

Instruction Manual

innoSens 810T

Infrared Turbidity Sensor

The innoSens 810T probe is used for the optical measure of turbidity in pure and process waters up to 4000 NTU. The probe uses the 90° scattered light method.

Applications

- Measure of turbidity in wastewater
- Measure of turbidity in primary, industrial, recirculating water

Features and benefits

- Reliable concentration measurement using optical measuring process
- Infrared light pulsing beams scattering method
- Black rigid PVC and AISI 316 sensor body
- No mechanically moving parts
- Measured value pre-processing in sensor resulting in low signal transmission
- Immediate installation and easy maintenance

Turbidity measurement with the 90° scattered light method

By turbidity we mean the scattered component of a light beam which is diverted away from its original course by optically denser particles in the medium e.g. solid matter particles. Measurements are made using the standardised 90° scattered light method in accordance with ISO 7027 / EN 27027. The measuring method is based on the Tyndall effect. The turbidity of the medium is determined from the amount of scattered light. The transmitted infra-red light beam is scattered by the particles in the medium. The scattered beams are measured by scattered light receivers which are fixed at an angle of 90° to the transmitted light. The measured scattered light signals are converted to frequency signals. The frequency signals are assigned to corresponding turbidity units and solid matter concentrations, and appear in the display.

TECHNICAL DATA

Materials: Black PVC and AISI 316 Body
Special Glass Optics
NBR and Sylicon O-Rings

Thread: 1" GAS

Measuring range: 0-4000NTU

Measuring method: 90° Scattered light

Accuracy: $\pm 2\%$ of f.s.

Repeatability: 98 %

Calibration: by points

Working temperature: 0~60 °C

Max Working pressure: 4 bar

Maximum absorption: 3W

Mechanical Protection: IP68 – cable included

Cable: 10m integral

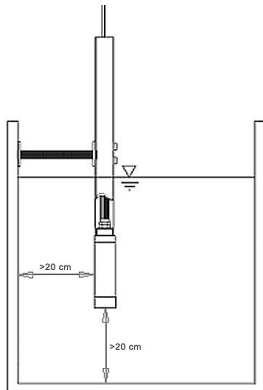
Power supply: 12~24Vdc

Outputs: RS485 (4-20mA optional)

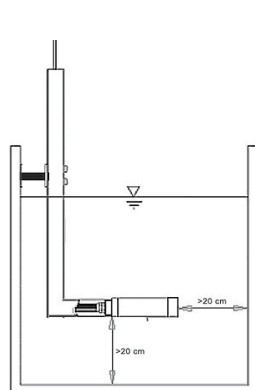
Cable color codes

RED	+24Vdc
BLACK	GROUND
YELLOW	A+ RS485
GREEN	B- RS 485

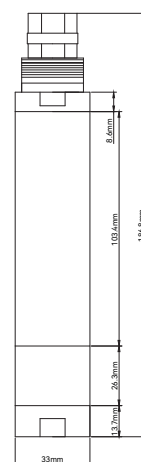
Installation in tank



Installation in channel



DIMENSIONS



Precautions and warnings

Install the sensor in the tank so that it is immersed for at least 20 cm and the distance from the walls and the bottom of the tank is not less than 20 cm.

Install the sensor in the channel so that it is immersed for at least 20 cm and the distance from walls and bottom of the channel is not less than 20 cm.

Order no.

35-0810-02 innoSens 810T Infrared Turbidity Sensor