FAGIOLI

TIDE MONITORING SYSTEM

THE WORLD... OUR PASSION
SINCE 1955

TECHNICAL BROCHURE

THE SYSTEM

Highly Precise Level Trasmitter

The TIDE MONITORING SYSTEM is an hydrostatic pressure sensor placed at a certain depth in the water, with the scope to measure the pressure at that depth. It is used to monitor the tide trend, measuring the variation of hydrostatic pressure in real-time; in case of existing tide tables (provided by client or third parties), this system is used to validate those theoretical tables, giving more accurate tide values. The aim of this tool is to have a real trend analysis of the tides' movements in a determined period of time (days) in order to guarantee a safer loading/unloading operation. With the use of this Hydrostatic Pressure Sensor we are constantly able to monitor the tide 24 / 24h for several days before the operation, and compare the tide variations issued by the forecaster authority. This is extremely useful to better understand the feasibility of "demanding" performances involving items and modules to be loaded out/in, especially where the tide variation is significant. The sensor is a small metal cylinder to be positioned at a known depth, connected by 50 m cable to a small black box connected to a standard PC by common USB port. The sensor is fixed to a rigid rod (tube) to prevent movement into the water (and therefore keep a constant depth measurement and data readings).

PRECISE TIDE ANALYSIS

DEDICATED SOFTWARE

50 m CABLE

This pressure transmitter is designed for level measurements where the highest accuracy is required.

Digital Output of Transmitter

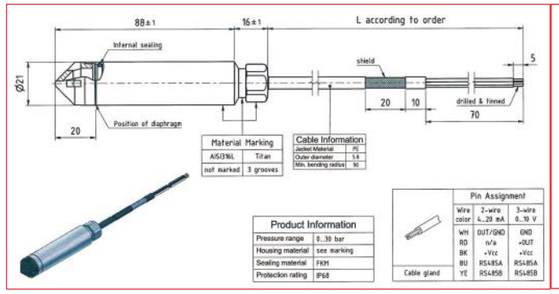
This Series is based on the stable, piezoresisitive transducer and a micro-processor electronics with integrated 16 bit A/D converter. Temperature dependencies and non-linearities of the sensor are mathematically compensated. With its dedicated software and the converter, the calculated pressure can be displayed on a computer. The software also allows the recording and graphic display of pressure signals. Up to 128 transmitters can be hooked together to a Bus-system.

Programming

With the dedicated software(CCS30), a converter and a PC (Laptop), the pressure can be displayed, the units changed, a new gain or zero set. The analog output can be set to any range within the compensated range.

PR-36 X W : Gauge, Zero at atmospheric Pressure

This probe is fitted with durable cable with an integral vent tube to the atmosphere. These level transmitters can be subject to internal condensation caused by installations in cold water on warm, humid days. If the reference tube is not terminated in a warm, dry enclosure, KELLER recommends the use of a purpose built cartridge filled with a silica gel which is fitted at the end of the reference tube



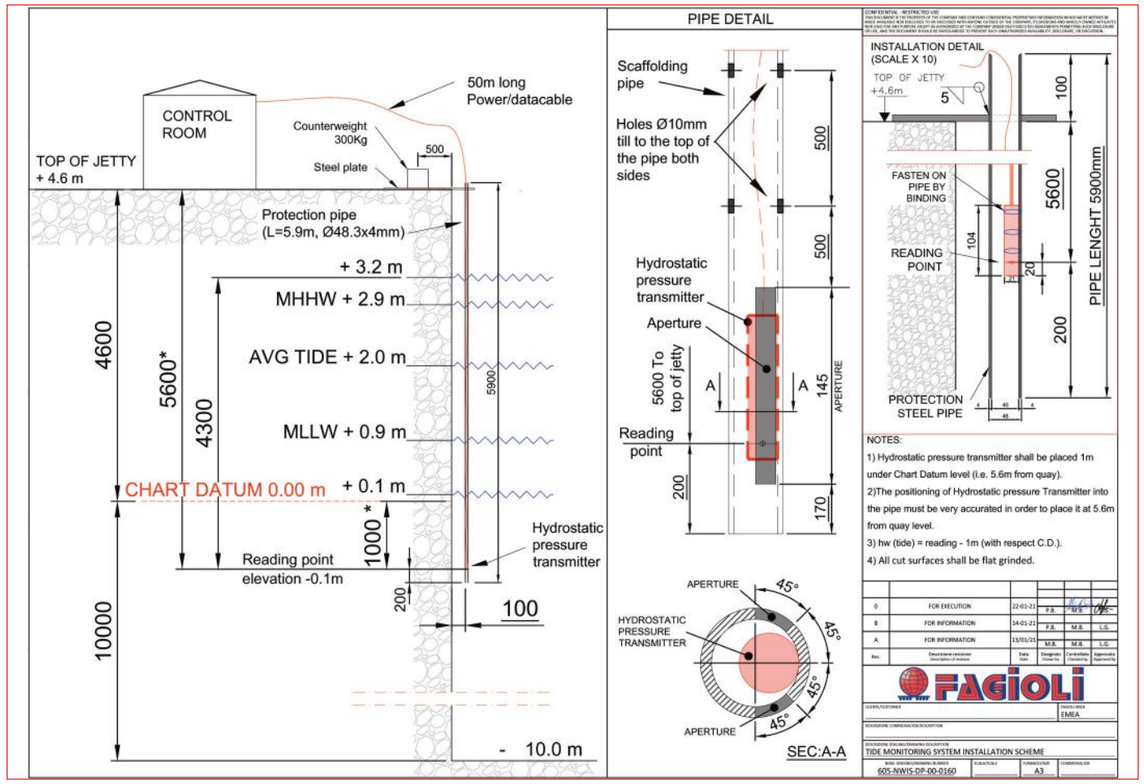
Specifications

	Standard Pressure Ranges (FS)					
PR-36 X W	0.3 (1)	1	3	10	30	bar
Water column approx.	3	10	30	100	300	mH2O
Overpressure	2	2	5	20	40	bar

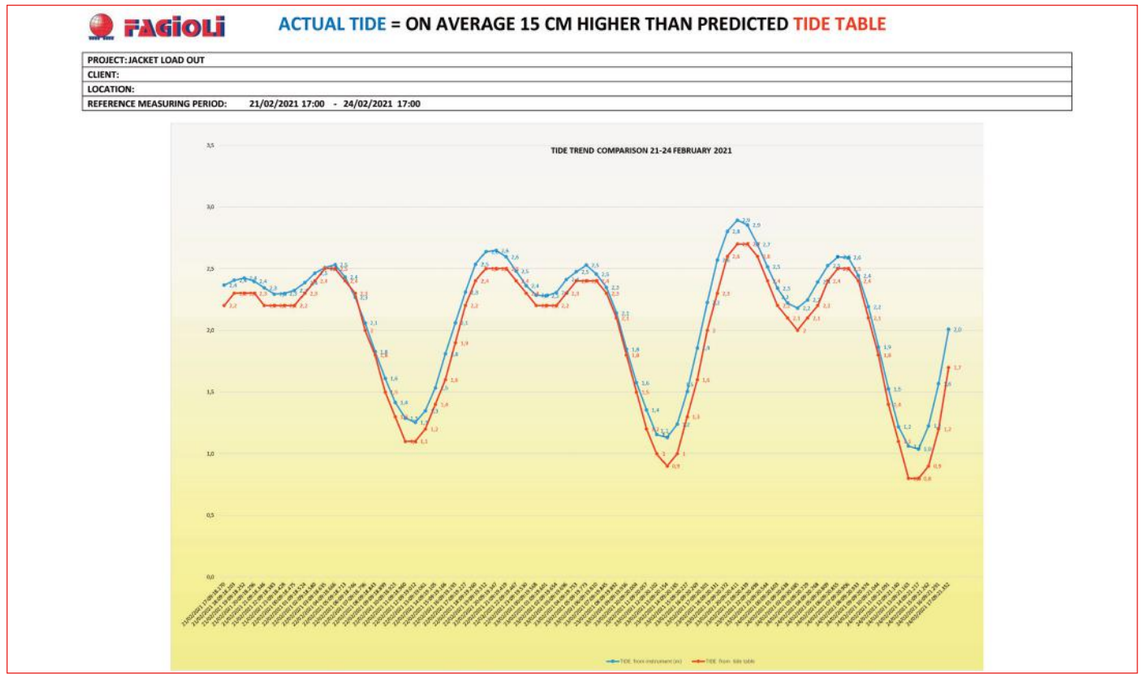
Type	RS485*	4...20 mA (2-wire)	0...10 V (3-w)	0.1...2.5 V (3-w)
Digital Interface	RS485	RS485	RS485	RS485
Supply (U)	8...32 V	8...32 V	13...32 V	3.2...32 V
Accuracy (2) @ RT (digital) typ.	0.02 %FS	0.04 %FS	0.02 %FS	0.02 %FS
Total Error Band (3) (0...50 °C)	0.10 %FS	0.15 %FS (4)	0.15 %FS	0.15 %FS
Power Cons. (without communication)	< 8 mA	3.2...22.5 mA	< 8 mA	< 5 mA

(1) Specified "Accuracy" and "Total error band" multiplied by a factor of 2
(2) Linearity (best straight line), hysteresis and repeatability
(3) Accuracy and temperature error within the compensated temperature range
(4) Disturbance of the 4...20 mA signal occurs during communication through RS485. 3-wire types are suitable for simultaneous operation of analog output and RS485.

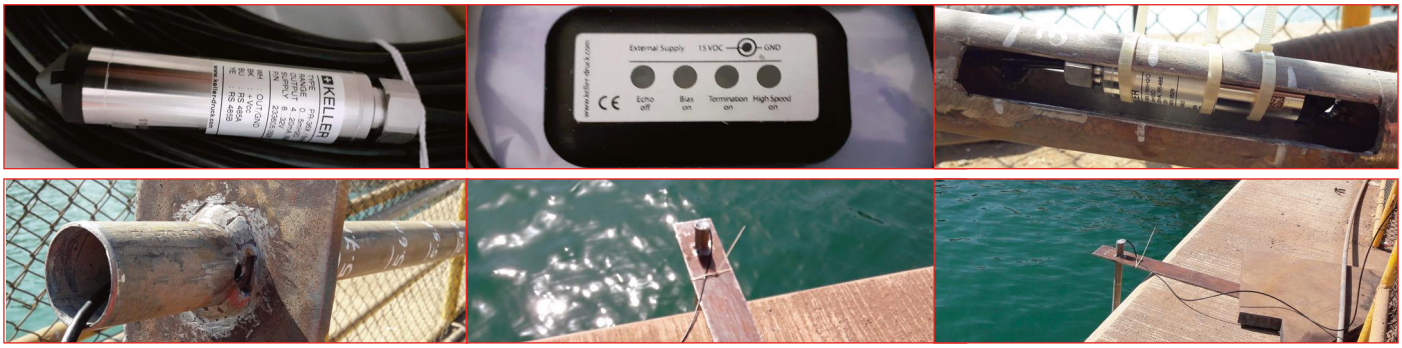
Tide Monitoring System Installation Scheme (Example)



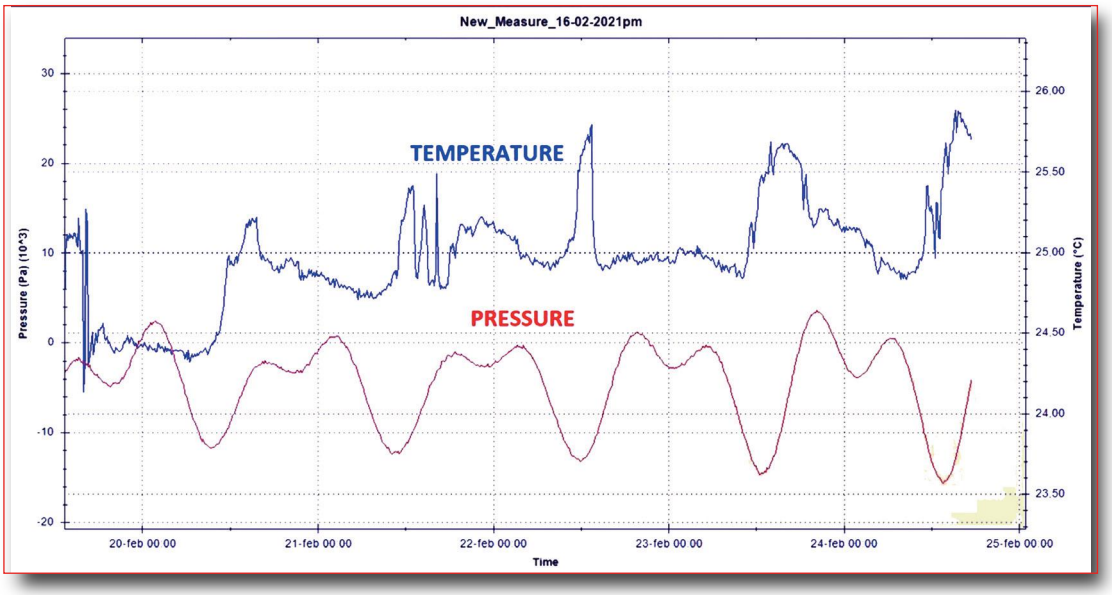
Tide Trend Comparison Analysis (Example)



Installation Procedures and Measurements

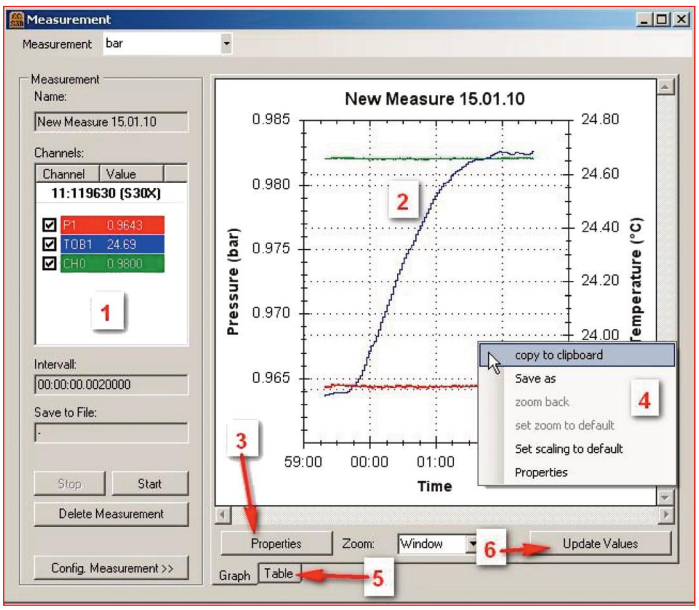


Software CCS30: applications

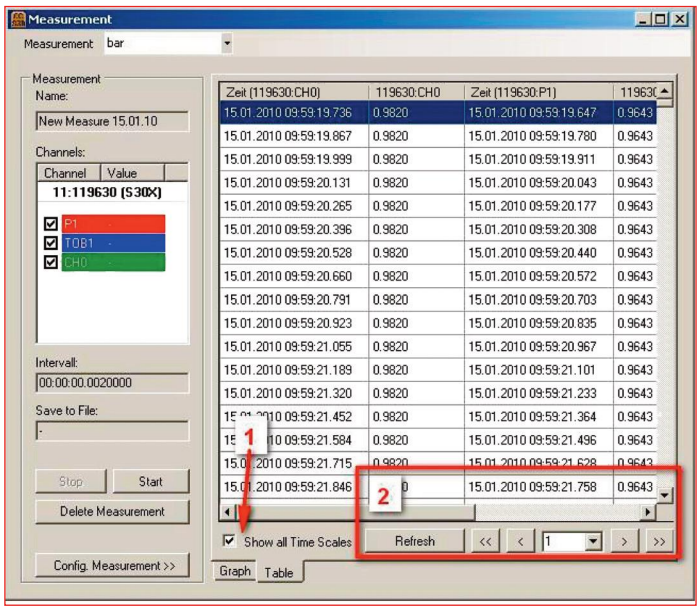


Example:
Output Graphic
Pressure/Temperature
Site Readings

Example: Measurement Software Output - Graphic



Example: Measurement Software Output - Table



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