

VPT11-H

HART® PRESSURE TRANSMITTER DIRECT MOUNTING



- ✓ Two Wire Loop Powered Transmitter with HART® 7 Communication Protocol
- ✓ 5-digit, rotative, multi-function LCD including bargraph
- ✓ 6 Pressure Ranges:
6 kPa to 40 MPa
- ✓ 2 Accuracy Classes:
Standard Model: $\pm 0.075\%$
High Performance Model: $\pm 0.05\%$
- ✓ Measurement Response Time: 50 ms
- ✓ Built-in Transiente Suppressor
- ✓ No Polarity 12 to 45 Vdc Power Supply
- ✓ 4-20 mA NAMUR NE 43 Analog Output
- ✓ Operating Temperature -40 to 100 °C
- ✓ Local Adjustment via Magnetic Tool
- ✓ Configuration, Calibration, Monitoring and Diagnostics via HART or Android Configurator and Supported by EDDL and FDT/DTM Tools

DESCRIPTION

VPT11-H is a piezoresistive Silicon Pressure Transmitter of high performance, completely digital, designed for gauge and absolute pressure measurements, in addition to having models for flanged, remote seal and sanitary applications.

The transmitter is powered by a voltage of 12 to 45 Vdc, generating a current channel of 4-20 mA (according to the NAMUR NE43 standard), proportional to the measurement made. Through a HART configurator, Android platform or tools based on EDDL or FDT / DTM it is possible to configure the measurement scales, work units and calibrations, as well as monitor the measurement variables and verify the status of the equipment. In addition, it is possible to configure the VPT11-H by local adjustment through a magnetic key.

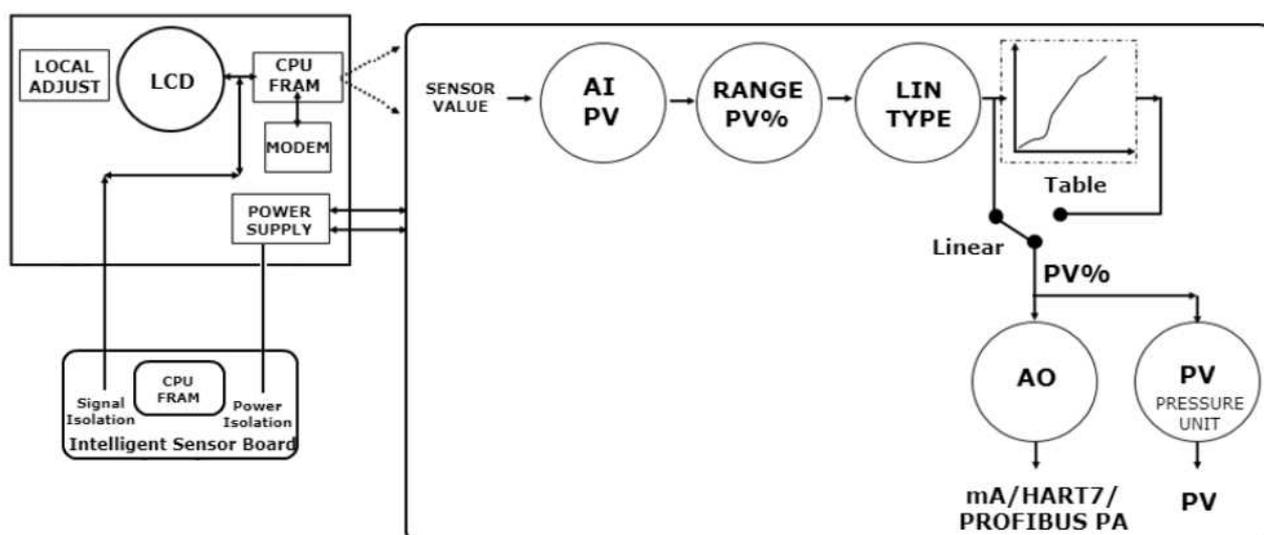
Prioritizing its high performance and robustness, it was designed with the latest technologies of electronic components and materials, ensuring long-term reliability for systems of any scale.

BENEFITS OF PIEZORESISTIVE SENSOR

The advantages of pressure transducer using semiconductor technology compared to other pressure resistance measurements are:

- higher sensitivity;
- higher linearity;
- low hysteresis on pressure and temperature;
- higher reliability in the passivation of silicon nitride;
- faster response;
- high stability in the load cycle as a result of the non-occurrence of fatigue, monocrystalline silicone diaphragm;
- compact;
- lower cost.

BLOCK DIAGRAM



TECHNICAL AND PHYSICAL SPECIFICATIONS

Accuracy	Standard Model: $\pm 0.075\%$ High Performance Model: $\pm 0.05\%$
Communication Protocol	HART® 7
Sensor Type	Microprocessed piezoresistive silicon sensor, digital Reading with pressure and temperature compensation algorithm.
Models / Measurement Ranges	G1 / -6 to 6 kPa (-611.8 to 611.8 mmH ₂ O) G2 / -40 to 40 kPa (-4078.9 to 4078.9 mmH ₂ O) G3 / -100 to 250 kPa (-1 to 2.5 kgf/cm ²) G4 / -0.1 to 3 MPa (-1 to 30.6 kgf/cm ²) G5 / -0.1 to 10 MPa (-1 to 102 kgf/cm ²) G6 / -0.1 to 40 MPa (-1 to 407.9 kgf/cm ²) A2 / 0 to 40 kPa (0 to 4078.9 mmH ₂ O) A3 / 0 to 250 kPa (0 to 2.5 kgf/cm ²) A4 / 0 to 3 MPa (0 to 30.6 kgf/cm ²)
Stability ⁽¹⁾	Standard Model: $\pm 0.2\% \cdot \text{URL}$ (5 years) High Performance Model: $\pm 0.2\% \cdot \text{URL}$ (15 years)
Rangeability	10:1 (G1) or 100:1 (others)
Response Time	50 ms
Current Output	4-20 mA according to NAMUR-NE43
Output Type	Linear and User Table
Power Supply	12 to 45 Vdc, no polarity, with transiente protector
Temperature Limits	Ambient: -40 to 85°C Process: -40 to 100°C Storage: -40 to 100°C
Humidity Limits	0 to 100% RH (relative humidity)
Configuration	Remote: EDDL, FDT/DTM, Android Tools. Local: using magnetic screwdriver.
Write Protection	Hardware and software with indication icon on LCD
Protection Degree	IP67
Mounting	Field, direct on process pipe or using Ø 2" tube bracket
Housing Material	Aluminum
Approximated Weight with Bracket	2.5 Kg
Hazardous Area Classification	Explosion Proof and Intrinsically Safe (pending)

(1) For temperature changes of ± 20 °C, relative humidity 0-100%, line pressure of up to 7 MPa (70 bar), installation in accordance with good practice and appropriate assembly for processes where hydrogen atoms can be generated (hydrogen migration).

ORDERING CODE

VPT11 Pressure Transmitter – Direct Mounting

Communication Protocol	H	HART
	P	PROFIBUS
Accuracy Class	S	STANDARD
	H	HIGH PERFORMANCE (SEE NOTE 1)
Sensor Type	A	ABSOLUTE
	G	GAGE
Sensor Range	1	-6 to 6 kPa (-611.8 to 611.8 mmH ₂ O)
	2	-40 to 40 kPa (-4078.9 to 4078.9 mmH ₂ O)
	3	-100 to 250 kPa (-1 to 2.5 kgf/cm ²)
	4	-0.1 to 3 MPa (-1 to 30.6 kgf/cm ²)
	5	-0.1 to 10 MPa (-1 to 102 kgf/cm ²)
	6	-0.1 to 40 MPa (-1 to 407.9 kgf/cm ²)
Diaphragm Material	I	SS 316L
	H	HASTELLOY C276
Fill Fluid	S	SILICONE
	N	NEOBEE M20
Process Connection	0	½- 14NPT FEMALE
	1	½- 14NPT MALE
	2	M20 x 1,5 SEALED MALE
	3	G ½ MALE
	4	SANITARY DN25 DIN32876
	5	SANITARY DN40 DIN32876
	6	INTEGRAL FLANGE 2" x 150#
	7	INTEGRAL FLANGE 3" x 150#
8	FLANGED REMOTE SEAL 2" x 150#	
Certification Type	0	NO CERTIFICATION
	1	INTRINSICALLY SAFE
	2	EXPLOSION PROOF
Certification Body	0	NO CERTIFICATION
	1	INMETRO
Housing Material	A	ALUMINUM
Electrical Connection	1	½ – 14 NPT
Painting	1	BLUE – RAL 5005
Mounting Bracket	0	NO BRACKET
	1	SS 304 BRACKET

Ordering Code Example:

VPT11- H S - G 1 - I S 0 - 0 0 - A 1 1 0

NOTE 1: Only available for Gage models.