



PLS LEVEL SENSOR

Piezometric level measurement sensor



PRODUCT DESCRIPTION

Immersion probes are often used in measuring level. These probes are made up of a perfectly fluid-sealed sensitive part and an electrical cable that transmits the signal outside the immersion zone. The pressure exercised by a liquid is proportionate to its height, and in this way it is possible to determine its level by measuring the pressure. The resistance and compatibility with the fluids of the various components, type of material the instrument case, seals and electrical cable are made of are essential in this application. Titanium probes can be supplied for off-shore and naval applications as they are excellent for resistance to saline corrosion. The PLS sensor takes the measurement of the level of a waterway or water basin by measuring the pressure exercised by the liquid column above and referring it to the atmospheric pressure, so it is an instrument that takes measurements of differential pressure.

OPERATION

The sensor is based on a sensitive piezoresistive element made up of 4 resistors with bridge structure spread on a silicon wafer. The transducer is contained inside a watertight chamber filled with oil and closed by a stainless steel membrane on which the external liquid exercises pressure; the cell refers to the atmospheric pressure from a compensation tube integrated in the cable. The case is in stainless steel, sealed for immersion up to 50 metres.

MAIN FEATURES

Complete customisation :

the sensor in question can be supplied with customised precisions, flow rate, cable length and case material; for example, it can be made in materials particularly resistant to corrosive agents for marine applications.

Easy maintenance:

normally housed inside surge pipes, the sensor can be easily maintained and is easy to safely recover out of the water.

Sturdy and reliable construction:

lastly makes it an instrument with a long lifetime, which safeguards the customer's investment. The instrument does not drift due to aging and requires no periodic calibrations.

INSTALLATION

The sensor is usually housed inside surge pipes made in different materials and lengths depending on the particular installation context.

COMPONENTS THAT CAN BE ADDED OR BE BUILT INTO THE PRODUCT

In certain application cases where it is necessary to monitor a set of water quality parameters, in addition to the simple hydrometric level data the piezometric probe can be placed inside a larger probe that will be customised with specially selected probes to perform the necessary monitoring.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	
Sensor type	Piezometric
Range of measurement	Various depths, for example 0 6m
Relative humidity	0..... 100%
Precision	<1 cm (@25° C)
Electrical output	4-20 mA
Operative temperature	.-20° C +80° C
Material	Pressure sensor: Stainless steel (316L / 1.4435) Casing: Stainless steel (316L / 1.4435) Seals: Viton (Standard), EPDM Cable: PUR, FEP, PE

CERTIFICATIONS AND PROTOCOLS

Certifications	Reference Standards
Vibration	EN 60068-2-6
Shocks	EN 60068-2-27
Emission, class B	EN 55022
Electrostatic discharge	EN 61000-4-2
Radiated RF	EN 61000-4-3
Transients	EN 61000-4-4
Pulse voltages	EN 61000-4-5
Conducted RF	EN 61000-4-6