

**User's Manual of
Industrial used
conductivity electrode**

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Version

U-SUP-TDS-7001/7002-EN3

1. Parameters

Model	Cell constant	Material	Measuring range
TDS-7001	0.01	SS304	(0.01~20) µs/cm
	0.1	SS316	(0.1~200) µs/cm
	1.0	SS316	(1~2000) µs/cm
TDS-7002	4-electrode	PBT	10us/cm~500 ms/cm

Cell constant	Connection method	Pressure	Application
0.01	G3/4 (or NPT3/4) Threaded installation	5bar	Pure water industry
0.1	G3/4 (or NPT3/4) threaded installation	5bar	Conventional water treatment
1.0	G3/4 (or NPT3/4) threaded installation	7bar	Industrial water, recycling Ring water
4-electrode	NPT3/4 (or G3/4) threaded installation	5bar	Water treatment, sea water, Acid-Alkali measurement

2. Specifications

- (1) Measurement accuracy: ±1%
- (2) Temperature resistance range: 0°C~50°C (stainless steel electrode); 0°C~50°C (4-electrode)
- (3) Temperature accuracy: ±3°C
- (4) Temperature compensation: NTC10K (optional PT100, PT1000, NTC2.252K)
- (5) Pressure range: 5bar(constant 0.01、0.1)、7bar(constant

- 1.0)(stainless steel electrode); 5bar (4-electrode)
- (6) Housing material: 316 or 304 stainless steel (stainless steel electrode); PBT (4-electrode)
- (7) Process connection: G3/4 threaded installation (stainless steel electrode); NPT3/4 threaded installation (4-electrode)
- (8) Ingress protection: IP68

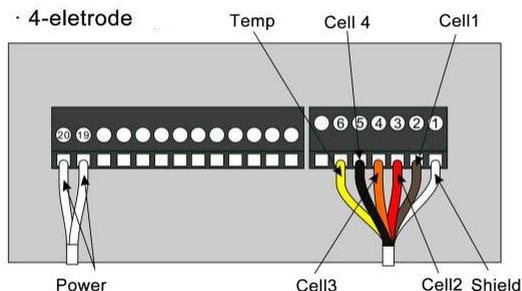
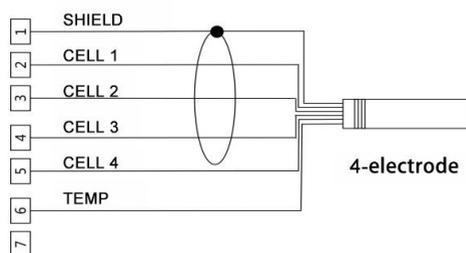
3. Electrode description

- (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:

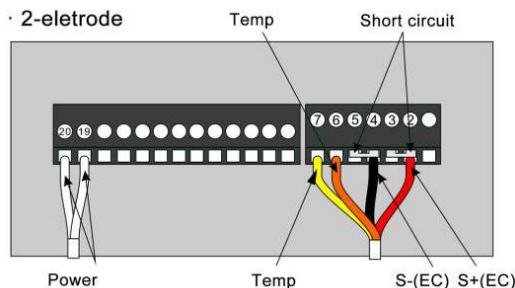
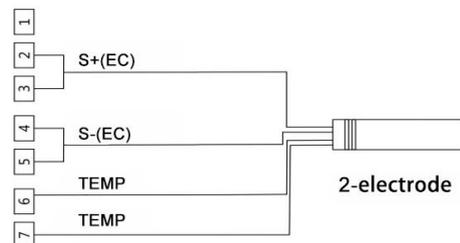
- The electrode is used in tap water, at normal temperature and pressure, and is not resistant to high temperatures. It should not be used in chemical applications or under thick liquid conditions;
- Do not wipe the electrode directly to prevent the platinum black from falling off;
- When cleaning, the electrode cannot be wiped, it should be rinsed directly with distilled water repeatedly.

4. Wiring

4-electrode



2-electrode

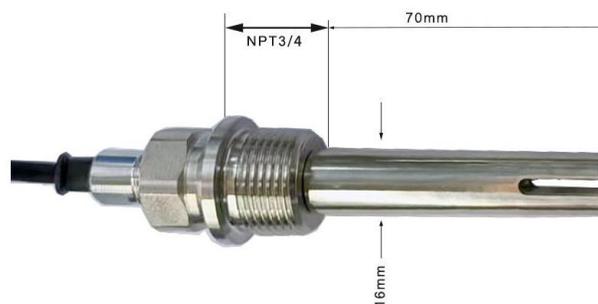


5. Dimension

TDS-7001 (K=0.01/0.1)



TDS-7001 (K=1.0)



TDS-7002



6. 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

7. 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 recalibrate 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 $147.0 \mu s / cm$, $1413 \mu s / cm$ and $12.88ms/cm$, which can be calibrated according to the field standard.