1.6) PH(0...2) PI(0...2.5) PJ(0...4) PK(0...6) PL(0...10) PM(0...16) PN(0...25) 1Z(Other pressure range or unit is on request)	PL
2	Pressure type 01(Differential)	01
3	Electrical connection A(DIN43650A) B(Cable Outlet) C(M12 × 1) D(LED Display) E(DIN43650C) F(Plug type)	A
4	Pressure connection 01(1/4" NPT male) 02(1/2" NPT male) 03(1/8" NPT male) 04(G 1/4" male) 05(G 1/2" male) 06(G 1/8" male) 07(PT 1/4" male) 08(PT 1/2" male) 09(PT 1/8" male) 10(9/16-18 UNF male) 11(7/16-20 UNF male) 12(1/2-20 UNF male) 13(3/8-24 UNF male) 14(M10 x 1.25 male) 15(M14 x 1.5 male ) 16(M20 x 1.5 male) 4Z(Other pressure connection is on request)	02
5	Signal & supply A(4-20mA & 9-30Vdc) B(0-10V & 12-30Vdc) C(0-5V & 9-30Vdc) D(0.5-4.5V & 9-30Vdc) E(0.5-4.5V & 5Vdc) F(0.5-4.5V & 5Vdc ratiometric)	A
6	Cable length 01(1m) 02(2m) 03(3m) 04(4m) 05(5m) 06(None) 6Z(Other length is on request)	06

NON- REQUIRED: **SS309.PL.01.A.04.A.06 - V5G**

1	Material of O-ring sealing V2B(EPDM)	V2B
2	Material of housing V3C(Stainless steel 316L)	V3C
3	Material of diaphragm V4D(Titanium) V4E(Tantalum) V4F(Hastelloy-C)	V4E
4	Material of wetted parts (metal parts, not include the diaphragm) V5G(Stainless steel 316L)	V5G
5	Pulse snubber / Bumper (Anti cavitation, pressure spikes, or pulses) V6H(Assemble into the pressure hole)	V6H

## SS309 series piezoresistive differential pressure transmitters

### Contact us

Company	Ningbo Sendo Electronic Technology CO., LTD	
Email	sales@sendo-sensor.com	
Email	cain.chen@sendo-sensor.com	
Factory	No 15, Yongxing 2nd Rd, Chengbei Industrial Park, Huizhou District, 245900 China	
Office	Building. 1#1108, Wante business center, Hi-Tech, 315040 China	
Website	<a href="http://www.pressuresensorsuppliers.com">http://www.pressuresensorsuppliers.com</a>	<a href="http://www.sendo-sensor.com">http://www.sendo-sensor.com</a>
Skype: sendosensor	WeChat: chenjie4884	WhatsApp: +8613616574884
Tel: 0086-0574-27725960	Fax: 0086-0574-27725970	Phone: 0086-13616574884

\*Specifications subject to change without notice, the latest date sheet please contact: [sales@sendo-sensor.com](mailto:sales@sendo-sensor.com)



**WARNING: DO NOT USE THIS PRODUCT AS SAFETY OR EMERGENCY STOP DEVICE OR IN ANY OTHER APPLICATION WHERE FAILURE OF THE PRODUCT COULD RESULT IN PERSONAL INJURY OR EVEN DEATH.**