PROCESS-MEASUREMENT & ANALYTICS | DATA SHEET

OXYSERIES TSS-A680

Total Suspended Solids Sensor & Meter

Measurement made easy

Total Suspended solids 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 TSS 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 TSSA-680

The infrared light technology is applied to sensor (TSSA-680). The instrument analyzes these data that are obtained by infrared light 3 through the medium to the detector. It can know the exact concentration of suspended matter in the medium. It has the same accuracy and continuity when measuring low or high ranges. Besides, in order to effectively eliminate the deviation of data due to some changes of environment, so that it can be used in more environments. We set a photometric compensation function in the sensor. It is widely used in the monitoring ofsludge concentration in solution, such as Chemical, electroplating, papermaking, environmentally friendly water treatment engineering, pharmaceutical, food, tap water, etc

The OXYTSSA-680 range offer:

- Measurement range from 0-10000 mg/L
- Waterproof, dust proof, moisture-proof (IP65), high-end design look.
- high precision, high stability and preferable antijamming ability.
- Communicate function: RS-485 communication interfacewith photoelectric isolation (optional, MODBUS protocol partially compatible), photoelectric isolation 4-20mA current output, the corresponding value can be set freely.
- Watchdog function: make sure the meter doesn'tcrash.
- Power off protects > 10 years.
- The quartz glass lens with high transmittance is used in the optical path of the sensor, and the infrared wave is more stable to transmit and receive, and the photometric compensation is built in to improve the measuring accuracy.
- Adopting two-point correction method, theinstrument measurement range can be modified.
- Relay lag value can be set freely, avoid frequent action of switch relay. It has the function of setting the switch on and off.
- The sludge concentration sensor is not affected by theflow rate and pressure of water.

Concept:

.

.

Figure 1 TSSA-680 Meter units front view-Reference

Design &Quality

The OXY TSSA-680 is a compact, yet extremely robust constructed & designed sensor & meter which can measure up to 0-10000mg/L

Figure 2 TSSA-580 SENSOR units

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 OXY SERIES TSSA-680

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

Figure 3 TSSA-680 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 OXYTSSA-680 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 TSSA-580 Meter terminal view

Accurate and reliable measurement

The OXYTSSA-680 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 OXYTSSA-680 uses latest IR measurement technology in accordance with EN ISO 7027 (DIN EN 27027 or ISO 7027). Providing accurate measurement of total suspended solids concentrations up to 10000 mg/L content in the sample.

Figure 4 TSSA-580 Sensor Overview

Easy-to-use and maintain

The OXYTSSA-680 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.

Specification:

Measuring Range: 0-10000mg/L, 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), 4.1kg(sensor)

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

Mounting options:

InStore offer a range of mounting options for the OXYTSSA680 sensor

Item	Mounting option
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

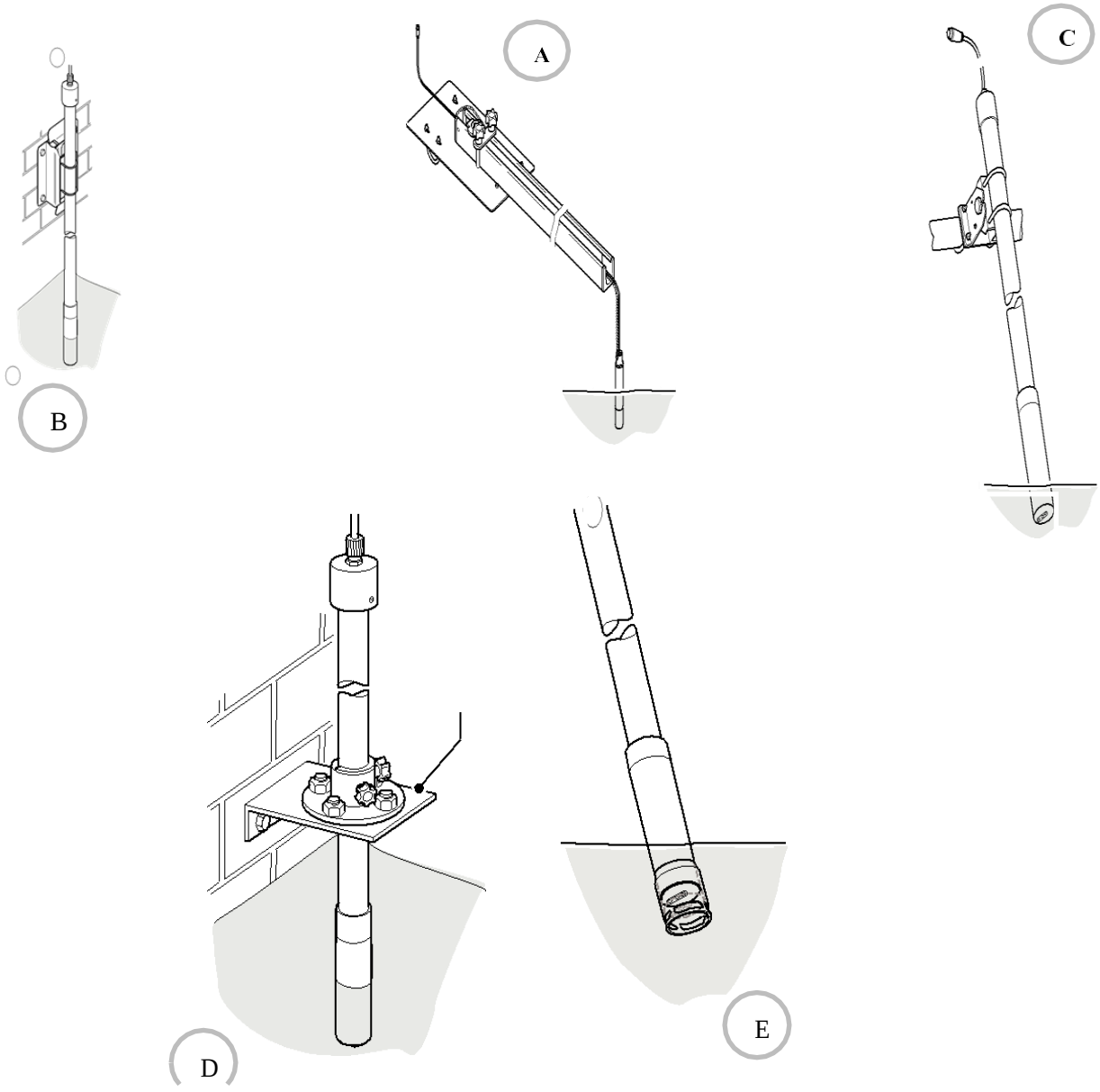


Figure 6 Mounting options

Meter & Electrode Installation:

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

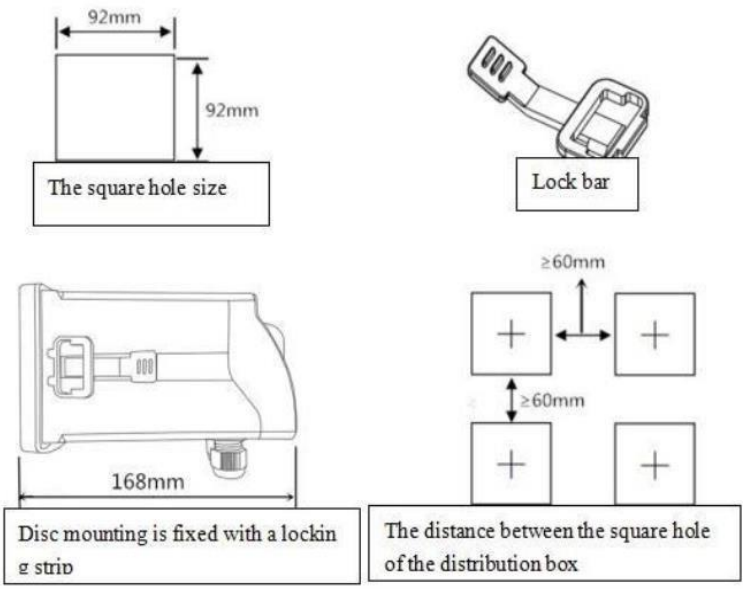


Figure 7 Meter Dimensions

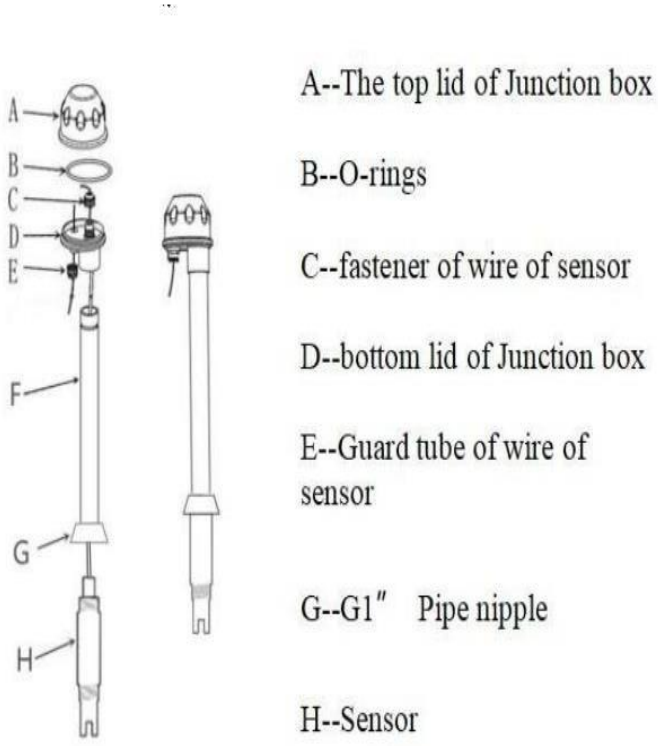


Figure 8 electrode installations

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 thesensor case is made of 316L stainless steel, it has a certain weight; when installing the electrode, use the mounting bracket.

Dimensions:

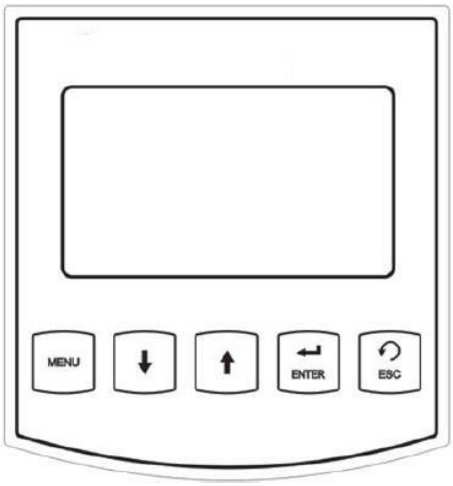
Figure 9 Sensor Dimensions

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

TSSA-680 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
TSS Sensor X 1
Locking bars X1
Manual X1

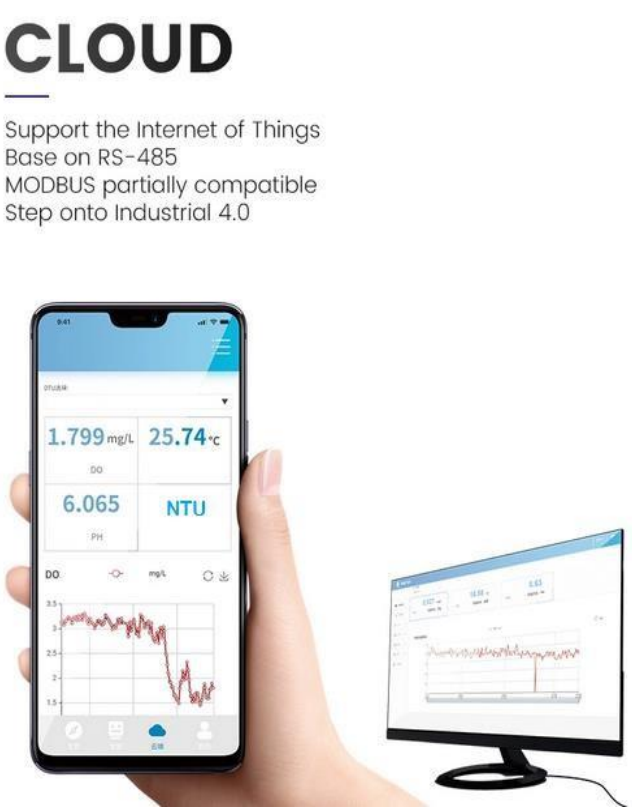
Optional accessories

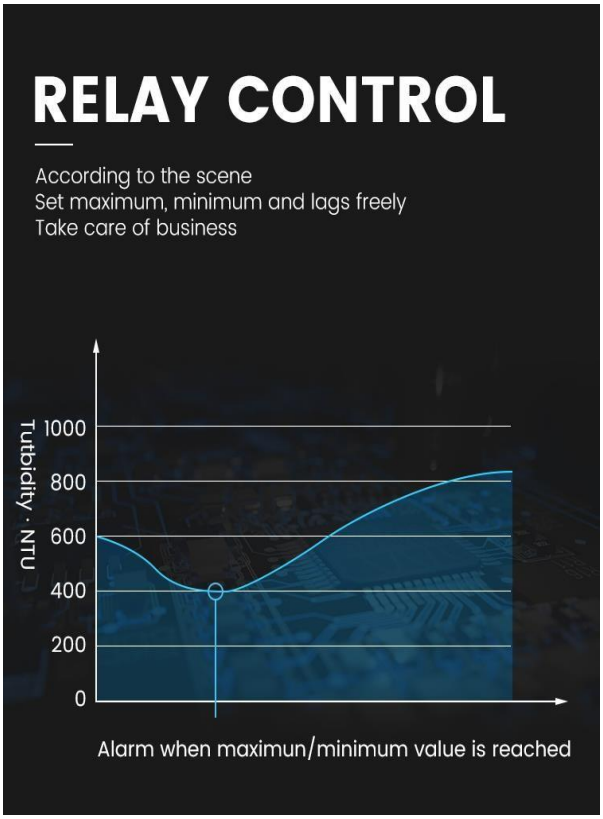
- mounting bracket
- Connector of 485 communication interface and 485 transfer into 232 or 485 transfer into USB

Manual

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

Software Support –Possibility's





InStore

Schäfers Gärten 14,
Sitz der Gesellschaft
Frankfurt Am Main, 60431
Fon: +49 8105 388 662
Germany

DS/TSSA-680-EN Rev.k 032017