



Pressure Sensor For General Fluids

Series PSE560



PSE530

PSE540

PSE550

PSE560

PSE570

PSE200

Controller

PSE300

Series	Rated pressure range				
	-100 kPa	0	100 kPa	500 kPa	1 MPa
PSE560		0	1 MPa		
PSE561	-101 kPa	0			
PSE563	-100 kPa		100 kPa		
PSE564		0		500 kPa	

Applicable fluids example

- Argon
- Air-containing drainage
- Refrigerant
- Nitrogen
- Hydraulic oil
- Silicone oil
- Water
- Carbon dioxide
- Lubricant
- Fluorocarbon
- Air

Material of parts
in contact with fluid
Stainless steel 316L

IP65

**Copper-free
Fluorine-free**

Oil-free
(Single diaphragm construction)

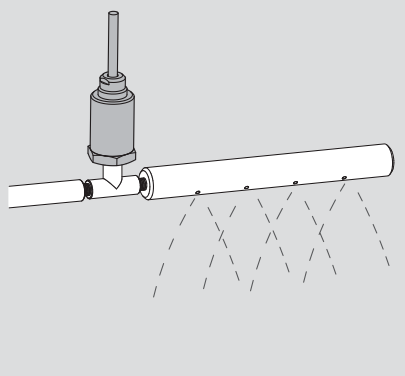
Variations

Port type	Thread type	Special fitting type for semiconductors
Port size	R 1/8, R 1/4, Rc 1/8, NPT 1/8, NPT 1/4	URJ 1/4, TSJ 1/4*
Leakage	$1 \times 10^{-5} \text{Pa} \cdot \text{m}^3/\text{s}$	$1 \times 10^{-10} \text{Pa} \cdot \text{m}^3/\text{s}$
Analogue output	1 to 5 V voltage output	
	4 to 20 mA current output	

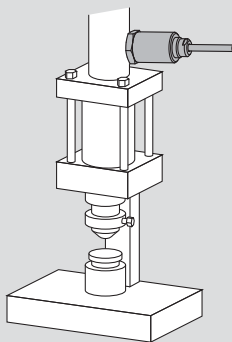
* For URJ1/4, TSJ1/4, refer to "Glossary of Terms/Technical Information" on SMC website or refer to www.smc.eu website

Application examples

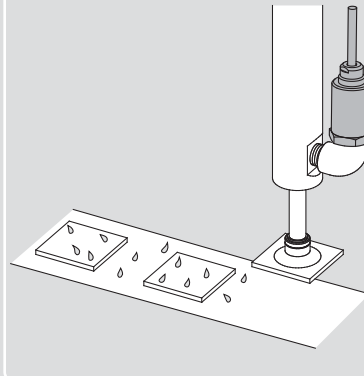
Cleaning lines



Check for working pressure for hydraulic cylinders



Suction verification of workpieces containing moisture



Note: When vacuum is released, take precautions to avoid water collision with inertia force. (An adapter with restrictor (ZS-31-X175) is available to prevent water collision with rush inertia.) (Refer to "NOTE" on the Operation Manual at SMC website for details.)

Applications

Pressure Sensor For General Fluids

Series PSE560



How to Order

Sensor range

0	Positive pressure [0 to 1 MPa]
1	Vacuum [0 to -101 kPa]
3	Compound pressure [-100 to 100 kPa]
4	Positive pressure [0 to 500 kPa]

Option (Connector)

—	None
C2	Connector for pressure sensor controller (1 pc.)

Note 1) Current output type cannot be connected to the PSE200 series.
Note 2) The connector is not attached to the cable, but is included with the shipment.

Port size

01	R 1/8 (with M5 female thread)
02	R 1/4 (with M5 female thread)
C01	Rc 1/8
N01	NPT 1/8 (with M5 female thread)
N02	NPT 1/4 (with M5 female thread)
A2	URJ 1/4
B2	TSJ 1/4

Output specifications

—	Voltage output type 1 to 5 V
28	Current output type 4 to 20 mA

PSE56 0 - 01 - [] - []

Option/Part No.

Description	Part no.	Note
Connector for pressure sensor controller	ZS-28-C	1 pc.
Adapter with restrictor Rc 1/4	ZS-31-X175	1 pc.
Adapter with restrictor NPT 1/4	ZS-31-X186	1 pc.
Adapter with restrictor Rc 1/8	ZS-31-X188	1 pc.
Adapter with restrictor NPT 1/8	ZS-31-X189	1 pc.

For Pressure Switch Precautions and Specific Product Precautions, refer to "Handling Precautions for SMC Products" and the Operation Manual on SMC website.

Specifications

Model	PSE560 (Positive pressure)	PSE561 (Vacuum)	PSE563 (Compound pressure)	PSE564 (Positive pressure)
Rated pressure range	0 to 1 MPa	0 to -101 kPa	-100 to 100 kPa	0 to 500 kPa
Extension analogue output range	-0.1 to 0 MPa	10.1 to 0 kPa	—	-50 to 0 kPa
Proof pressure	1.5 MPa	500 kPa	500 kPa	750 kPa

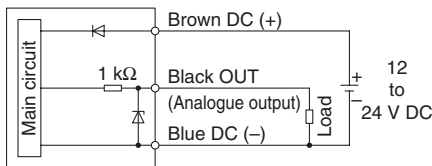
Model	PSE56□-□	PSE56□-□-28
Applicable fluid	Liquid or gas that will not corrode or attack stainless steel 316L	
Power supply voltage	12 to 24 V DC ±10 %, Ripple (p-p) 10 % or less (with reverse connection protection)	
Current consumption	10 mA or less	—
Output specifications	Analogue output: 1 to 5 V (within rated pressure range) 0.6 to 1 V (within extension analogue output range) Output impedance: Approx. 1 kΩ	Analogue output: 4 to 20 mA DC (within rated pressure range) Maximum load impedance: 500 Ω or less (at 24 V DC) 100 Ω or less (at 12 V DC)
Accuracy (Ambient temperature at 25 °C)	±1 % F.S. (within rated pressure range), ±3 % F.S. (within extension analogue output range)	
Linearity	±0.5 % F.S.	
Repeatability	±0.2 % F.S.	
Power supply voltage effect	±0.3 % F.S.	
Environment	Enclosure	IP65
	Operating temperature range	Operating: -10 to 60 °C, Stored: -20 to 70 °C (No freezing or condensation)
	Operating humidity range	Operating/Stored: 35 to 85 % RH (No condensation)
	Withstand voltage	250 V AC for 1 minute between terminals and housing
	Insulation resistance	50 MΩ or more (50 V DC measured via megohmmeter) between terminals and housing
Temperature characteristics	±2 % F.S. (0 to 50 °C: 25 °C reference), ±3 % F.S. (-10 to 60 °C: 25 °C reference)	
Sensor cable	PSE56□-□: Oilproof heavy-duty vinyl cable with air tubing, 3 cores, Ø 5.1, 3 m, Conductor area: 0.2 mm ² , Insulator O.D.: 1.12 mm PSE56□-□-28: Oilproof heavy-duty vinyl cable with air tubing, 2 cores, Ø 5.1, 3 m, Conductor area: 0.2 mm ² , Insulator O.D.: 1.12 mm	
Standards	CE, UL/CSA (E216656), RoHS	

Piping Specifications

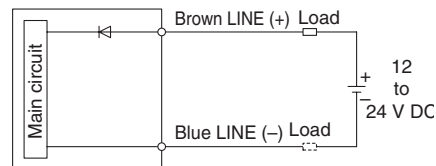
Model	01	02	N01	N02	C01	A2	B2
Port size	R 1/8 M5 x 0.8	R 1/4 M5 x 0.8	NPT 1/8 M5 x 0.8	NPT 1/4 M5 x 0.8	Rc 1/8	URJ 1/4	TSJ 1/4
Material	Case: C3604 + Nickel plating, Piping port/Pressure sensor: Stainless steel 316L						
Weight	With sensor cable	193 g	200 g	194 g	201 g	187 g	203 g
	Without sensor cable	101 g	108 g	102 g	109 g	95 g	101 g

Internal Circuit and Wiring Example

PSE56□-□
Voltage output type
1 to 5 V
Output impedance
Approx. 1 kΩ



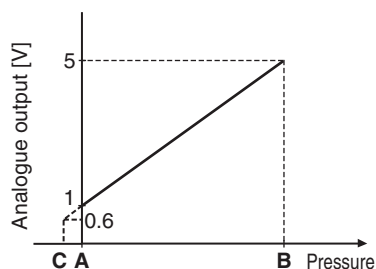
PSE56□-□-28
Current output type
4 to 20 mA
Allowable load impedance
500 Ω or less (at 24 V DC)
100 Ω or less (at 12 V DC)



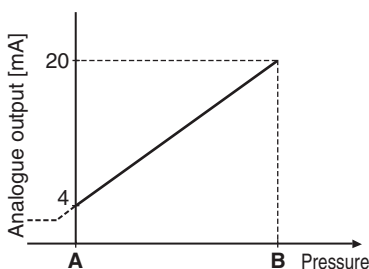
* Install the load either on the LINE (+) or LINE (-) side.

Analogue Output

1 to 5 V DC



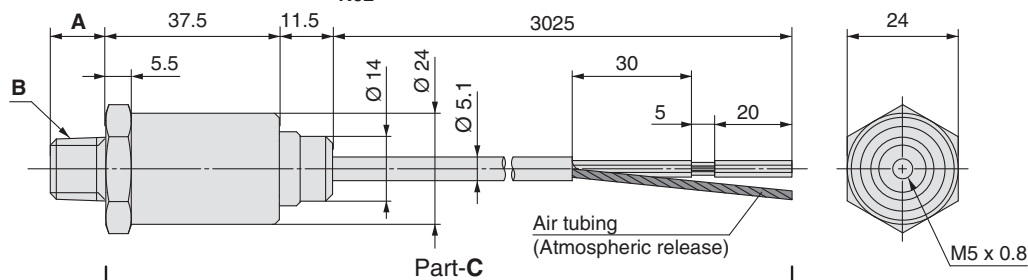
4 to 20 mA DC



Range	Rated pressure range	A	B	C
For vacuum	0 to -101 kPa	0	-101 kPa	10.1 kPa
For compound pressure	-100 kPa to 100 kPa	-100 kPa	100 kPa	—
For positive pressure	0 to 1 MPa	0	1 MPa	-0.1 MPa
	0 to 500 kPa	0	500 kPa	-50 kPa

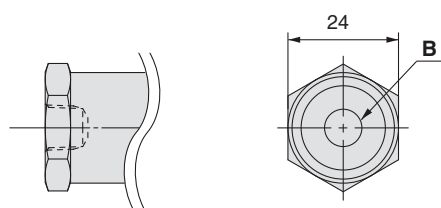
Dimensions

PSE56□-01, PSE56□-N01
02, PSE56□-N02

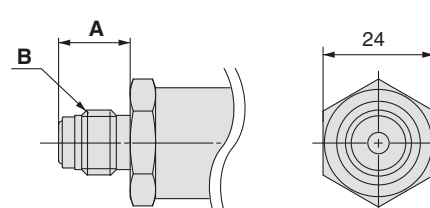


Be sure to release the air in the air tubing of the cable to the atmosphere. If the air tubing is restricted, or left in environments where it is exposed to water or oil, it cannot be detected normally.

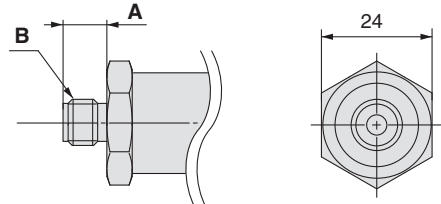
PSE56□-C01



PSE56□-A2

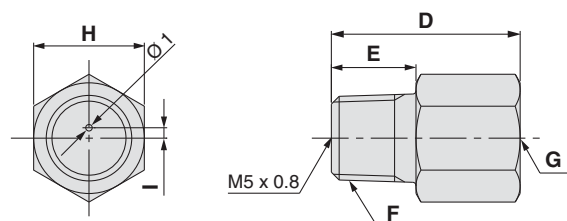


PSE56□-B2



Model	A	B
PSE56□-01	8.2	R 1/8
PSE56□-02	12	R 1/4
PSE56□-N01	9.2	NPT 1/8
PSE56□-N02	12.2	NPT 1/4
PSE56□-C01	—	Rc 1/8
PSE56□-A2	15.5	URJ 1/4
PSE56□-B2	9.5	TSJ 1/4

Adapter with restrictor
ZS-31-X□□□



Part no.	D	E	F	G	H	I
ZS-31-X188	20	9	R 1/8	Rc 1/8	14	1.5
ZS-31-X189	20	9	NPT 1/8	NPT 1/8	14	1.5
ZS-31-X175	29	13	R 1/4	Rc 1/4	17	1.6
ZS-31-X186	29	13	NPT 1/4	NPT 1/4	17	1.6

Note) If it is predicted that the pressure, such as the water hammer or surge pressure fluctuates rapidly, refer to the Precautions stated in the Operation Manual at SMC website (<http://www.smcworld.com>).

PSE530
 PSE540
 PSE550
 PSE560
 PSE570
 PSE200
 PSE300