S-PCM-303
SMART LINE

EXPROOF PRESSURE TRANSMITTER

S-PCM-303 Universal Pressure Transmitter

Features

- SS316L diaphragm structure
- High accuracy, all stainless steel structure
- Small size and light weight
- Strong anti-interference, good long-term stability
- Diversified formal structures, easy to install and use
- Wide pressure range, can measure the absolute pressure, gauge pressure, and sealed gauge pressure
- Anti-vibration, shock resistance
- Zero and full span pressure adjustable

Applications and industries

- Process control
- Aerospace
- Automobile and medical equipment
- Pipeline system

Notes:

1 Do not touch the diaphragm with hard objects, which may cause damage to the diaphragm.

2 Please read the Instruction Manual of the product carefully before installation and check the relevant information of the product.

3 Strictly follow the wiring method for wiring; otherwise, it may cause product damage or other potential faults.

4 Misuse of the product may cause danger or personal injury.

Product overview

The S-PCM-303 economical pressure transmitter uses a diffusion silicon pressure sensor as its sensitive element. The built-in integrated circuit converts the sensor's millivolt signal into a standard current or voltage signal, which can be directly connected with the computer interface card, control instrument, intelligent instrument, or PLC. If it is used for remote transmission, the current output is available. S-PCM-303 has a small size, light weight, and an all-stainless-steel sealing structure, and can be used in corrosive environments. The product is easy to install and features high anti-vibration and shock resistance, making it suitable for use in various fields, including process control, aviation & aerospace, automotive industry, medical equipment, and HVAC.

Notes:

1 Do not misuse documentation.

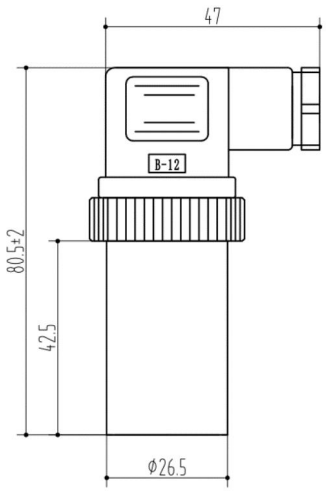
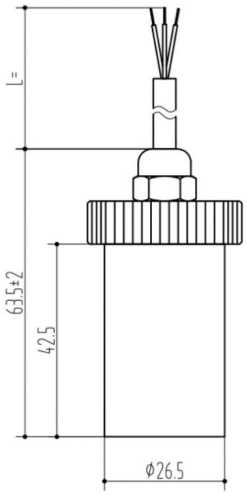
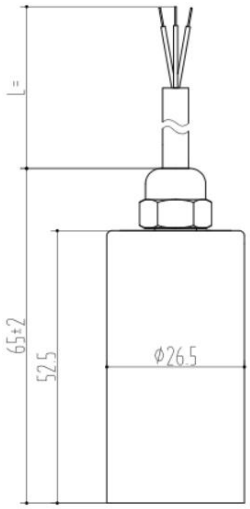
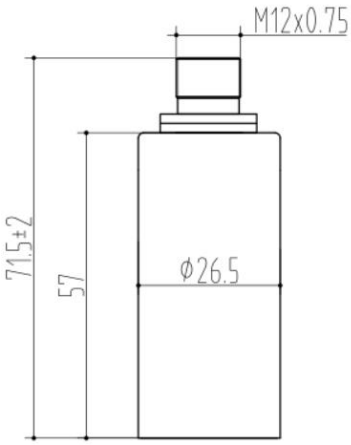
2 The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.

3 Complete installation, operation, and maintenance information is provided in the instructions of the product.

4 Misuse of the product may cause danger or personal injury.

Performance parameters	
Pressure range	-100kPa…0~35kPa…100MPa
Pressure reference	Gauge pressure, Absolute pressure, Sealed gauge pressure
Accuracy	0.5%FS
Hysteresis	0.1%FS
Repeatability	0.1%FS
Temperature drift	35kPa: ±3%FS(0℃~60℃) Other ranges: ±1.5%FS(-20℃~85℃)
Response time	≤1ms (Up to 90%FS)
Overload pressure	(Refer to “Pressure range selection” on page 6)
Durability	≥1×10^6 pressure cycles
Ambient temperature	-20℃~85℃
Medium temp.	-30℃~105℃
Storage temp.	-40℃~125℃
EMC	Immunity: IEC 61000-6-2, Radiation: IEC 61000-6-3
Insulation resistance	≥250MΩ/500VDC(100MΩ/250VDC)
Vibration resistance	Sine curve: 20g, 25Hz~2kHz; IEC 60068-2-6 Random: 7.5grms, 5Hz~1kHz; IEC 60068-2-64
Shock resistance	Shock: 200g/1ms; IEC 60068-2-27 Free falling: 1m; IEC 60068-2-32
Protection grade	IP65
Surge	IEC 61000-4-5 3 level
Voltage resistance	Current output: 500V/AC 1min Voltage output: 250V/AC 1min
Static electricity	IEC 61000-4-2 4 level
Medium compatibility	All media compatible with stainless steel 316L
Hex nut	HEX27
Ex-proof grade	Intrinsically safe explosion-proof Exia Ⅱ CT6 (only for 4~20mA)
Net weight	150~180g

Output signal and power supply						
Code	**B1**	**B3**	**B2**	**B7**	**B12**	**B6**
Output signal	4~20mA	0~5V	1~5V	0~10V	1~10V	0.5~4.5V R/M
Power supply	12~30VDC	12~30VDC	12~30VDC	12~30VDC	12~30VDC	5VDC

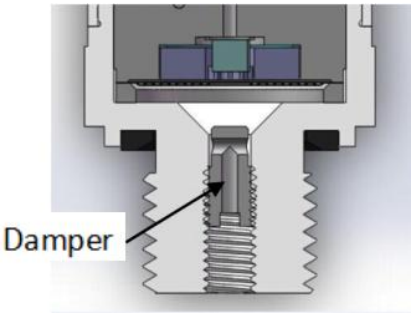
Electrical connection & wiring mode		
Connector code	**J5: DIN43650**	**J15: DIN43650 with cable**
Dimension In mm		
Protection grade	IP65	IP65
Wiring method (2-wire current)	Pin 1: Power supply+ (Red wire) Pin 2: Current output (Green wire)	Red wire: Power supply+ Green wire: Current output
Wiring method (3-wire voltage)	Pin 1: Power supply+ (Red wire) Pin 2: Common-ground (Green wire) Pin 3: Voltage output (Yellow wire)	Red wire: Power supply+ Green wire: Common-ground Yellow wire: Voltage output
Connector code	**J3: Cable outlet**	**J4: M12**
Dimension In mm		
Protection grade	IP65	IP65
Wiring method (2-wire current)	Red wire: Power supply+ Green wire: Current output	Pin 1: Power supply+ (Red wire) Pin 2: Current output (Green wire)
Wiring method (3-wire voltage)	Red wire: Power supply+ Green wire: Common-ground Yellow wire: Voltage output	Pin 1: Power supply+ (Red wire) Pin 2: Common-ground (Green wire) Pin 3: Voltage output (Yellow wire)

Application of damper

Application

Cavitation, liquid hammer, and the pressure peak may occur in air or hydraulic systems with varying flow rates, such as the rapid closing of a valve or the start and stop of a pump.

Even at relatively low operating pressures, these problems may occur at the entrance and exit.

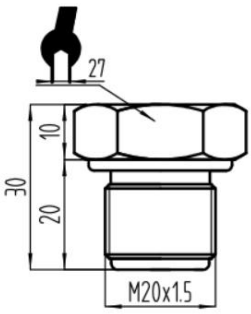
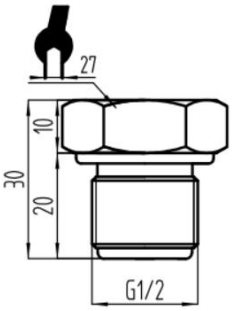
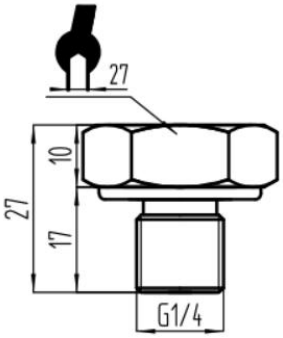
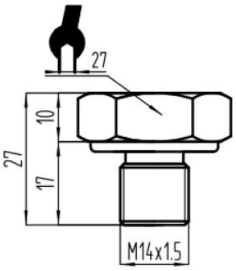
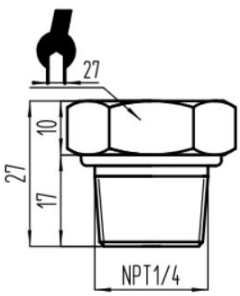
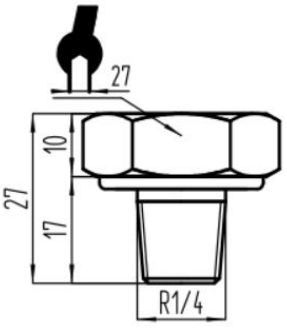


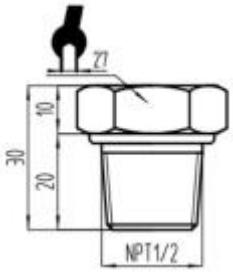
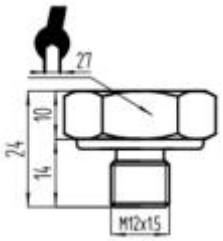
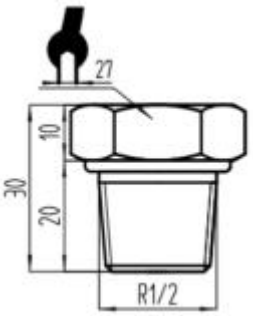
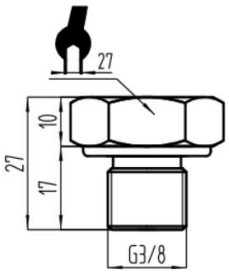
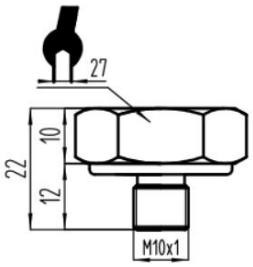
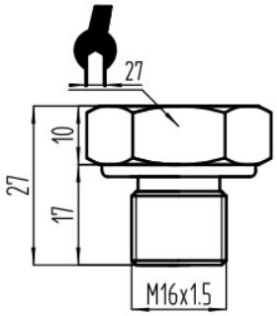
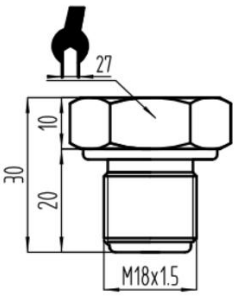
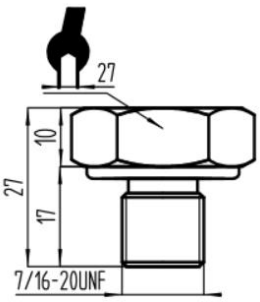
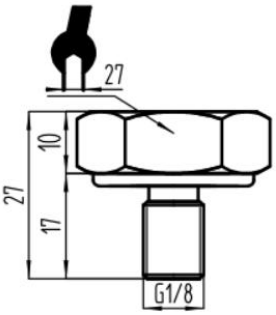
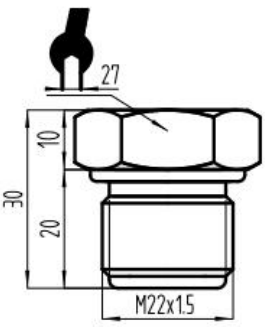
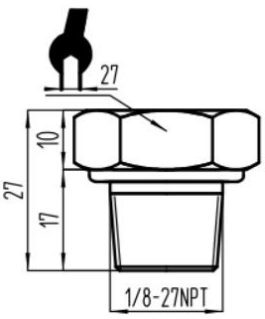
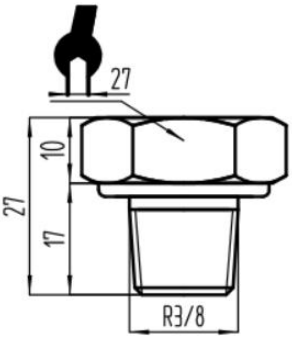
Media condition

In the liquid containing particles, nozzle clogging may occur. The vertical mounting of the pressure transmitter minimizes the risk of clogging because the flow of fluid happens at initial start only, the volume of the rear of the nozzle is fixed and the nozzle has a relatively large aperture (1.2 mm).

The effect of medium viscosity on response time is small. Even if the viscosity reaches 100 CST, the response time will not exceed 4 ms.

Pressure connection

Thread code	**C1: M20×1.5-6g**	**C2: G1/2**	**C3: G1/4**
Dimension In mm			
Recommended torque	15~25Nm	15~25Nm	15~25Nm
Thread code	**C4: M14×1.5**	**C5: NPT1/4, Z1/4**	**C6: R1/4, PT1/4, ZG1/4**
Dimension In mm			
Recommended torque	15~25Nm	15~25Nm	15~25Nm

Thread code	C7: NPT1/2, Z1/2	C8: M12×1.5	C10: R1/2, PT1/2, ZG1/2
Dimension In mm			
Recommended torque	15~25Nm	15~25Nm	15~25Nm
Thread code	**C15: G3/8**	**C20: M10×1**	**C22: M16×1.5**
Dimension In mm			
Recommended torque	15~25Nm	15~25Nm	15~25Nm
Thread code	**C23: M18×1.5**	**C11: 7/16-20UNF**	**C14: G1/8**
Dimension In mm			
Recommended torque	15~25Nm	15~25Nm	15~25Nm
Thread code	**C27: M22×1.5**	**C18: 1/8-27NPT**	**C13: R3/8, PT3/8, ZG3/8**
Dimension In mm			
Recommended torque	15~25Nm	15~25Nm	15~25Nm

Note: The torque depends on all kinds of factors, such as the gasket material, kitting material, thread lubrication, and pressure.

Pressure range selection					
Pressure range code	**Pressure reference**	**Pressure range**	**Overpressure**	**Burst pressure**	**Notes**
35k	G, A	0~35kPa	300%FS	600%FS	
70k	G	0~70kPa	300%FS	600%FS	
100k	G, A	0~100kPa	200%FS	500%FS	
250k	G, A	0~250kPa	200%FS	500%FS	
400k	G, A	0~400kPa	200%FS	500%FS	
600k	G, A	0~600kPa	200%FS	500%FS	
1M	G, A, S	0~1MPa	200%FS	500%FS	
1.6M	G, S	0~1.6MPa	200%FS	500%FS	
2.5M	G, S	0~2.5MPa	200%FS	500%FS	
4M	S	0~4MPa	200%FS	400%FS	
6M	S	0~6MPa	200%FS	400%FS	
10M	S	0~10MPa	200%FS	400%FS	
16M	S	0~16MPa	200%FS	400%FS	
25M	S	0~25MPa	150%FS	400%FS	
40M	S	0~40MPa	150%FS	300%FS	
60M	S	0~60MPa	150%FS	300%FS	
100M	S	0~100MPa	150%FS	300%FS	
(-100~0)k	Omission	-100~0kPa	300kPa	600kPa	
(0~-100)k	Omission	0~-100kPa	300kPa	600kPa	
NP100k	Omission	-100~100kPa	300kPa	600kPa	

Note: G, gauge pressure, A, absolute pressure, S, sealed gauge pressure.

Accessory			
Name	Appearance	Description	Material No.
M4 damper		Refer to “Application of damper”	100030100027
LCD12 display gauge		1. LCD display 2. Green backlight	100040100008
BS-6 digital display gauge		1. Nixie tube display 2. Red backlight	100040101000
Imported Hirschmann plug		Imported	100040301013
X12 circular miniconnector (set)		Thread M12×0.75	100040304005

How to order

S-PCM-303- 35k G B1 C3 J5

Product model
PCM303

Pressure range
(refer to “Pressure range selection” on Page 6)

Pressure reference
G: Gauge pressure
A: Absolute pressure
S: Sealed gauge pressure
Others

Supply & output signal
B1: 4~20mA
B2: 1~5V
B3: 0~5V
B6: 0.5~4.5V R/W
B7: 0~10V
B12: 1~10V
Others

Electrical connection
J3: Cable outlet
J4: M12
J5: DIN43650
J15: DIN43650 with cable
Others

Pressure port
C1: M20×1.5-6g
C2: G1/2
C3: G1/4
C4: M14×1.5
C5: NPT1/4, Z1/4
C6: R1/4, PT1/4, ZG1/4
C7: NPT1/2, Z1/2
C8: M12×1.5
C10: R1/2, PT1/2, ZG1/2
C15: G3/8
Others
For details please see “Pressure connection”.

Example: S-PCM- 303 -35kGB1C3J5

Product model: S-PCM- 303, pressure range 0~35kPa, pressure reference: gauge pressure, output signal: 4~20mA, pressure connection G1/4, electrical connector DIN43650.

SMERI srl
I 20057 Assago (MI) - Via Mario Idiomi, 3/13
Tel +39 02 5398941 - Fax +39 02 5393521
smeri@smeri.com - www.smeri.com