



TTurb

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The TTurb is a digital sensor for optical turbidity measurement using the 90° IR scattered light method. Depending on the sensor version, it can be used in pure water up to 100 FNU as well as in raw water, waste water and process water up to 1000 FNU. TTurb is available with different cable lengths (10 m, 2 m or 0.5 m) and in different versions.

As an immersion sensor, the TTurb can be used directly in the measurement medium, but is also available in a FlowCell-optimized variant that connects directly to a flow cell for bypass applications. In addition, the TTurb can be purchased as part of a set that includes the TTurbCAL solid standard. This standard is always precisely calibrated to each individual device, enabling accurate functional tests to be performed on-site without the need for any reagents.

Advantages

- Without sampling and sample preparation
- Reliable concentration measurement
- Pulsed Infrared Scattered Light Method
- Pre-processing in the sensor increases the sensitivity of the measurement

Applications

- Waste water treatment
- Drinking water treatment
- Environmental monitoring
- Bathing and surface waters
- Seawater, brackish water
- Industrial applications
- Flue gas scrubbing / Scrubber

Variants

TTurb-100	0 - 100 FNU
TTurb-400	0 - 400 FNU
TTurb-1000	0 - 1000 FNU

Technical specifications

Measurement technology	Light source	LED
	Detector	photodiode
Measuring principle		Nephelometry (90° scattered light method)
Parameters		Turbidity in FNU; mg/L; NTU; TSSeq
Standard applied		DIN EN ISO 7027-1:2016-11
Measuring range		0 – 100, 0 – 400, 0 – 1000 FNU
Measuring accuracy		± (5 % + 0.5); max. ± 2 FNU
Detection limit		0.5 FNU for TTurb-100 2 FNU for TTurb-400 2 FNU for TTurb-1000
Measuring wavelength		860 nm, FWHM 30 nm
Response time T100		6 s
Measuring interval		≥ 3 s

Housing material		PET / POM / NBR	
Dimensions (L x Ø)	with fixed cable	182 x 36 mm	~ 7.2" x 1.4"
	with SubConn connector	209 x 36 mm	~ 8.2" x 1.4"
Weight		approx. 0.3 kg	~ 0.7 lbs

Interface		Ethernet (TCP/IP) RS-485 (Modbus RTU)
Power consumption		typically < 0.9 W with network < 1.5 W
Power supply		12 – 24 VDC ±10 %
Connection		8pin M12 plug
Maintenance effort		≤ 0.5 h/month typical

Calibration/ maintenance interval		24 months, when using a TTurbCAL 4 years	
System compatibility		Modbus RTU	
Warranty		1 year (EU&US: 2 years) on electronics; wearing parts are excluded from the warranty	
Max. Pres- sure	with fixed cable	3 bar	43.5 psi
	in flow cell	1 bar, 2-4 L/min	14.5 psi, 2-4 L/min
Degree of protection		IP68	
Sample temperature		0...+40 °C	+32...104 °F
Ambient temperature		0...+40 °C	+32...104 °F
Storage temperature		0...+80 °C	+32...176 °F
Inflow velocity		max. 0.1 m/s	