

Technical Datasheet

LIQUID ANALYSIS MEASUREMENTS | DATA SHEETS | DS-WTE SERIES-EN- REV.A-23

TDS / Conductivity Sensor WTE Series



pH | ORP | TDS | CONDUCTIVITY | DO | TURBIDITY | TSS | BOD | COD

Measurement made easy

High Temperature Conductivity Sensor upto 120 Deg.Cel

Features:

- Temperature up to 120 Deg.Cel.
- Low Maintenance - Reduced cleaning requirements
- 316 SS electrode with high temperature epoxy and Tefzel cable
- Automatic temperature compensation
- Range of cell constants

Applications:

- Boiler condensate
- Blow-down control without coolers
- Cooling Towers
- ETP/STP Plant
- Pure water
- Wastewater treatment
- Mariculture
- Semiconductor
- Power



Features

- Measurement accuracy: 1%
- Temperature resistance range: 0~50 steel electrode); 0~50 (4-electrode)
- Temperature accuracy: 1 Deg.Cel
Temperature compensation: NTC10K (optional Pt100,PT1000, NTC2.252K)
- Pressure range: 5bar(constant 0.01 / 0.1)
- 7bar(constant1.0)(SS electrode); 5bar (4-electrode)
- Housing material: SS 316 or SS 304
- steel electrode); PBT (4-electrode)
- Process connection: G3/4 threaded
- installation steel electrode); NPT3/4 threaded installation(4-electrode)
- Ingress protection: Ip68

Product Description

The Model **WTE** sensor was designed for high pressure, high temperature conductivity measurements, and is an ideal choice for boiler control applications. Blowdown control, condensate monitoring, leak detection on heat exchangers, and steam purity measurements are just a few of the many applications in which this rugged and reliable sensor can be used.

Wetted materials of construction are 316 stainless steel, PEEK, and EPDM o-rings. All possible leak paths through the sensor are double sealed with o-rings for maximum on-stream reliability. Hot water is a severe environment for any elastomer, and the front seals bear the brunt of chemical attack, allowing the back seals to remain relatively unaffected. The result is that sensor Life

The device is designed for use on site. A rugged housing protects the electronics and the electrical connections from corrosive environmental conditions. As an alternative, the device can also be installed in a control panel.

Instructions

The instructions on screen assure that the best configuration for the application is obtained. Universal application in water and waste water engineering, service/process water and drinking water and well/surface water, leakage monitoring in refrigeration plant

Multi-point calibration

To achieve the best possible accuracy, the calibration should cover the range of the desired measurement values. If the readings go beyond the calibrated range, the EC Sensor assumes linearity and simply extrapolates the value to be displayed. The true value may be slightly different. More advanced EC Sensor will let the user calibrate at three, four or five and even higher numbers of EC values. A multi-point calibration mean, in comparison to a two-point calibration, that you can calibrate your EC Sensor on both sides of the zero point This will expand your EC .measurement range without the need of re-calibrating.

Wellkonix designs, manufactures, and tests its Analytical products to meet many national and international standards. Because these instruments are sophisticated technical products, you must properly install, use, and maintain them to ensure they continue to operate within their normal specifications. safety program when installing, using, and maintaining Rosemount Analytical products.

Due to its excellent electrical conductivity and corrosion resistance, graphite is very suitable for conductivity measurement in various occasions, especially for some corrosive sewage and production process water. Compared with the traditional metal electrode, the bipolar graphite electrode made of graphite material has a wider measurement range: 0.1us/cm~70ms/cm.

Electrode Description

- (1) The conductivity cell needs to be cleaned in time. Use 50% warm detergent to clean (For the dirt with strong adhesion, it can be soaked in 2% hydrochloric acid or 5% nitric acid solution), Brush with a nylon brush, and then rinse the inner and outer surfaces of the electrode with distilled water repeatedly. Remember not to touch the electrode with your hands.
- (2) The conductivity electrode needs to be dried before storage. Do not store the electrode in distilled or deionized water.
- (3) The high-purity water should be measured quickly after being filled into the container. Because the CO₂ in the air will continuously dissolve in the water sample to form carbonate ion with strong conductivity. The conductivity will continue to rise, and the measured data will be inaccurate.
- (4) The container of the tested solution must be clean and free of ion contamination.
- (5) Improper use of electrodes often causes the instrument to work abnormally. When installing the electrode, the electrode should be completely immersed in the solution.
- (6) Note for the use of the electrode constant 1.0:

The electrode is used in tap water, at normal temperature and pressure, and is not resistant to high temperatures. It should not be used in chemical applications or under thick liquid conditions;

- Do not wipe the electrode directly to prevent the platinum black from falling off;
- When cleaning, the electrode cannot be wiped, it should be rinsed directly with distilled water repeatedly.

Electrode Polarization

Polarization method: connect the electrode to the transmitter, put the electrode into the solution to be measured, and connect to the power supply, and the polarization will start after power on

Calibration of the Electrode

- (1) The meter is generally calibrated before leaving the factory, and the user can directly put it into use
- (2) In order to ensure the measurement accuracy of the conductivity meter, the conductivity meter should be used to re-calibrate the electrode constant before using. At the same time, the conductivity electrode constant should be calibrated regularly, and the conductivity electrode should be replaced in time if there is a large error.
- (3) It is recommended that users calibrate once every 1 to 2 months.
- (4) common standard solutions are 147.0 u s / cm, 1413 us/ cm and 12.88ms/cm, which can be calibrated according to the field standard.



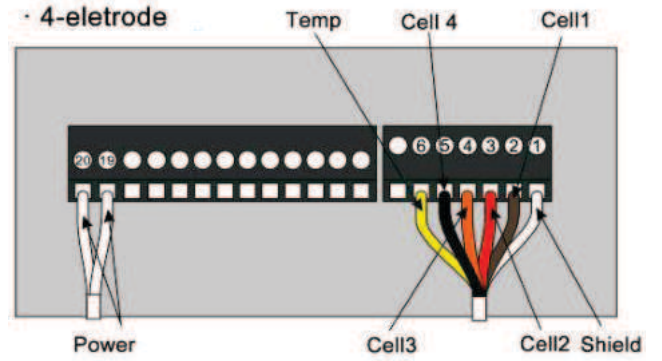
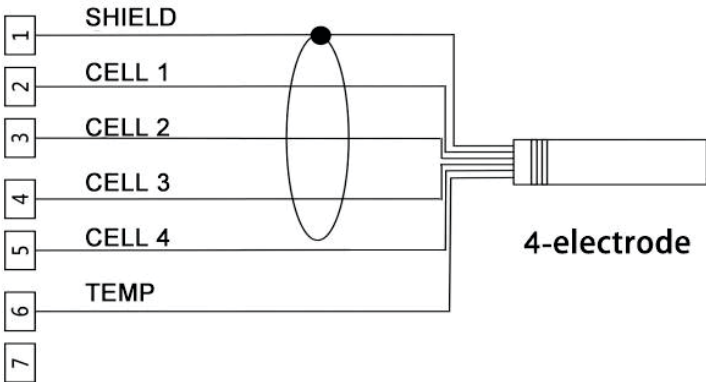
Technical specifications

Measurement Performance Conductivity (K=0.01 / 0.1 / 1.0 / 10)

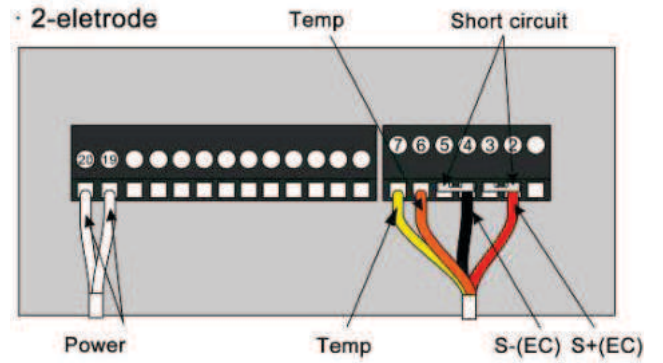
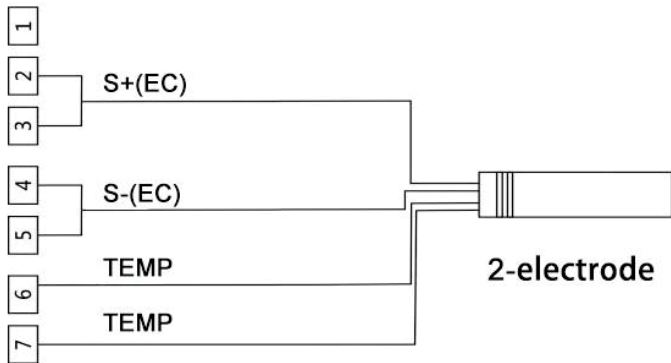
Measure Range	electrode: 0.01~20us/cm (Cell Constant K = 0.01) electrode: 0.1~200us/cm (Cell Constant K = 0.1) electrode: 1~2000us/cm (Cell Constant K = 1.0) electrode: 1~20000us/cm (Cell Constant K = 10)
Resolution	0.01
Thread	G3/4
Accuracy	±1%FS
Pressure	5 bar
Material	stainless steel (SS304/ Ss316)
Temp compensation	NTC10K (PT1000, PT100, NTC2.252K optional)
Temperature range	0-50°C
Temperature accuracy	±3°C
Ingress protection	IP68

Wiring

Measuring terminal of 4 electrode

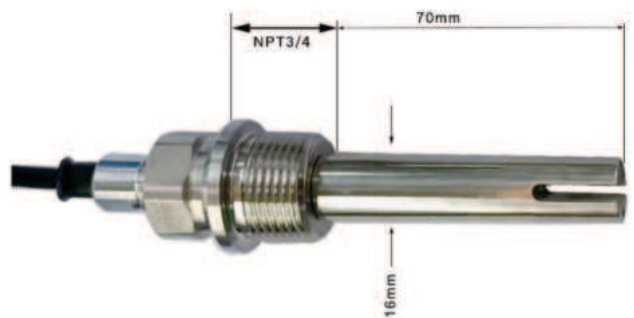
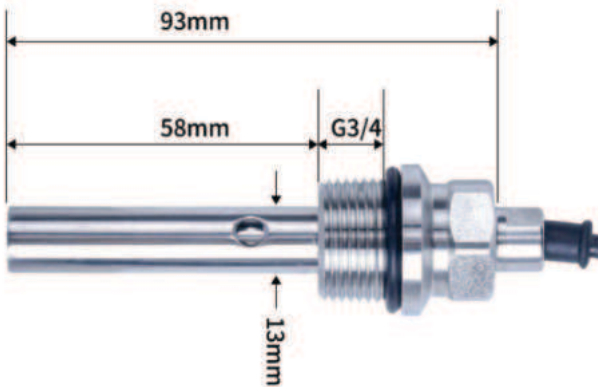


Measuring terminal of 2 electrode



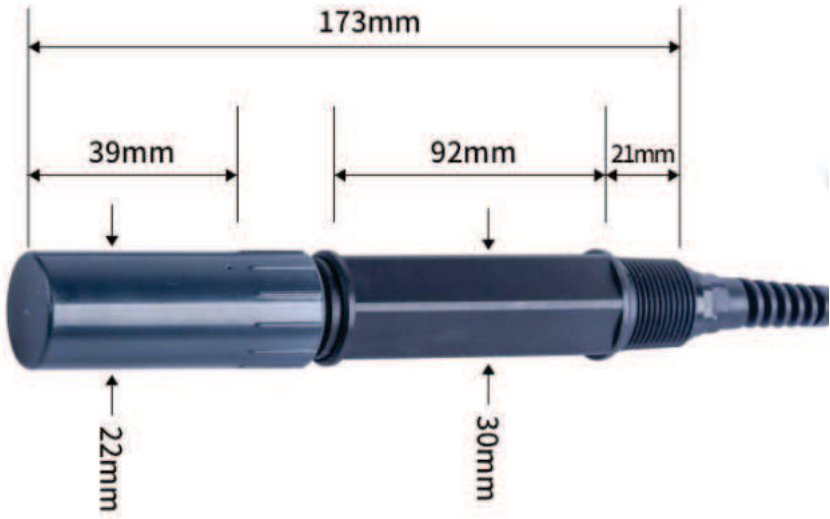
Dimension (in mm) EEC110-7001 (K=0.01/0.1)

Dimension (in mm) EEC110-7001 (K=1.0)



Wiring

Dimension (in mm) EEC110-7002



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