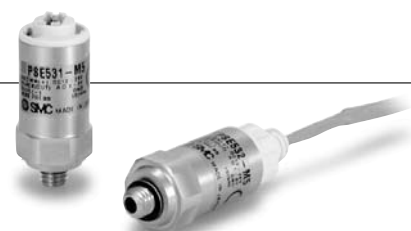


Series 10-PSE530

Remote type pressure sensor

How to Order



Clean series

10-PSE530-M5

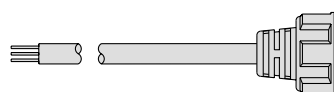
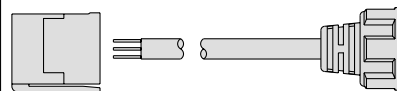
Pressure sensing range

0	High pressure [0 to 1 MPa]
1	Vacuum [0 to -101 kPa]
2	Low pressure [0 to 101 kPa]
3	Compound pressure [-101 to 101 kPa]

Port size

M5	M5 x 0.8
R06	ø6 reducer
R07	1/4-inch reducer

Option

Nil	Without cable
	Sensor cable (3 m)
L	
C2L	Connector for pressure sensor controller connection (1pc.) + Cable for sensor (3m)
	

Note) At the factory, the connector is not connected to the cable, but packed together with it for shipment.

Option

When only optional parts are required, order using the part numbers listed below.

Description	Part no.	Note
Connector	10-ZS-28-C	1 pc. per set
Sensor cable	10-ZS-26-F	Cable length: 3 m
Connector for pressure sensor controller connection + Sensor cable	10-ZS-26-J	Cable length: 3 m The connector is not connected to the cable at the time of shipment.

Specifications

Model		10-PSE530	10-PSE531	10-PSE532	10-PSE533
Rated pressure range		0 to 1 MPa	0 to -101 kPa	0 to 101 kPa	-101 to 101 kPa
Proof pressure		1.5 MPa	500 kPa		
Fluid		Air, Non-corrosive gas, Non-flammable gas			
Power supply voltage		12 to 24 VDC, Ripple (p-p) 10% or less (with power supply polarity protection)			
Current consumption		15 mA or less (at no load)			
Output specification		Analog output (1 to 5 V, Output impedance: Approx. 1 kΩ)			
Accuracy (Ambient temperature of 25°C)		±2% F.S. or less			
Linearity		±1% F.S. or less			
Repeatability		±1% F.S. or less			
Power supply voltage effect		±1% F.S. or less based on the analog output at 18 V ranging from 12 to 24 VDC			
Environmental resistance	Enclosure	IP40			
	Operating temperature range	Operating: 0 to 50°C; Stored: -10 to 70°C (No freezing or condensation)			
	Withstand voltage	1000 VAC, 50/60 Hz for 1 minute between live parts and case			
	Insulation resistance	5 MΩ between live parts and case (measured by 500VDC megameter)			
	Vibration resistance	10 to 500 Hz at whichever is smaller of 1.5 mm amplitude or 98 m/s ² acceleration, in X, Y, Z directions, for 2 hours each (De-energized)			
	Impact resistance	980 m/s ² in X, Y, Z directions, 3 times each (De-energized)			
Temperature characteristics		±2% F.S. or less (based on 25°C)			
Sensor cable / Option		Halogen-free heavy-duty cord, ø2.7, 0.15 mm ² , 3 cores, 3 m			
Particle generation grade (Refer to front matter pages 13 to 22 for details.)		Grade 2			

Caution

This product is blown with air and double packed in a Class M3.5 (ISO Class 5) clean room.

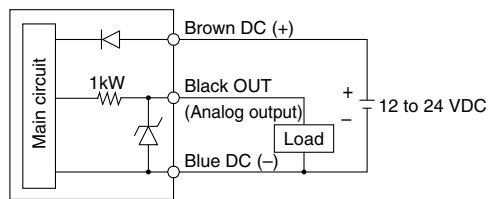
Piping specifications

Model	M5	R06	R07
Port size	M5 x 0.8 male	ø6 reducer type	1/4-inch reducer type
Wetted parts material	Pressure sensor: Silicon, O-ring: FKM		
	Body: Stainless steel 304	Body: PBT	
Weight	With sensor cable (3 m)	41 g	38 g
	Without sensor cable	7 g	3.8 g

Internal circuit

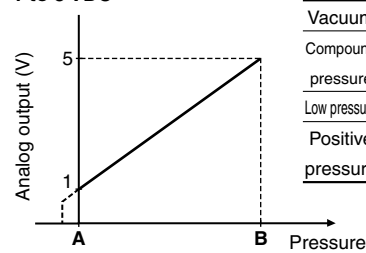
10-PSE53□

Voltage output style
1 to 5V
Output impedance
Approx. 1 kΩ



Analog output

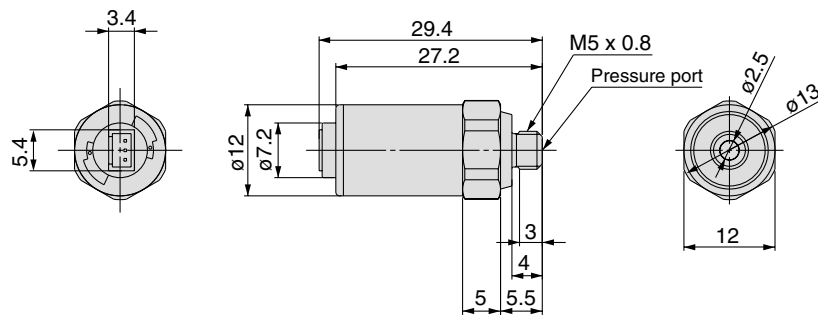
1 to 5 VDC



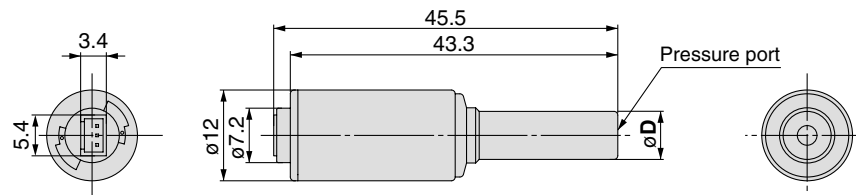
Range	Rated pressure range	A	B
Vacuum	0 to -101kPa	0	-101kPa
Compound pressure	-101 kPa to 101kPa	-101kPa	101kPa
Low pressure	0 to 101kPa	0	101kPa
Positive pressure	0 to 1MPa	0	1MPa
	0 to 500kPa	0	500kPa

Dimensions

10-PSE53□-M5

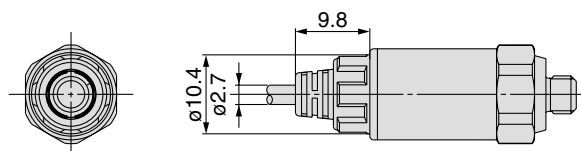


10-PSE53□-R06 R07



Model	Applicable fitting size (D)
10-PSE53□-R06	6
10-PSE53□-R07	1/4"

With sensor cable





Specific Product Precautions 1

Be sure to read before handling.

Pressure sensor

Handling

Warning

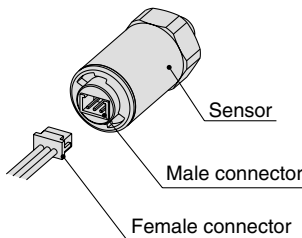
1. Do not drop, bump or apply excessive impacts (10-PSE530 and 540: 980m/s², 10-PSE560: 500m/s², PSE550: 300m/s²) while handling. Although the body of the sensor may not be damaged, the inside of the sensor could be damaged and lead to a malfunction.
2. The tensile strength of the cord is 23N for 10-PSE530 and not more than 50N for 10-PSE540, 550, and 560. If the applied force exceeds this specification, the sensor will be damaged.
3. Do not use pressure sensors with corrosive and/or inflammable gases or liquids.

(10-PSE530)

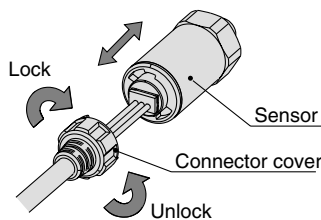
1. Do not exceed the screw-in torque of 3.5 N·m when installing piping. Exceeding this value may cause malfunction of the sensor.

2. Connecting the sensor cable (optional)

Hold the female connector of the sensor cable with your fingers and carefully insert it into the connector.



A connector cover is provided as part of the cable assembly. It is designed to keep the female connector from slipping out of the sensor. To lock the connector cover in place, first make sure it is facing in the right direction as you slip it over the female connector, then lock it to the sensor body by turning it clockwise. To remove the cover, first unlock it by turning it counterclockwise, then pull back on it. To remove the female connector, grab it with your fingers and pull back on it. Do not pull on the cable.



(10-PSE540/550)

1. Care should be taken when stripping the outer cable covering as the insulator may be accidentally torn or damaged if incorrectly stripped.

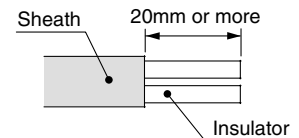


Wiring

Caution

1. Connecting sensor cable and connector

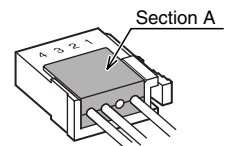
- Cut the sensor cable as illustrated to the right.
- Referring to the table below, insert each lead wire of the cable at the position marked with a number corresponding to the color of the lead wire.



- Confirm that the numbers on the connector match the colors of the wires and that the wires are inserted to the bottom. Press Part A by hand for temporary fixing.

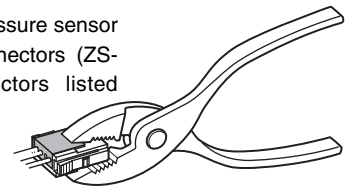
Connector no.	Wire core color
1	Brown (DC (+))
2	Unconnected
3	Blue (DC (-))
4	Black (OUT: 1 to 5V)

- Press in the central part of Part A vertically with a tool such as pliers.



- A sensor connector cannot be taken apart for reuse once it is crimped. If the wire arrangement is incorrect or if the wire insertion fails, use a new sensor connector.

- For connection to SMC pressure sensor monitors, use sensor connectors (ZS-28-C□) or e-con connectors listed below.



Sensor series	Sumitomo 3M	Tyco Electronics AMP K.K.	Omron Corporation
10-PSE53□	37104-3101-000FL	3-1473562-4	XN2A-1430
10-PSE54□	37104-3101-000FL	1-1473562-4	XN2A-1430
10-PSE55□	37104-3101-000FL	1-1473562-4	XN2A-1430
10-PSE56□	37104-3101-000FL	1473562-4	XN2A-1430

- For detailed information about e-con connectors, please consult the manufacturers of the respective connectors.

Air cylinder

Rotary actuator

Air gripper

Directional control valve

Flow control equipment

Filter, Pressure control equipment

Fittings & Tubing

Air preparation equipment

Pressure switch

Clean gas filter



Specific Product Precautions

Be sure to read before handling.

Pressure source

Warning

(10-PSE560)

1. Use of toxic, corrosive or flammable gases

Do not use **toxic or corrosive gases** with the sensors.

2. Fluid

The fluid contact (wetted) areas are SUS316L (pressure sensor, fittings). Use fluid that will not corrode the materials.

(For corrosiveness of fluid, consult with the manufacturer of the fluid.)

(10-PSE56□-A₂-B₂ only)

Helium leakage test

Helium leakage test is conducted on the welding parts. Use a ferrule (Swagelok®) by Crawford Fitting Co. as the TSJ fittings, and packing, ground, etc. (VCR® fittings) by Cajon as the URJ fittings. If a ferrule, packing or ground by other manufacturers are to be used, conduct helium leakage test before using them.

Piping connection

Caution

(10-PSE550)

- Cut the air tubing vertically.
- Carefully hold the air tubing and slowly push it into the resin pipe, ensuring that it is inserted by more than 8mm. For your information, the pull strength is approx. 25 N when inserted by more than 8mm.
- Insert the low pressure tubing into “Lo” pipe, and the high pressure tubing into “Hi” pipe.
- When the air tubing of the brand other than SMC is to be used, its ID accuracy is required to be $\phi 4 \pm 0.3\text{mm}$.
- Air tubing should be inserted surely into the pipe so that it will not come off. (Pull strength is about 25N in 8mm insertion.)

