

TU 8355 & TU 8555

Suspended Solids Sensors

These unique sensors have been designed to measure high Turbidity and Suspended Solids based on back scattering technology. The sensors are available for submersible and in-pipe installations.

The measuring system consists of:

- ◆ Infrared light source
- ◆ Detector of scattered light by suspended particles
- ◆ Detector of the clean lens status
- ◆ 2-wire 4/20 mA analog output
- ◆ Modbus Output
- ◆ Nozzle for the autoclean by external pressured air (TU 8355)

Principle of operation

The Turbidity and suspended solid measurement follows the back scattering method. A light beam is sent in the sample through an optical lens. The back scattered light by suspended particle is collected by the sensor through a second lens, detected and converted in an electric signal proportional to the Turbidity of the sample. The probe uses an infrared light and the measuring is not affected by the color of the sample.



Technical Specifications

Turbidity ranges	0/100.0 – 0/1000 – 0/10000 FTU
TSS/FTU factor	0.010 ÷ 10.000
TSS unit measure	%, ppt, ppm, ppb, g/l, mg/l, µg/l
Scalability factor 4/20 mA	10/100 %
Sensitivity	70/130 %
Zero	± 10 FTU all scales
Resolution	0.001 FTU
Power supply	9/36 VDC
Accuracy	0.2 % of the full-scale selected
Repeatability	0.1%
Non-linearity	0.1 %
Check signal	0/200.0 %
Load	600 Ohm max. a 24 Vdc
Digital output	RS 485 isolated
Temperature limit	50 °C
Dual filter software	2/220 seconds
Current loop	4/20 mA isolated
Protocols	B&C ASCII e Modbus RTU (03, 06, 16 functions)
Baud rate	2400 / 4800 / 9600 / 19200 baud
Probes ID	01/99 (B&C protocol) 01/243 (Modbus protocol)
Probes network	32 max.
Operating temperature	60 °C max.
Operating pressure	6 bar at 25 °C (TU 8555) 1 bar at 25 °C (TU 8355)
Dimensions TU 8355	L=165 mm, D= 60 mm
Dimensions TU 8555	L=143 mm, D=40 mm
Weight TU 8355	Body 420 g, cable 640 g
Weight TU 8555	Body 160 g, cable 640 g
Body	PVC-C (TU 8555.5 model in PVDF is available)
Cable	10 m (100 m max.), PVC sheath
Protection	IP 68