



The Smart Digital Turbidity Sensor with Auto-Clean and Dual IR Beam combines smart sensor technology with industry leading optical measurement.

Turbidity Sensor - Smart Digital, Auto-Clean Dual IR Beam

The Turtle Tough Smart Digital Turbidity Sensor with auto clean technology and dual IR beam is state-of-the-art when it comes to combining smart sensor technology with industry-leading optical measurement.

Features

- Dual IR Beam (90° + 135°) for high measurement accuracy $\pm 2\%$
- Smart Sensor Technology directly integrates with your industrial network or with Turtle Tough Smart analysers
- High-quality materials and superior construction for industrial applications
- Highly stable near-monochromatic infrared light source avoids the interference of chroma in liquid and external visible light influence
- Built-in luminosity compensation provides improved measurement accuracy
- A high-quality quartz lens greatly improves the optical transmittance allowing for superior transmission and absorption of infrared wavelengths
- NTU range: 0.01 to 100 NTU and 0.01 - 4000 NTU*
- TSS range: 0 to 50,000 mg/L* (*choose range at time of order*)
- High stability, precision, and excellent repeatability ($\pm 2\%$)
- Communication: MODBUS RTU (RS-485)



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SELF-CLEANING
FUNCTION

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Few sensors can boast the versatility, low maintenance and industrial strength that the TT-NTU-DSS-7833D-SC turbidity sensor has to offer. The sensor body is made of 316L stainless steel, which is corrosion-resistant and extremely durable. A titanium version is also available for seawater applications or environments with high levels of corrosion.

The IP68 waterproof design can be fully immersed for continuous turbidity measurement in a wide variety of industrial applications including water quality monitoring, municipal water, industrial process water, cooling water, activated carbon filter effluent, and membrane filtration effluent just to name a few.

The TT-NTU-DSS-7833D-SC comes complete with a fully automatic sensor wiper. This self-cleaning function effectively prevents solid particles from building up on the lens, not only reducing the maintenance requirement but greatly improving measurement accuracy over the long term. The auto-cleaning function can be set according to the application requirements to provide stable data and reliable performance, while the built-in diagnostic functions greatly simplify the sensor management.

The principle of the Turtle Tough Smart Digital Turbidity sensor is based on the combined infrared absorption and scattered light method. The ISO7027 method can be used to continuously and accurately determine the turbidity value. According to ISO7027 infrared double-scattering light technology is not affected by chromaticity to determine the sludge concentration value.

SMART Sensor Technology

SMART Sensors have revolutionised the way our customers manage and maintain sensors. Unlike most other smart sensors, Turtle Tough provide you with the option of a propriety digital signal or an open-source Modbus RTU signal that is universally accepted. This allows the sensor to be directly connected to your industrial network without the need for proprietary hardware. Turtle Tough also provide state-of-the-art analysers and controllers should you require a sophisticated turnkey control solution. SMART sensors have the added benefit of storing a detailed performance history and diagnostics on-board enabling superior sensor management. Sensors can be cleaned and calibrated offline to facilitate a hot-swapping maintenance regime. Need to know more about [hot-swapping?](#) Ask our team



Product Name	Turbidity Sensor - Smart Digital, Auto-Clean Dual IR Beam
Code	TT-NTU-DSS-7833D-SC
Measurement Range	0.01-100 NTU, 0.01-4000 NTU (The measurement range must be chosen at the time of order) 0 to 50,000 mg/L (The measurement range must be chosen at the time of order)
Measurement Accuracy	Less than $\pm 2\%$ of the measured reading or ± 0.1 NTU, whichever is greater
Repeatability	$\pm 2\%$
Resolution	0.01NTU~0.1NTU, Depend on the measuring range
Pressure Range	≤ 0.4 Mpa
Flow Rate	≤ 2.5 m/s, 8.2ft/s
Main Material	Body SUS316L/Titanium alloy (marine) /PVC Cover: POM, Cable: PUR
Power Supply	DC 12VDC
Communication Protocol	MODBUS RS485
Measuring Temperature	0-45°C (not freeze)
Weight	1.65 Kg
Protective Rate	IP68/NEMA6P
Cable Length	Standard:10m, the maximum may be extended to 100m
Application	General industrial applications, rivers, lakes, environmental monitoring, water quality, etc.