



Installation & Maintenance Manual
Pressure Sensor for General Fluids
PSE575/PSE576/PSE577



1 Safety Instructions

- This manual contains essential information for the protection of users and others from possible injury and/or equipment damage.
- Read this manual before using the product, to ensure correct handling, and read the manuals of related apparatus before use.
 - Keep this manual in a safe place for future reference.
 - These instructions indicate the level of potential hazard by label of "Caution", "Warning" or "Danger", followed by important safety information which must be carefully followed.
 - To ensure safety of personnel and equipment the safety instructions in this manual and the product catalogue must be observed, along with other relevant safety practices.

Caution	CAUTION indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
Warning	WARNING indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
Danger	DANGER indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

This product is class A equipment that is intended for use in an industrial environment.

There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted as well as radiated disturbances.

Warning

- Do not disassemble, modify (including changing the printed circuit board) or repair.**
An injury or failure can result.
- Do not operate the product outside of the specifications.**
Do not use for flammable or harmful fluids.
Fire, malfunction, or damage to the product can result.
Verify the specifications before use.
- Do not operate in an atmosphere containing flammable or explosive gases.**
Fire or an explosion can result.
This product is not designed to be explosion proof.
- Do not use the product in a place where static electricity is a problem.**
Otherwise it can cause failure or malfunction of the system.
- If using the product in an interlocking circuit:**
 - Provide a double interlocking system, for example a mechanical system.
 - Check the product regularly for proper operation.
Otherwise malfunction can result, causing an accident.
- The following instructions must be followed during maintenance:**
 - Turn off the power supply.
 - Stop the air supply, exhaust the residual pressure and verify that the air is released before performing maintenance.
Otherwise an injury can result.

1 Safety Instructions (Continued)

Caution

- After maintenance is complete, perform appropriate functional inspections and leak tests.**
Stop operation if the equipment does not function properly or there is a leakage of fluid.
When leakage occurs from parts other than the piping, the product might be faulty.
Disconnect the power supply and stop the fluid supply.
Do not apply fluid under leaking conditions.
Safety cannot be assured in the case of unexpected malfunction.
- Use within the specified operating pressure.**
Otherwise it can cause damage to the Pressure Sensor or inability to measure correctly.
If fluid is supplied at a pressure exceeding the proof pressure, the ceramic diaphragm will be damaged which may short circuit the power supply.
Please use a power supply which includes short circuit protection.

Refer to the operation manual on the SMC website
(URL <http://www.smcworld.com>) for more information about safety instructions.

2 Specifications

Model		PSE575	PSE576	PSE577
Pressure spec.	Rated pressure range	0 to 2 MPa	0 to 5 MPa	0 to 10 MPa
	Withstand pressure	5 MPa	12.5 MPa	30 MPa
Temperature characteristics		±5%F.S. (at 25 °C)		

Model		PSE57□-02	PSE57□-02-28
Fluid	Applicable	Gas or liquid that will not corrode the materials of parts in contact with fluid	
Electrical spec.	Power supply voltage	12 to 24 VDC±10% (with 10% max. voltage ripple)	
	Current consumption	10 mA or less	
	Protection	Protected against reverse connection	
Analogue output	Output type	Analogue output: 1 to 5 V Output impedance: Approx. 1 kΩ	Analogue output: 4 to 20 mA Maximum load impedance: 500 Ω or less (at 24 VDC) 100 Ω or less (at 12 VDC)
Analogue output Accuracy (at 25 °C)		±2.5%F.S.	
Linearity		±0.5%F.S.	
Repeatability		±0.5%F.S. (at 25 °C)	
Environmental	Enclosure	IP65	
	Withstand voltage	500 VAC, 1 minute, Between terminals and case	
	Insulation resistance	100 MΩ or more (at 500 VDC) Between terminals and case	
	Operating temperature range	Operation: -10 to 60 °C, Storage: -20 to 70 °C (No condensation or freezing)	
	Operating humidity range	Operation, Storage: 35 to 85%RH (No condensation)	
Standard		CE, RoHS	
Lead wire and M12 connector		3 m	

2 Specifications (Continued)

•Piping specifications

Model		02
Port size		R1/4, M5 x 0.8
Materials of parts in contact with fluid		Piping port: C3604 + electroless nickel plated Pressure sensor: Al ₂ O ₃ (aluminum oxide) Square ring: FKM
Weight	Without lead wire and M12 connector	103 g
	With lead wire and M12 connector	191 g

•Cable specifications

Conductor	Nominal wire size	AWG23
	Wire diameter	0.72 mm
Insulator	Material	Cross linked vinyl chloride
	Outside diameter	1.14 mm
	Colours	Brown, Blue, Black, White
Sheath	Material	Oil resistant vinyl chloride
Outside diameter		ø4

3 Installation

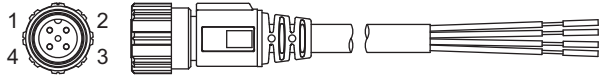
Wiring

•Connector pin numbers

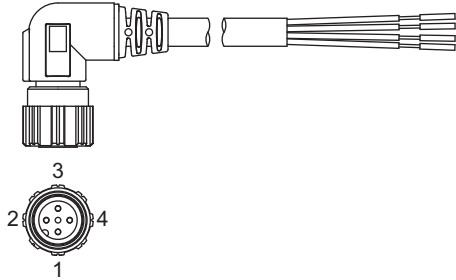
When the lead wire and connector (ZS-37-A or ZS-37-B) designated for the PSE570 is used, the wire colours will apply as shown in the diagram.

Connector pin numbers (on the lead wire)

•ZS-37-A



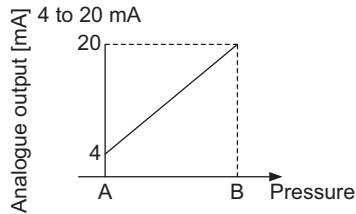
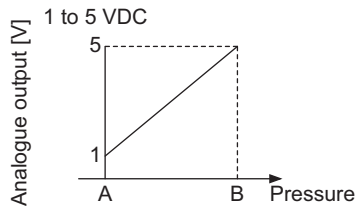
•ZS-37-B



Pin No.	Content	Colour
1	DC(+)	Brown
2	N.C. *	White
3	DC(-)	Blue
4	Analogue output	Black

*: The unconnected terminals are used in SMC, so please do not connect them.

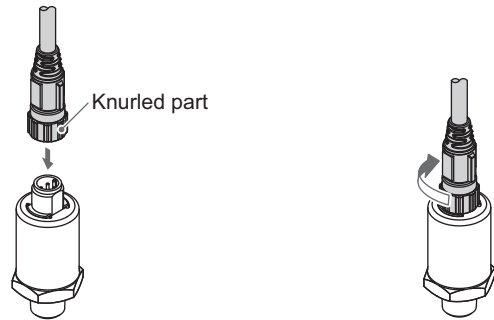
•Analogue output



Model	Rated pressure range	A	B
PSE575	0 to 2 MPa	0	2 MPa
PSE576	0 to 5 MPa	0	5 MPa
PSE577	0 to 10 MPa	0	10 MPa

•How to connect the body and the lead wire and connector

- Align the lead wire connector with the connector key groove, and insert vertically.
- Connection is complete when the knurled part is fully tightened. Check that the connection is not loose.



3 Installation (Continued)

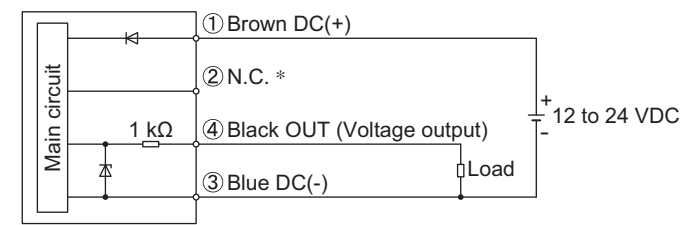
•Internal circuit and wiring example

•Output specification

PSE57□-02

Voltage output: 1 to 5 V

Output impedance: Approx. 1 kΩ

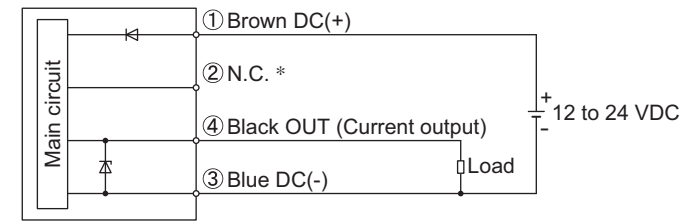


PSE57□-02-28

Current output: 4 to 20 mA

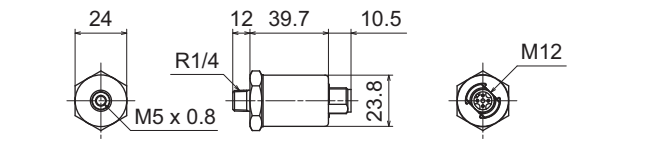
Allowable load impedance: 500 Ω or less (at 24 VDC)

100 Ω or less (at 12 VDC)



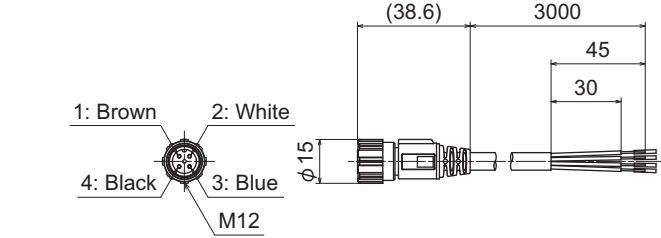
*: The unconnected terminals are used in SMC, so please do not connect them.

5 Outline Dimensions (mm)

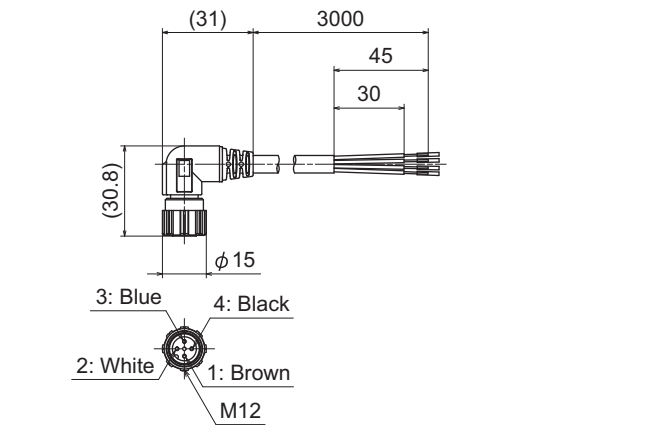


•Lead wire and M12 connector

ZS-37-A

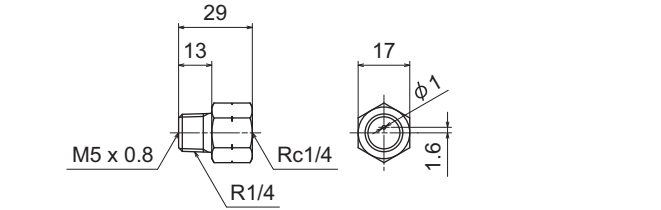


ZS-37-B

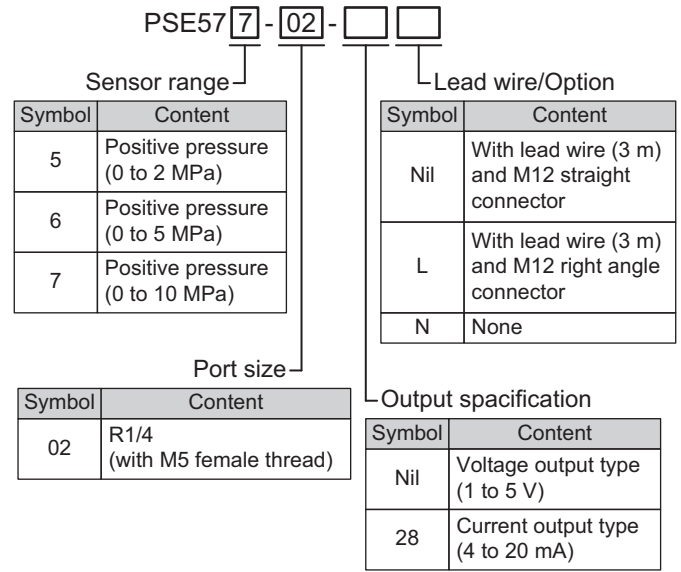


•Adapter with throttle

ZS-31-X175



4 How to Order



•Option

Description	Part No.	Remarks
Lead wire (3 m) and M12 straight connector	ZS-37-A	1 pc.
Lead wire (3 m) and M12 right angle connector	ZS-37-B	1 pc.
Adapter with throttle Rc1/4	ZS-31-X175	1 pc.

6 Contacts

AUSTRIA	(43) 2262 62280-0	LATVIA	(371) 781 77 00
BELGIUM	(32) 3 355 1464	LITHUANIA	(370) 5 264 8126
BULGARIA	(359) 2 974 4492	NETHERLANDS	(31) 20 531 8888
CZECH REP.	(420) 541 424 611	NORWAY	(47) 67 12 90 20
DENMARK	(45) 7025 2900	POLAND	(48) 22 211 9600
ESTONIA	(372) 651 0370	PORTUGAL	(351) 21 471 1880
FINLAND	(358) 207 513513	ROMANIA	(40) 21 320 5111
FRANCE	(33) 1 6476 1000	SLOVAKIA	(421) 2 444 56725
GERMANY	(49) 6103 4020	SLOVENIA	(386) 73 885 412
GREECE	(30) 210 271 7265	SPAIN	(34) 945 184 100
HUNGARY	(36) 23 511 390	SWEDEN	(46) 8 603 1200
IRELAND	(353) 1 403 9000	SWITZERLAND	(41) 52 396 3131
ITALY	(39) 02 92711	UNITED KINGDOM	(44) 1908 563888

SMC Corporation

URL <http://www.smcworld.com> (Global) <http://www.smceu.com> (Europe)

Specifications are subject to change without prior notice from the manufacturer.

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