Pressalis

Datasheet

Pressure transmitters

PT51

Pressure-temperature transmitter, probe tip



Platinum element in a tip past the thread, 0 to 6 up to 0 to 600 bar, Modbus RTU or 4 to 20 mA output.

Pressure	Temperature	Output	Overload
0 to 6 bar up to 0 to 600 bar	**-30 to 125 °C, probe tip**	**Modbus RTU or 4 to 20 mA**	**3 x range, burst 5 x range**

Overview

PT51 reads pressure and medium temperature through one port. Its platinum temperature element sits in a 5 mm probe that protrudes 5 mm beyond the process thread, in the medium itself rather than behind the port, which gives a fast temperature response. Pressure is measured on a 17-4PH stainless steel element in a 304 stainless steel housing.

The pressure element takes 3 x range overload and 5 x range before burst, which suits hydraulic and pneumatic circuits with pressure peaks. It also goes on pump stations and water treatment plant and on automated test systems, covering hydraulics and machinery, water and pumping, and test benches.

Output is RS485 or RS232 with Modbus RTU, or analog: 4 to 20 mA for pressure with the platinum element wired out, or a second 4 to 20 mA loop for temperature. Pressure ranges run from 0 to 6 bar to 0 to 600 bar, gauge or absolute, at ±0.3 % or ±0.5 % of span. Temperature reads -30 to 125 °C within ±0.5 % of span or ±0.5 °C, whichever is greater.

Specifications

Pressure measurement

Pressure type	Gauge, absolute
Ranges	0 to 6 bar up to 0 to 600 bar
Accuracy	±0.3 % or ±0.5 % of span
Long-term stability	±0.1 % of span per year
Zero temperature drift	±0.02 % of span per °C
Span temperature drift	±0.02 % of span per °C
Overpressure	3 x range

Burst pressure	5 x range

Temperature measurement

Element	Platinum resistance in a protruding probe tip
Probe tip	Ø5 mm, 5 mm beyond the thread
Range	-30 to 125 °C
Accuracy	±0.5 % of span or ±0.5 °C, whichever is greater
Signal	Modbus RTU, platinum element wired out, or 4 to 20 mA

Medium and environment

Operating temperature	-40 to 85 °C
Compensated temperature	-20 to 85 °C
Storage temperature	-40 to 125 °C
Shock	100 g, 11 ms
Wetted parts	17-4PH stainless steel
Housing	304 stainless steel

Electrical

Output	RS485 or RS232 Modbus RTU; 4 to 20 mA pressure and platinum element; or 4 to 20 mA pressure and 4 to 20 mA temperature
Wiring	Four-wire
Supply	9 to 30 V DC
Electrical connection	Cable outlet, M12 4-pin, DIN 43650 form A or form C, circular or Deutsch DT04-4P connector
Protection	IP65

Mechanical

Process connection	G1/8, G1/4, G3/8, G1/2, 1/8 NPT, 1/4 NPT, 1/2 NPT, R1/4, R1/2, M12 x 1.5, M18 x 1.5, M20 x 1.5, male
Dimensions	Ø22 mm body, 22 mm hex, 74 mm from cable gland to probe tip

Common configurations

Any combination from the ordering code can be quoted. Other ranges and connections on request.

Range	Pressure type	Process connection	Signals	Electrical connection	Accuracy	Order code
0 to 10 bar	Gauge	G1/4 male	RS485 Modbus RTU	M12	±0.5 %	**PT51-010-G-B2-M-M-A05**
0 to 16 bar	Gauge	G1/2 male	4 to 20 mA and platinum element	Cable outlet	±0.3 %	**PT51-016-G-B4-IP-C-A03**
0 to 25 bar	Gauge	1/4 NPT male	2 x 4 to 20 mA	DIN 43650 form A	±0.5 %	**PT51-025-G-N2-II-D-A05**
0 to 100 bar	Gauge	M20 x 1.5 male	RS485 Modbus RTU	Cable outlet	±0.3 %	**PT51-100-G-M20-M-C-A03**
0 to 250 bar	Gauge	G1/4 male	2 x 4 to 20 mA	Deutsch DT04-4P	±0.5 %	**PT51-250-G-B2-II-T4-A05**
0 to 6 bar	Absolute	G1/4 male	RS232 Modbus RTU	M12	±0.5 %	**PT51-006-A-B2-M2-M-A05**

Ordering code

One code from each group, in this order. Example: **PT51-006-G-B1-M-C-A03**. Send the code and the quantity to **contact@pressalis.com** for a quote.

PT51	-	006	-	G	-	B1	-	M	-	C	-	A03
Model		Range		Pressure type		Process connection		Output		Electrical connection		Accuracy

Range

006	0 to 6 bar
010	0 to 10 bar
016	0 to 16 bar
025	0 to 25 bar
040	0 to 40 bar
060	0 to 60 bar
100	0 to 100 bar
160	0 to 160 bar
250	0 to 250 bar
400	0 to 400 bar
600	0 to 600 bar
X	Other range, state in the request

Pressure type

G	Gauge
A	Absolute

Process connection

B1	G1/8 male
B2	G1/4 male
B3	G3/8 male
B4	G1/2 male
N1	1/8 NPT male
N2	1/4 NPT male
N4	1/2 NPT male
R2	R1/4 male
R4	R1/2 male
M12	M12 x 1.5 male
M18	M18 x 1.5 male
M20	M20 x 1.5 male

Output

M	RS485, Modbus RTU
M2	RS232, Modbus RTU
IP	4 to 20 mA pressure and platinum element temperature
II	4 to 20 mA pressure and 4 to 20 mA temperature

Electrical connection

C	Cable outlet
M	M12 connector, 4-pin
D	DIN 43650 form A connector
DC	DIN 43650 form C connector
A	Circular connector
T4	Deutsch DT04-4P connector

Accuracy

A03	±0.3 % of span
A05	±0.5 % of span