

Pore Pressure Sensor PPS-02-T



The PPS2-02-T is a robust water pressure sensor in various pressure ranges and configurations, making it especially suitable for the most demanding applications.

Thanks to the removable adapter and small design, preparation, and installation of a sensor in the ground is a relatively easy task.

Designed and produced by the people with their boots in the field!

Applications & features:

- ✓ Pore-Water Pressure Monitoring
- ✓ Push-in by a CPT-unit, manually with excavator or bore hole Installation.
- ✓ Piezoresistive pressure transducer provides a dynamic response and can be easily combined with loggers and IoT nodes.
- ✓ A temperature sensor is standard.

Pressure ranges: 0-300 kPa (Absolute).
 0- 500 kPa (Absolute).
 0-1000 kPa (Absolute).

Signal output: 4-20mA, two wire, excitation voltage 15-30V.

Accuracy: 0.25% FS (optional 0.1%)

Configurations:

Adaptors: Ø45 mm SS Push-in Adaptor is suitable for “as lost” installation with Ø36 mm CPT-rod. (As per illustration)
 Ø50 mm SS Push-in Adaptor, suitable for the 50 mm CPT-casing
 Ø32 mm SS Push-in Adaptor, with BSPT R1” adaptor to 1” gas pipe
 Ø25 mm PVC Flush Filter Cap for borehole- and Vertical Drain-installation.
 Ø36 mm SS Flush Push-in Adaptor to CPT rods as standpipe.

Signal Cable: Polyurethane 4 wire ruggedized cable, Ø 7.2 mm
 Default/min. length; 10 m

Ordering information:

PPS-02-T-A-LL-PP-CA

A: Absolute (relative on request)
 LL: 10 m¹ plus L x 5.0 m increment sensor cable.
 PP: 300/500/1000 kPa absolute pressure range.
 CA: 45, 50, 32, 36

Example:

PPS-02-T-A-25-300-45

Pore Pressure Sensor, equipped with a Temperature sensor, Absolute pressure, 25-meter cable, a pressure range of 300 kPa and 45 mm SS P-I adaptor.

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Associated Products:

Auxiliary pieces and consumables:	<p>Ø36 x 25 mm CPT Push-in adaptor rod, threads from all commonly known CPT-manufacturers available.</p> <p>Silicone oil.</p> <p>Cable repair kits.</p>
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Data collection and visualization tools:

Communication:	<p>The PPS-02-T is designed to be connected to the MicroSense-NBLoT or the TinySense-4 low power wireless datalogger.</p> <p>The MicroSense is suited for one sensor and the TinySense-4 can connect to four PPS-2-T sensors at once.</p> <p>Both data communication devices operate on the LTE-NB, LTE-M1 and the GPRS (2g) nationwide networks.</p> <p>Data is sent in a standardized way such as MQTT, HTTP mail, UDP or TCP. Data is presented as a JSON datagram.</p>
Data presentation:	<p>A feature of the above communication equipment is that it can transmit data in many standardized formats.</p> <p>This makes it suitable for almost all commercially available Cloud-Based, data presentation platforms, including the Inducon Data-panel as a service. Plus, many others such as: Thingsboard, AWS, Azure etc. etc..</p>

Detailed specifications:

Diaphragm material:	SS 316L
Housing & adaptor material:	SS 316L
Filter:	50 µ Porous Plastic for soil separation
Pre-chamber filling:	Silicone fluid, organic fluid or water.
Dimensions:	Length 230 mm, Diam. 25 mm, Push-in tip 45 mm (default)
Weight:	0.455 kg. (incl. 45 mm SS Push-In-tip)
Hysteresis:	Repeatability:<0.05% FS
Temperature output:	Two wire PT1000 thermistor build-in.
Zero and sensitivity temperature drift:	<0.03%FS/°C
Long Term stability:	<0.2%FS/Year
Compensated temperature:	0-50 °C
Operating temperature:	-40 / +85 °C
Maximum overpressure:	150%
Response time:	< 1 ms

Absolute pressure range, these sensors have a pressure range above and below the standard barometric nominal value of 1000 hPa.

As an example, a 0-300 kPa sensor can register approx. 20 m¹ Water Column at sea level