Digital Pressure Transmitter
Model PY102

Applications

- Measurement and Experimentation Platforms
- Calibration Technology
- Laboratory
- Plant construction and machine building

PY 102 Pressure Transmitter

Special features

- Measuring ranges : -1 ...1,000 bar
- Accuracy: up to 0.02 % F.S
- Digital non-linear correction technology, temperature self-compensation technology
- High precision, small size, robust package
- RS485 output, Modbus protocol

Description

PY 102 digital pressure transmitter adopts high-precision signal processing circuit, linear correction, temperature compensation, accuracy up to 0.05%. It can measure gauge pressure, absolute pressure and compound pressure. The output is RS485 digital signal, using MODBUS protocol, also can be customized protocol.

PY102 digital pressure transmitter has excellent performance, it is anti-interference, overload and shock resistance, temperature drift is small, high stability, has a high measurement accuracy, is the ideal pressure measurement instrument in the field of industrial automation.

Specifcations

Basic information	
Pressure types	
Pressure ranges	-0.1 ... 1,000 bar
Accuracy	0.02%FS , 0.05%FS , 0.1 % FS
Temperature compensation	-10...60 °C
Response Time	0.1~1.6 seconds (depending on range and range ratio) Additional Adjustable Time Constant:0~32 seconds
Long-term stability	0.1% F.S/year, depending on the range stability index will be different
Temperature coefficient	0.01% F.S/°C (in -40~85°C, zero and range combined)
Power supply	24VDC
Output signals	RS 485
Overpressure	5bar or 3×FS, whichever is smaller
electrical connection	Hirschmann connector, waterproof connector optional
Thread	1/4NPT, 1/2NPT, G1/2, G1/4,Others can be customized
Material	316L
Ambient conditions	-20...70°C with air humidity ≤95%r.h.
Weight	230 g

Electromagnetic Compatibility

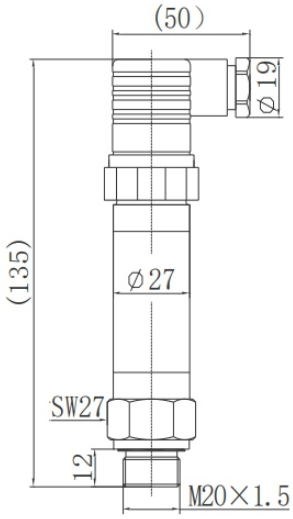
Code	Test Item	Standard	Test Condition	Performance Class
1	Electrostatic Discharge Immunity	IEC 61000-4-2	6kV(Contact), 8kV(Air)	4X
2	Radio-frequency Field	IEC 61000-4-3	10V/m;80MHz ~ 6GHz; 80%AM(1kHz)	3X
3	Power Frequency Magnetic Field	IEC 61000-4-8	Stable sustained magnetic feld strength50Hz,60Hz,100A/m	3X
4	Immunity of Electrical Fast Pulse Group	IEC 61000-4-4	±2kV; 5/50 Tr/Tk ns, 5kHz	3X
5	Surge Immunity	IEC 61000-4-5	±2kV; 1.2/50(8/20) Tr/Th us	3X
6	RF Induction Conduction Anti-harassment	IEC 61000-4-6	10V(150kHz ~ 80MHz); 80%AM(1kHz)	3X

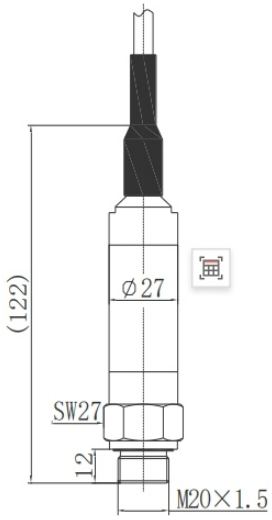
Note: Performance level A, normal performance within the limits of the technical specifications;
Performance level B, temporary reduction or loss of functionality or performance, but self-recovering, with no change in the actual operating conditions, storage and its data.

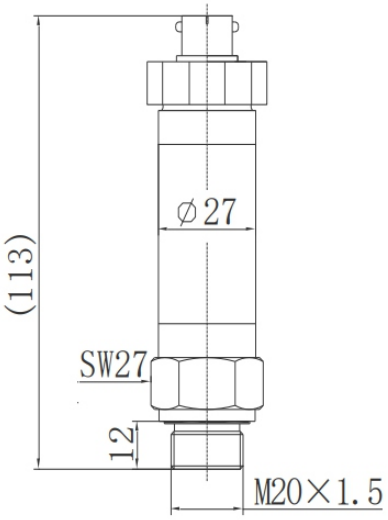
Wire

M12 x 1 round connector (4-pin)		
	1	U+
	2	U-
	3	RS485A
	4	RS 485B

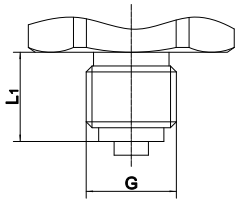
Dimension (Unit: mm)



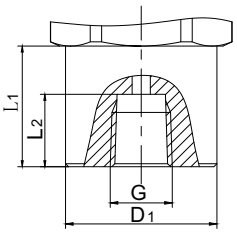




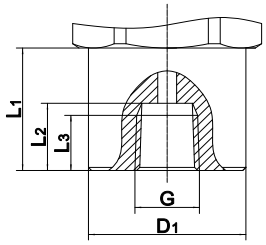
Process connections (Unit: mm)



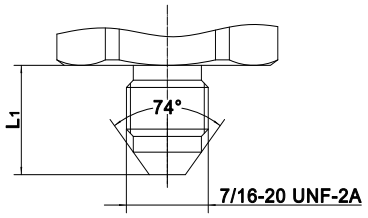
G	L_1	Standard
G1/4 B	13	EN 837
G3/8 B	16	
G1/2 B	20	
M20×1.5	20	



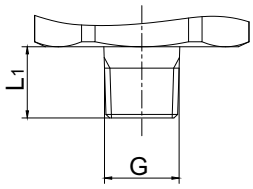
G	D_1	L_1	L_2	Standard
NPT1/8	Φ25	20	12	ANSI/ASME B1.20.1
NPT1/4	Φ25	20	14	
NPT1/2	Φ25	25	19	



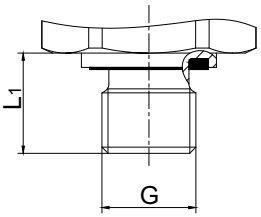
G	D_1	L_1	L_2	L_3	Standard
G1/8	Φ25	20	10	7.5	EN 837
G1/4	Φ25	20	13	10	



G	L_1	Standard
7/16-20 UNF-74°cone	14	SAE J514 E



G	L_1	Standard
NPT1/8	10	ANSI/ASME B1.20.1
NPT1/4	13	
NPT1/2	19	
R1/4	13	ISO 7
R3/8	15	
R1/2	19	



G	L_1	Standard
G1/4 A	14	ISO 1179-2
G3/8 A	14.5	
G1/2 A	17	
M12×1.5	14	ISO 9974-2
M14×1.5	14	
M20×1.5	16.5	

Measuring ranges,gauge pressure

Overview pressure ranges				
Type	pressure ranges(bar)	Accuracy (± of full scale value)	media	Burst Pressure
GP0.16	0...0.16	0.05(0.1,0.2)	Gas/Liquid	4X
GP 0.25	0...0.25	0.05(0.1,0.2)	Gas/Liquid	4X
GP 0.4	0...0.4	0.05(0.1,0.2)	Gas/Liquid	3X
GP 0.6	0...0.6	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 1	0...1	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 1.6	0...1.6	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 2.5	0...2.5	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 4	0...4	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 6	0...6	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 10	0...10	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 16	0...16	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 25	0...25	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 40	0...40	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 60	0...60	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 100	0...100	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 160	0...160	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 250	0...250	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 400	0...400	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 600	0...600	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 700	0...700	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
GP 1000	0...1000	0.05(0.1,0.2)	Gas/Liquid	2X

Measuring ranges,absolute pressure

Overview pressure ranges				
Type	pressure ranges(bar)	Accuracy (± of full scale value)	media	Burst Pressure
AP 0.25	0...0.25	0.05(0.1,0.2)	Gas	4X
AP 0.4	0...0.4	0.05(0.1,0.2)	Gas	3X
AP 0.6	0...0.6	0.05(0.1,0.2)	Gas	3X
AP 1	0...1	0.02(0.05,0.1,0.2)	Gas	3X
AP 1.6	0...1.6	0.02(0.05,0.1,0.2)	Gas	3X
AP 2.5	0...2.5	0.02(0.05,0.1,0.2)	Gas	3X
AP 4	0...4	0.02(0.05,0.1,0.2)	Gas	3X
AP 6	0...6	0.02(0.05,0.1,0.2)	Gas	3X
AP 10	0...10	0.02(0.05,0.1,0.2)	Gas	3X

Measuring ranges,vacuum and +/- measuring ranges

Overview pressure ranges				
Type	pressure ranges(bar)	Accuracy (± of full scale value)	media	Burst Pressure
VP -0.25	-0.25...0.25	0.05(0.1,0.2)	Gas/Liquid	3X
VP -0.4	-0.4...0.4	0.05(0.1,0.2)	Gas/Liquid	3X
VP -0.6	-0.6...0.6	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
VP 0	-1...0	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
VP0.6	-1...0.6	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
VP 1	-1...1	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
VP 1.6	-1...1.6	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
VP 2.5	-1...2.5	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
VP 4	-1...4	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
VP 6	-1...6	0.02(0.05,0.1,0.2)	Gas/Liquid	3X
VP 10	-1...10	0.02(0.05,0.1,0.2)	Gas/Liquid	3X

Order code

Order code				
model	**Accuracy**	**Pressure ranges**	**Output**	**Process connection**
PY 102	A002(0.02%F.S) A005(0.05%F.S) A010(0.1%F.S) A020(0.2%F.S)	Table of reference measuring ranges	R1:RS 485 R2:RS 232 R3:USB	1/4NPT 1/2NPT G1/2 M20*1.5 G1/4 Other
Example order number **PY102-A005-GP10(0...10)bar-R1-1/4NPT** PY 102 with 1/4NPT, 0.05%F.S, RS 485, 0...10bar				