

Piezo Pressure Sensor

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High-precision
 Piezoresistive, long-term stability typ. $\pm 0.1\%$ FS per year.
- 
Salt-resistant
 Stainless steel or titanium membrane, AISI 316 Ti housing.
- 
SDI-12 + Bluetooth 5
 Directly compatible with Aquatos, local diagnostics via Bluetooth.
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IP68
 Permanently submersible, ultra-low-power $< 10\mu\text{A}$.

DESCRIPTION

The **Piezo Pressure Sensor Type 0312** is TerraTransfer's high-precision submersible probe for the continuous measurement of water levels, gauges and fill levels. The piezoresistive measuring principle, with a laser-welded stainless steel diaphragm and oil-filled cell, achieves a long-term stability of typ. **$\pm 0.1\%$ FS** — thanks to the tare function via Bluetooth-App, the zero point is aligned on-site to the actual installation.

The housing made of **AISI 316 Ti stainless steel** and an optional stainless or titanium diaphragm make the sensor suitable for saline waters, coastal zones and tidal areas. An integrated **3-axis orientation sensor** supports position monitoring in the gauging pipe and helps identify installation errors.

The sensor communicates via **SDI-12 V1.3** with the data logger and in parallel via **Bluetooth 5** for on-site diagnostics and configuration — no app required, directly from the browser using Bluetooth-App. Based on the TerraTransfer sensor platform (, $< 10\mu\text{A}$ sleep current). IP68 for permanent submersion.

APPLICATIONS

- Groundwater and gauging measurement in wells and monitoring stations
- Surface water — rivers, streams, lakes, reservoirs
- Saline waters with titanium diaphragm (coastal, tidal zones)
- Deep wells and deep gauges (up to 100 mWC)
- Flood early warning and gauge alarming
- Scientific measurement campaigns with high accuracy requirements
- Official monitoring networks and critical infrastructure

TYPE 0312 · PIEZO



KEY FEATURES

- Piezoresistive** · long-term stability typ. $\pm 0.1\%$ FS
- Tare function** via Bluetooth-App · zero calibration on-site
- Ranges **5 · 10 · 20 · 30 · 100 mWC**
- Housing **AISI 316 Ti** · machined from solid bar, one-piece
- Diaphragm stainless or titanium (saline-resistant)
- High-precision temperature measurement $\pm 0.1^\circ\text{C}$
- 3-axis orientation sensor** integrated
- Gauge (capillary) or absolute pressure (Lemo)
- SDI-12 V1.3 + Bluetooth 5 · IP68**

Technical data

Piezo Pressure Sensor · Type 0312

PARAMETER	VALUE
Measuring principle	Piezoresistive · oil-filled stainless cell · laser-welded, hermetic
Measuring ranges	5 · 10 · 20 · 30 · 100 mWC (project-specific)
Long-term stability	typ. ±0.1 % FS per year
Tare function	Zero calibration via Bluetooth-App · on-site, no tools required
Temperature measurement	High-precision · accuracy ±0.1 °C
Orientation sensor	3-axis, integrated · position monitoring in gauging pipe
Pressure type	Gauge pressure with capillary (open leads) or absolute pressure (Lemo connector, no capillary)
Housing	AISI 316 Ti stainless steel · corrosion-resistant, machined from solid bar
Diaphragm	Stainless steel or titanium (for saline waters and aggressive media)
Interface	SDI-12 V1.3 (3-wire: VCC · signal · GND) + Bluetooth 5 (BLE) · in parallel
Supply	2.8 V – 14 V · up to 24 channels on the Aquatos bus · cable length > 500 m
Sleep current	<10 µA (ultra-low-power) · BLE link ~ 20–30 µA
Configuration	Bluetooth-App in browser (Chrome / Edge) · BlueShell (Windows)
Protection class	IP68 · permanent immersion
Compliance	CE (RED 2014/53/EU, EMC 2014/30/EU) · RoHS-compliant

 IP68

 AISI 316

 SDI-12 V1.3