
# Datasheet

# Conductivity Stainless Steel Electrode

# SUP-TDS-7001

Supmea®

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# Datasheet

## Conductivity Stainless Steel Electrode
## SUP-TDS-7001

The stainless steel conductivity electrode needs regular cleaning with 50% warm detergent or soaking in acids, followed by rinsing with distilled water. It must be dried before storage and not kept in pure water. Measure high-purity water promptly to avoid CO2 contamination. The tested solution container must be clean. Improper use can cause malfunctions. The electrode constant 1.0 is for tap water and not for high-temp, chemical, or thick liquids. Avoid wiping the electrode directly; rinse with distilled water during cleaning.

### Applications

- Water treatment
- Food and beverage
- Chemical and pharmaceutical
- environmental monitoring
- Laboratory research

**Conductivity Stainless Steel Electrode**

### Features

- High Precision Measurement
- Wide temperature tolerance
- Flexible temperature compensation
- High pressure tolerance
- High quality housings
- Easy Installation
- high protection class

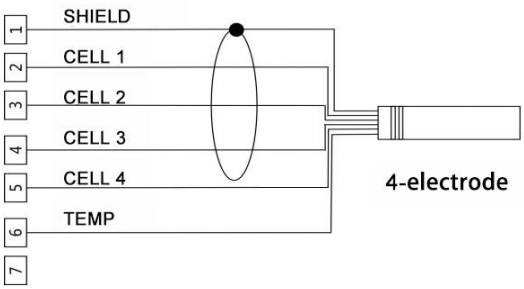
## Principle

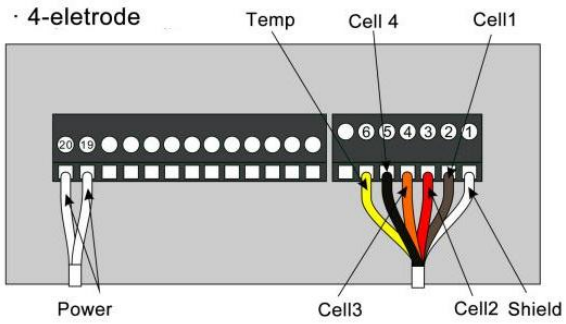
The working principle of conductivity electrodes is based on the measurement of electrical conductivity in a solution, which involves applying a voltage between two electrodes to initiate the movement of charges in the electrolyte solution, thereby measuring the current and converting it into a conductivity value.

| Parameters | |
|---|---|
| Measurement accuracy | ±1% |
| Temperature resistance range | 0℃~50℃ (stainless steel electrode); 0℃~50℃ (4-electrode) |
| Temperature accuracy | ±3℃ |
| Temperature compensation | NTC10K (optional PT100, PT1000, NTC2.252K) |
| Pressure range | 5bar(constant 0.01、0.1) 、7bar(constant 5bar(constant 0.01、0.1) 、7bar(constant |
| Housing material | 316 or 304 stainless steel (stainless steel electrode); PBT (4-electrode) |
| Process connection | G3/4 threaded installation (stainless steel electrode); NPT3/4 threaded installation |
| Ingress protection | IP68 |

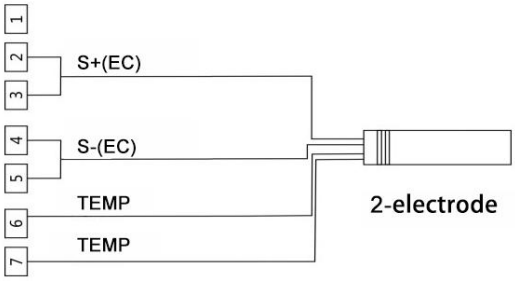
# Wiring

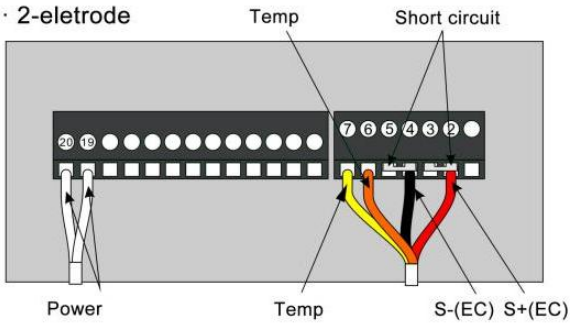
## 4-electrode



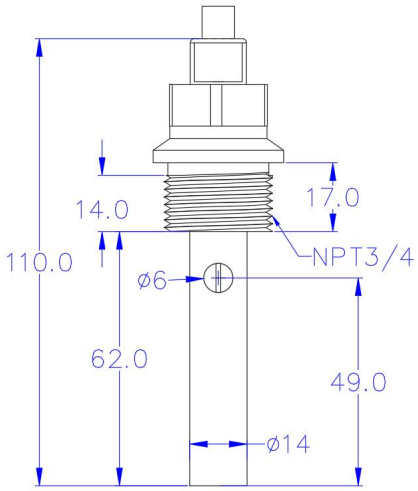

## 2-electrode



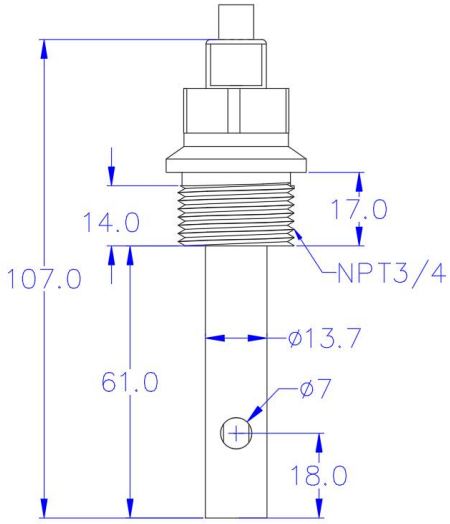



## Dimension

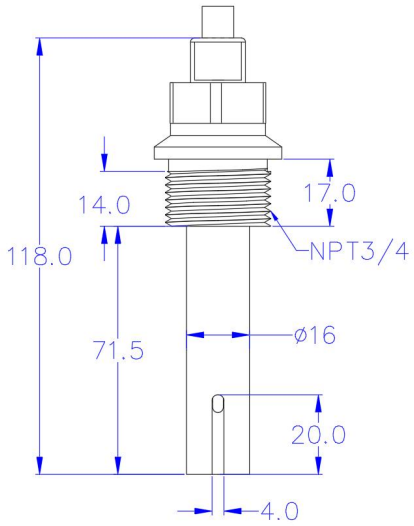
**TDS-7001 (K=0.01)**




**TDS-7001 (K=0.1)**




**TDS-7001（K=1）**



## Electrode Description

### 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 $CO_2$ 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.

## Ordering code

| SUP-TDS-7001-DA-M2-4-05-RM | | | | | | Description |
|---|---|---|---|---|---|---|
| SUP-TDS-7001 | - | - | - | - | - | |
| Measurement Range | DA | | | | | 0-20μS/cm |
| | DB | | | | | 0-200μS/cm |
| | DC | | | | | 0-2000μS/cm |
| Electrode Material | | M2 | | | | 316SS |
| Temperature Compensation Type | | | 4 | | | PT1000 |
| Cable Length | | | | 05 | | 5m |
| | | | | 10 | | 10m |
| | | | | 15 | | 15m |
| | | | | 20 | | 20m |
| | | | | 30 | | 30m |
| | | | | XX | | Others |
| Housing Material and Thread Type | | | | | RM | 316SS，NPT3/4 Thread，Normal Temperature |
| | | | | | RN | 316SS，NPT3/4 Thread，High Temperature |
| | | | | | RP | 316SS，G3/4 Thread，Normal Temperature |
| | | | | | RR | 316SS，G3/4 Thread，High Temperature |