

Turbidity Sensor TTurb

81SXX00XX



The TTurb is a digital sensor for optical turbidity measurement using the 90° IR scattered light method. Depending on the sensor design 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) as well as in different versions.

As an immersion sensor, the TTurb can be used directly in the measuring medium, but is also available in the FlowCell-optimized version directly with a flow cell for bypass applications. In addition, it is possible to obtain the TTurb directly in a set with the dry-standard TTurbCAL. This standard is always directly adapted to each individual instrument and thus enables precise function tests directly on site, without any reagents.

TTurb100	0–100 FNU
TTurb400	0–400 FNU
TTurb1000	0–1000 FNU

Benefits

- Reliable concentration measurements by optical methods
- Pulsed infrared scattered light procedure
- No mechanically moving parts
- Digital reading
- Preprocessing in the sensor increases measurement sensitivity

Applications

- Measurement of turbidity in drinking water, domestic water, circulating water
- Measurement of turbidity in drinking water treatment plants with low turbidity values
- Measurement of turbidity in open waters

Accessories

- Cable: Extension cables of 0.3 m, 2 m, 10 m, 25 m
- Controller: TriBox3, TriBox mini, HS100
- Fittings: FlowCell
- TTurbCAL



Technical Specifications

Measurement technology	LED light source Photodiode detector	
Measurement principle	Nephelometry	
Parameters	Turbidity as FNU; mg/L; NTU; TSSeq	
Measuring range	0–100, 0–400, 0–1000 FNU	
Measurement accuracy	$\pm(5\% + 0.5)$; max. ± 2 FNU	
Detection limit	0.5 FNU for TTurb 100 2 FNU for TTurb 400 2 FNU for TTurb 1000	
Measurement wavelength	860 nm, FWHM 30 nm	
Reaction time T100	6 s	
Measurement interval	≥ 3 s	
Housing material	PET / POM / NBR	
Dimensions (L x Ø)	170 x 36 mm	~ 6.7" x 1.4"
Weight	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 ($\pm 10\%$)	
Connection	8-pin M12 plug	
Required supervision	≤ 0.5 h/month typically	
Calibration/ maintenance interval	24 months, when using TTurbCAL, factory calibration interval is 4 years	
System compatibility	Modbus RTU	
Warranty	1 year (EU&US: 2 years) on electronics; wearing parts are excluded from the warranty	
Max. pressure	with fixed cable	3 bar ~ 43.5 psig
	in flow cell	1 bar, 2–4 L/min ~ 14.5 psig, 0.5 to 1 gpm
Protection type	IP68	NEMA 6P
Sample temperature	0 °C to +40 °C	~ +32 °F to +104 °F
Ambient temperature	0 °C to +40 °C	~ +32 °F to +104 °F
Storage temperature	0 °C to +80 °C	~ +32 °F to +176 °F
Inflow velocity	max. 0.1 m/s	maximum ~ 0.33 fps

The sensor meets requirements of DIN EN ISO 7027-1:2016-11.