

Series 10-PSE540

Remote Type Pressure Sensor/For Compact Pneumatic Pressure

How to Order

| Pressure sensing range | | Accuracy | |
|------------------------|-------------------------------------|----------|----------|
| 0 | Positive pressure [0 to 1 MPa] | Nil | ±2% F.S. |
| 1 | Vacuum [0 to -101 kPa] | A | ±1% F.S. |
| 3 | Compound pressure [-100 to 100 kPa] | | |



10 — PSE54 1 M3

Clean series

Option (connector)

| Nil | C2 |
|-------------------|---|
| Without connector | Connector for pressure sensor controller 1 pc. |

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

Port size

| | | | | | |
|-----|---------------------------------|--|------|---|--|
| M3 | M3 x 0.5 | | IM5 | M5 female thread, through type | |
| M5 | M5 x 0.8 | | IM5H | M5 female thread, through type (with mounting hole) | |
| 01 | R 1/8 (with M5 female thread) | | | | |
| N01 | NPT 1/8 (with M5 female thread) | | | | |
| R04 | ø4 reducer | | | | |
| R06 | ø6 reducer | | | | |

Option/Part No.

| Description | Part no. | Note |
|--|------------|-------|
| Connector for pressure sensor controller | 10-ZS-28-C | 1 pc. |

Specifications

Refer to the SMC website for Pressure Switches Precautions (M-E03-3) and Specific Product Precautions (Operation Manual).

| Model | 10-PSE540 | 10-PSE541 | 10-PSE543 |
|--|--|---|-----------------|
| Rated pressure range | 0 to 1 MPa | 0 to -101 kPa | -100 to 100 kPa |
| Extension analog output range | -0.1 to 0 MPa | 10.1 to 0 kPa | — |
| Proof pressure | 1.5 MPa | 500 kPa | |
| Applicable fluid | Air/Non-corrosive gas/Non-flammable gas | | |
| Power supply voltage | 12 to 24 VDC±10%, Ripple (p-p) 10% or less (with power supply polarity protection) | | |
| Current consumption | 15 mA or less | | |
| Output specification | Analog output 1 to 5 V (with rated pressure range), 0.6 to 1 V (with extension analog output range), Output impedance: Approx. 1 kΩ | | |
| Accuracy (Ambient temperature at 25°C) | 10-PSE54□: ±2% F.S. (with rated pressure range), ±5% F.S. (with extension analog output range) 10-PSE54□A: 1% F.S. (with rated pressure range), ±3% F.S. (with extension analog output range) | | |
| Linearity | ±0.7% F.S. or less | | ±0.4% F.S. |
| Repeatability | | ±0.2% F.S. | |
| Power supply voltage effect | | ±0.8% F.S. | |
| Environment | Enclosure | IP40 | |
| | Operating temperature range | Operating: 0 to 50°C, Stored: -20 to 70°C (No freezing or condensation) | |
| | Operating humidity range | Operating/Stored: 35 to 85% RH (No condensation) | |
| | Withstand voltage | 1000 VAC (in 50/60 Hz) for 1 minute between terminals and housing | |
| Insulation resistance | 50 MΩ or more (500 VDC measured via megohmmeter) between terminals and housing | | |
| Temperature characteristics | ±2% F.S. (Based on 25°C) | | |
| Sensor cable | Oilproof heavy-duty vinyl cable (ellipse), 3 cores, 2.7 x 3.2, 3 m, Conductor area: 0.15 mm ² , Insulator O.D.: 0.9 mm | | |
| Standards | CE, UL/CSA (E216656), RoHS | | |
| Cleanliness class (ISO class) | Class 4 | | |

Piping Specifications

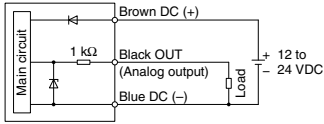
| Model | M3 | M5 | 1 | N01 | R04 | R06 | IM5 | IM5H |
|--------------|---|----------|-------------------------------------|---------------------|-----------------------|-----------------------|---------------------------------------|---|
| Port size | M3 x 0.5 | M5 x 0.8 | R 1/8 M5 x 0.8 | NPT 1/8 M5 x 0.8 | ø4 plug-in reducer | ø6 plug-in reducer | M5 female thread, through type | M5 female thread, through type with mounting hole |
| Material | Resin case: PBT Fitting: Stainless steel 303 | | Resin case: PBT Fitting: C3604BD | | PBT | | Resin case: PBT Fitting: A6063S-T5 | |
| | Pressure sensing section Pressure sensor: Silicon, O-ring: FKM | | | | | | | |
| Sensor cable | 3-wire oval cable (0.15 mm ²) | | | | | | | |
| Weight | With sensor cable | 42.4 g | 42.7 g | 49.3 g | 41.4 g | 41.6 g | 43.3 g | 44.1 g |
| | Without sensor cable | 2.9 g | 3.2 g | 9.8 g | 1.9 g | 2.1 g | 3.8 g | 4.6 g |

Caution

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

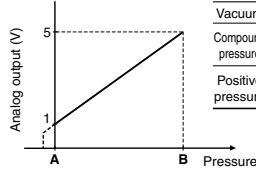
Internal Circuit

10-PSE54□
Voltage output type
1 to 5 V
Output impedance
Approx.1 kΩ



Analog Output

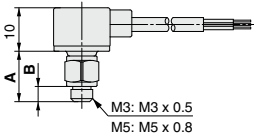
1 to 5 VDC



| Range | Rated pressure range | A | B |
|-------------------|----------------------|----------|----------|
| Vacuum | 0 to -101 kPa | 0 | -101 kPa |
| Compound pressure | -100 kPa to 100 kPa | -100 kPa | 100 kPa |
| Positive pressure | 0 to 1 MPa | 0 | 1 MPa |

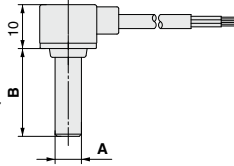
Dimensions

10-PSE54□-M3
M5



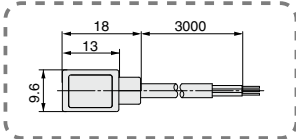
| | 10-PSE54□-M3 | 10-PSE54□-M5 |
|----------|--------------|--------------|
| A | 10.8 | 11.5 |
| B | 3 | 3.5 |

10-PSE54□-R04
R06

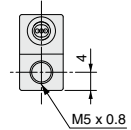
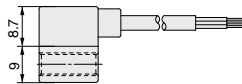


| | 10-PSE54□-R04 | 10-PSE54□-R06 |
|----------|---------------|---------------|
| A | ø4 | ø6 |
| B | 18 | 20 |

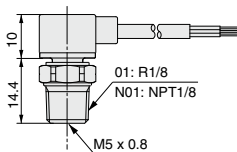
Common dimensions



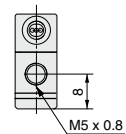
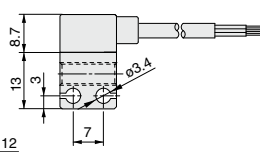
10-PSE54□-IM5



10-PSE54□-01
N01



10-PSE54□-IM5H



Directional Control Valves
 Air Cylinders
 Rotary Actuators
 Air Grippers
 Air Preparation Equipment
 Modular F. R.
 Pressure Control Equipment
 Fittings & Tubing
 Flow Control Equipment
 Pressure Switches/ Pressure Sensors