

 PROCESS-MEASUREMENT & ANALYTICS | DATA SHEET

OXYSERIES TURB-600pro+ Turbidity Sensor & Meter



Measurement made easy

Turbidity measurement for regulatory effluent discharge consent monitoring

Easy to use

- Easy Plug & Play Digital Sensor Connection
- Advanced predictive maintenance diagnostics
- Supplied factory-calibrated ready for use

Accurate and reliable

- Robust construction & Design of Sensor in Stainless steel
- Adaptive Turbidity calibration feature for improved process control

Low cost-of-ownership

- Long lifetime of the sensor
- Easy maintenance
- Easy calibration and verification

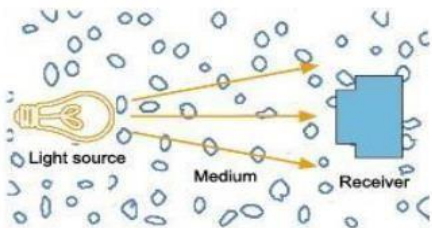
Installation options

- Suitable for pipe, tank, open channel or flow cell installation.
- Latest software support for Data communication & transfer



Introduction- OXY TURB-600Pro+

Turb 600Pro+ is performance of light through the obstacles that occurs. Water containing dirt, dust, small organic compounds, and other microbes and colloid material can make the water turbidity. Sensor transmitter emitter send light waves in the process of transmission through the absorption, reflection and scattering, a part of the transmission direction of the light can illuminate to 180 ° on the detector, a portion of light scattering detector to 90 ° direction. On the 180 ° and 90 ° direction detector receives the light intensity and has a certain relationship of sewage turbidity, so by measuring the intensity of the transmitted light and scattered light turbidity of waste water can be calculated.



The OXYTURB-600 range offer:

Built-in bubble elimination system (circulation), improve the measurement accuracy and stability.

Good repeatability, and is not affected by flow velocity and pressure in the sample (input).

Communication function (optional) : with RS - 485 communication interface (MODBUS protocol compatible), 4 ~ 20 mA current output corresponding value can be set freely.

4-20 mA output current photoelectric isolation.

Hysteresis set arbitrary function, avoid frequent switch relay action,

Adopting the two-point calibration method,

The watchdog function: make sure the instrument does not crash.

The core components are from famous international brand.

Power-fail protection > 10 years.



Figure 1 Turb-600 turbidity Meter & sensor



Design & Quality

The OXY Turb 600Pro+ is a compact, yet extremely robust constructed & designed sensor & meter which can measure up to 0-10000 NTU



Figure 2 Turb-600 turbidity merged sensor

Available in stainless steel or ABS these rugged sensors are suitable for use in a wide range of process control applications. The stainless steel version with optional integral cleaning is ideal for general water and wastewater applications, and can be used in aggressive or corrosive environments, including brine, seawater or high salinity media. Analysis and signal conditioning is conducted within the robust sensor housing and transmitted digitally to the transmitter. As it features latest technology, simplified calibration and service-free design, users of this system benefit from simple operation, enhanced accuracy and the lowest cost-of-ownership.



Applications

Typical applications for the OXYTURB-600Pr0+

- Circulating water/Pulp & Paper Process control
- Municipal / industrial wastewater treatment
- Underground water
- Sewage waste water/Marine applications
- Domestic water



Figure 3 Turb 500 Meter units side view

Safety Precautions

Attention:

1. Please follow the operating procedures and precautions of this manual when using.
2. If you find that the instrument is working abnormally or damaged during use, please contact the dealer, do not repair it yourself.
3. In order to make the measurement more accurate, the instrument must be calibrated with the electrode; if your electrode has been purchased for nearly one year or the electrode has quality problems, please pay attention to replace it.
4. Before performing the calibration work, please connect the instrument to the electrode and warm it up for 30 minutes.
5. Due to product updates, this manual is subject to change without notice.



Rugged design

The OXYTurb-600Pro+ sensors are available in polished stainless steel or ABS materials and feature scratch-resistant sapphire optical windows to withstand harsh environments up to 60 °C (140 °F) and pressures up to 10 bar (145 psi).

The transmitters are made of high quality and are suitable for fitting in panel. Meters are come with waterproof IP65 protection level with big display which supports RS485 & 4-20mA outputs



Figure 5 TURB-600 Meter terminal view



Accurate and reliable measurement

The OXYTurb-600Pro+ turbidity sensor uses the latest advancements in (IR) optical measurement technology to provide an extremely stable and accurate measurement system that maintains calibration and operates without drift.

Measurement principle

The OXYTurb-600Pro+ uses nephelometric measurement technology in accordance with EN ISO 7027 (DIN EN 27027 or ISO 7027). Providing accurate measurement of turbidity concentrations up to 10000 NTU content in the sample.



Figure 4 TURB-500 Sensor Overview

Easy-to-use and maintain

The OXYTurb-600Pro+ turbidity and sensor features latest technology to provide plug-and-play measurement with latest digital transmitters.

The instrument is generally calibrated before leaving the factory and can be used directly by the user. On normal circumstances, the instrument has a low failure rate.

Maintain:

1. For the first time, please let it electrified for 24H before testing.
2. After the sensor is operationally, value of the 4-20mA output is corresponds to default measurement range of meter.
3. After the instrument is used for a period of time, the optical path lens of the sensor may be attached with dirt, causing a large error in the measured value, and the lens needs to be cleaned periodically. Clean the optical path lens with a tweezers with an alcohol cotton ball until it is clean. After cleaning is completed, the sensor must be recalibrated.
4. Do not disassemble the instrument to avoid affecting or damaging the performance of the instrument.



SUBMERGENCE

- Range: 0-10000NTU
- Good reproducibility

Specification:

Measuring Range: 0-10000 NTU, measurement range can be customizable.

Resolution: 0.01%, 0.1%.

Repeatability: 1%.

Accuracy: ±1.0%FS, ±0.5%

Control interface: two groups of ON/OFF contact individual high and low alarm signal photoelectric isolation output

Signal isolation output: photo coupler isolation protection 4-20mA analog output.

Relay: relay lag value can be set freely, relay load 3A 220VAC/24VDC

Working conditions: Ambient temperature is 0~60°C, relative humidity ≤90%.

Output load: <750Ω (4-20mA)

Working voltage: AC 220V10%、50/60Hz, sensor: DC 12V

Size: 96×96×168mm(instrument), 237*φ64mm (sensor)

Hole-cutting Size: 92×92mm

Weight: 0.9Kg (instrument), 4.5kg(sensor)

Protection level: IP65 (instrument), IP68 (sensor)

Mounting options:

InStore offer a range of mounting options for the OXY TURB-600Pro+ sensor

Item Mounting option

m

- A Open channel mounting kit: suitable for floor/wall (surface) mounting
- B Wall mounting
- C Dip pole assembly
- D Open tank flanged dip mount:
- E Flow cell pipeline mount

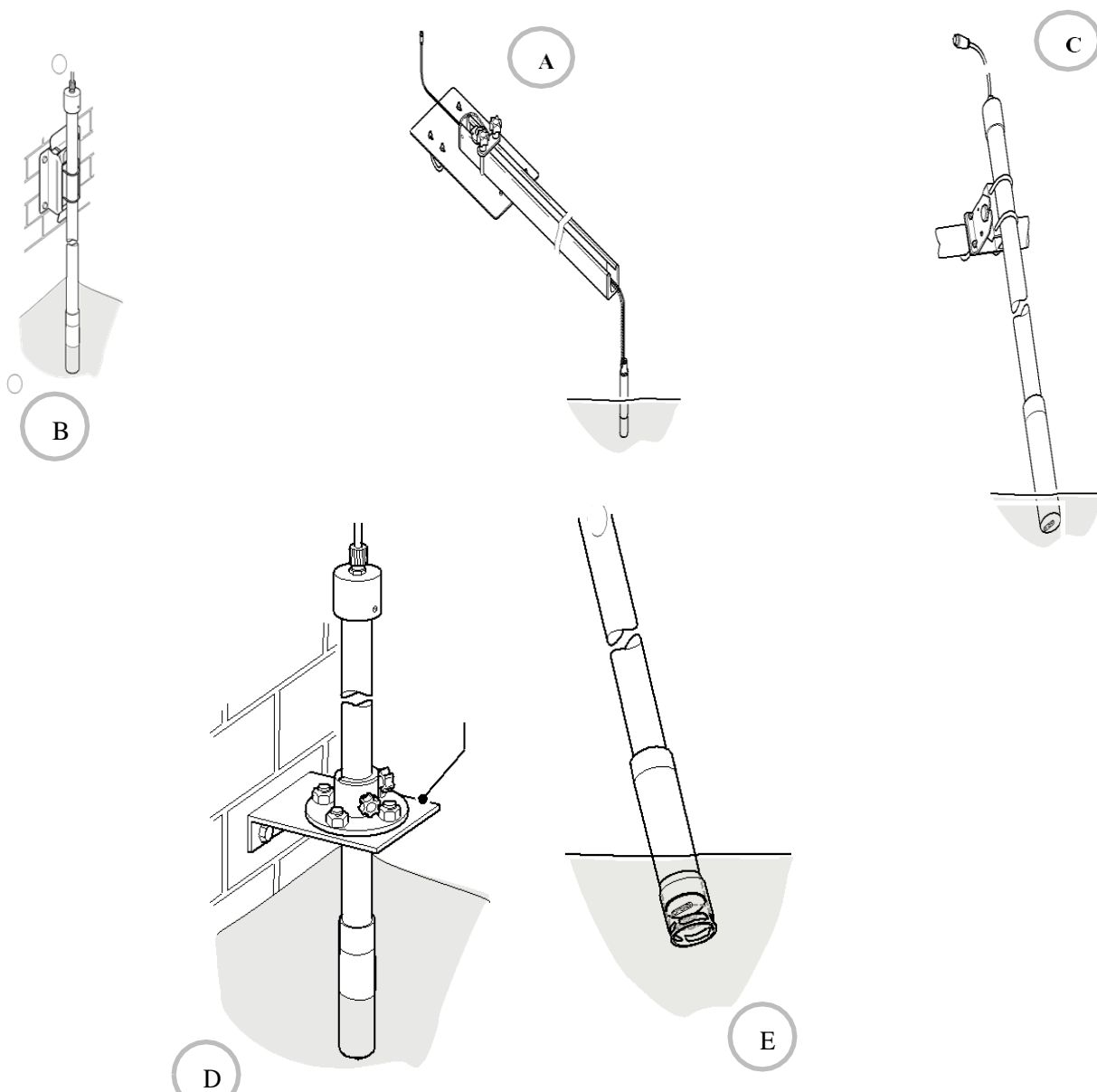


Figure 6 Mounting options



Meter & Electrode Installation:

The instrument should be installed in a clean, dry, well-ventilated and vibration-free position, with no corrosive gas around.

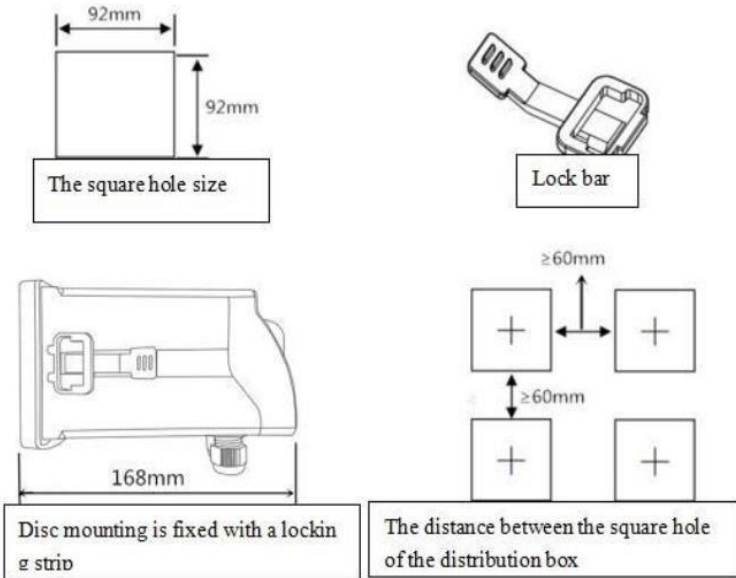


Figure 7 Meter Dimensions



Electrode Installation:

The sensor is used in water without bubbles and stable flow rate.

The sensor is required to be installed indoors or in places where sunlight is not exposed, because the strong infrared rays of sunlight will seriously affect the sensor measurement results. Since the sensor case is made of 316L stainless steel, it has a certain weight; when installing the electrode, use the mounting bracket.

Dimensions:



Figure 9 Sensor Dimensions

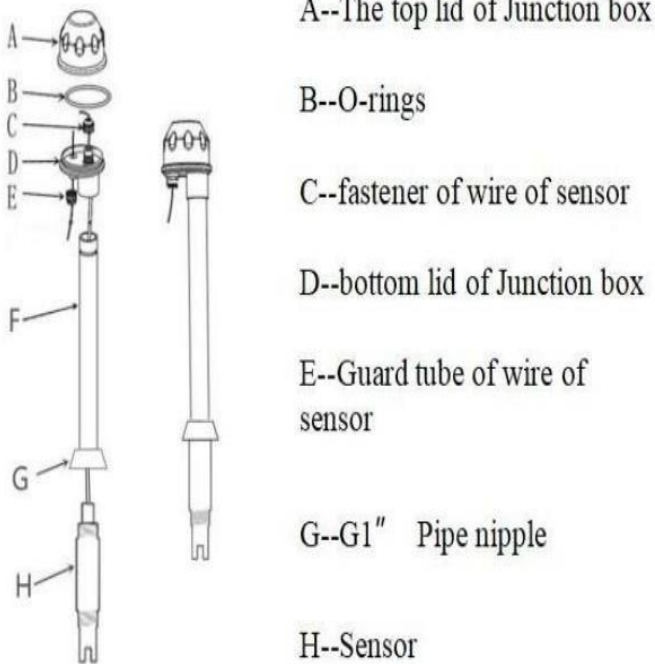
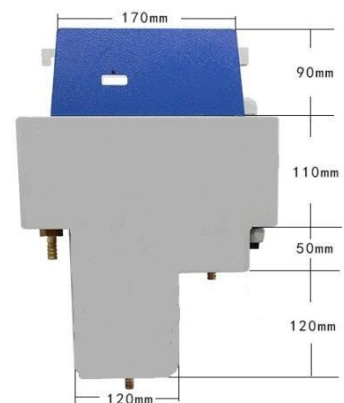


Figure 8 electrode installations



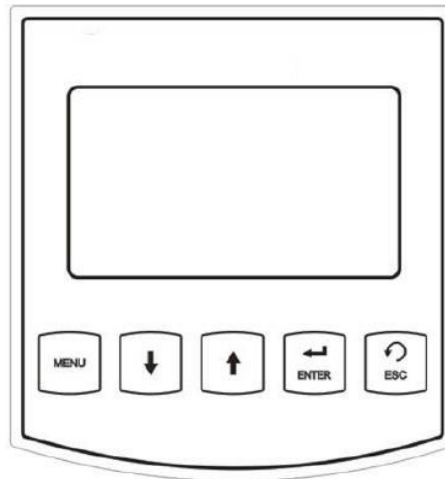


Instrument panel and wiring instructions

Front panel buttons

1. MENU key or a selection key
2. DOWN menu down or values to reduce key
3. Move or numerical increase in the UP menu
4. ENTER key
5. ESC to return or exit key (to return to the previous menu)

The buttons of front side



The rear panel wiring instructions

1.NO : +12VDc Sensor Positive Power	11. Tu+ : Sensor signal output +
2.COM : +12VDc Sensor Negative Power	12. Tu- : Sensor signal output -
3.NO : Normal opening for upper limit alarm relay	13. NC :
4.COM : Common of upper limit alarm relay	14. TEMP :
5.NC : Normal closing for upper limit alarm relay	15. TEMP :
6.NO : Normal opening for lower limit alarm relay	16. GND :
7.COM:Common of lower limit alarm relay	17. RS485 A:
8.NC : Normal closing for upper limit alarm relay	18. RS485 B:
9.L : 220V Fire wire	19. 4~20mA+:
10.N : 0V Zero line	20. 4~20mA-:



Ordering information

Product Configuration

Turb-600Pro+ detector, please confirm your purchase is complete box, such as damaged packaging or any shortage of accessories, please contact your dealer as soon as possible, configuration is as follows:

Standard configuration

Meter X 1

Turbidity Sensor X 1

Locking bars X1

Manual X1

Optional accessories

- mounting bracket
- Connector of 485 communication interface and 485 transfer into 232 or 485 transfer into USB

Manual

1. English
2. German
3. Spanish
4. Chinese



Software Support –Possibility's

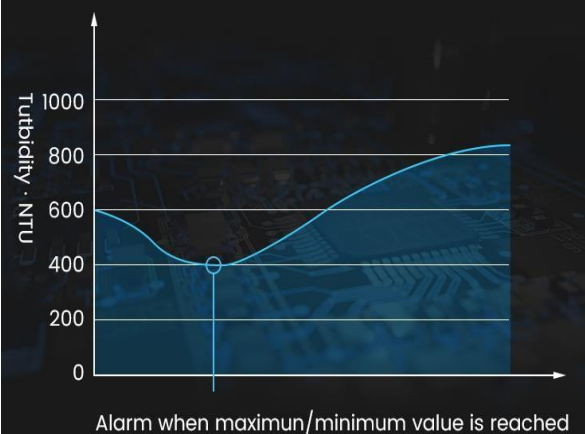
CLOUD

Support the Internet of Things
Base on RS-485
MODBUS partially compatible
Step onto Industrial 4.0



RELAY CONTROL

According to the scene
Set maximum, minimum and lags freely
Take care of business





InStore

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DS/TURB-600Pro+-EN Rev.k 032017