



Datasheet

Conductivity controller

SUP-TDS210-C

Supmea[®]

Committed to process automation solutions

Tel: 86-15158063876

E-mail: info@supmea.com

www.supmea.com

Datasheet**Conductivity meter for water measurement
SUP-TDS210-C EC/ TDS/ Resistivity**

The model SUP-TDS210-C is used for the conductive measurement/control of electrolytic conductivity, resistivity or the TDS value. Conductivity is a function of ion concentration, ionic charge, and ion mobility. Ions in water conduct current when an electrical potential is applied across electrodes immersed in the solution. A controller system consists of a microprocessor-based controller and a conductivity probe.

3 Electrode cells (K=0.01, 0.1 and 1.0) can be connected to the device. Temperature serves as the second input variable, measured by a NTC10K/ PT1000 probe. Depending on the measured variable, it is therefore possible to implement specific, automatic temperature compensation.

All adjustments to the current outputs, alarm relays, and calibration of the conductivity and temperature inputs can be made using the controller's membrane key pad.

Application

- Reverse Osmosis
- Process Control
- Seawater Desalination
- Waste Treatment
- Food Processing
- Plating
- Power Plants
- Laboratories

Features**PROS**

- Direct change over to
 - Conductivity ($\mu\text{S}/\text{cm}$)
 - TDS measurement (ppm)
- Automatic temperature compensation
- 4-20 mA Isolated Output
- Large LCD display with background lighting
- IP54 water resistant and corrosion proof enclosure
- Using the setup program: user-friendly programming
- RS485 communication
- Relay output

**Conductivity controller****Benefits**

- Affordable
- Ease of operation
- Low maintenance
- Ensures product quality

Parameters

Power supply

Power supply

AC:220VAC \pm 10% or 110VAC 50Hz/60Hz
DC:24VDC \pm 20% Input power \geq 6W

Range

Measure range:

0.00~2000 μ S/cm(max.20000 μ S/cm)

Temperature range:

-10~130 $^{\circ}$ C

Communications

Serial communications

RS485

Output

Current (4-20 mA)

Measurement Accuracy

EC/TDS/Resistivity:

 \pm 1%FS

NTC10K:

 \pm 0.3 $^{\circ}$ C

PT1000:

 \pm 0.3 $^{\circ}$ C

Operating Environment

Relative humidity

5 ~ 95%RH(No condensation)

Operating temperature

0 $^{\circ}$ C~60 $^{\circ}$ C

Storage

-15 $^{\circ}$ C~ 65 $^{\circ}$ C

Appearance

Screen size

2.8inch

Dimension

Overall dimension: 100mm*100mm*150mm(H*W*D)
Cutout dimension: 92.5mm*92.5mm(H*W)

Weight

0.65Kg

Ingress protection

IP54

Temperature compensation

Type:

NTC10K/PT1000

Model:

Manual/automatic

Function

Output

Isolated 4-20mA output
maximum loop is 750 Ω , \pm 0.2%FS

Relay

2 relays AC250V/3A

Parameters

Electrode selection: SUP-TDS7001/7001-H

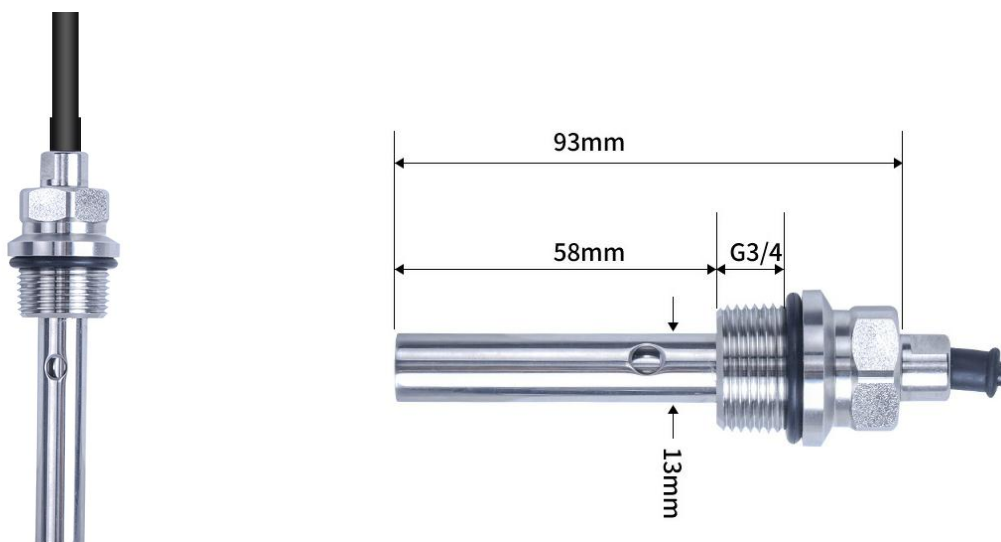
Cell constant	Corrosion Resistance
K=0.01	Suitable for pure water ultrapure water testing
K=0.1	Suitable for conventional water testing
K=1.0	Suitable for industrial water and recycling ring testing

The device offers a dynamic range on the input side, the range must be matched to the operating range of the cell. The standard temp range for SUP-TDS7001: 0°C~50°C, the high temp range for SUP-TDS7001-H: 0°C~100°C

Electrode selection

Cell constant	Material	Length	Diameter	Hole size	Thread	Recommended/practical measuring span (depending on the conductivity cell)
0.01	SS316L	93mm	13mm	6mm	G3/4	0.01 ~ 20 μS/cm
0.1	SS316L	93mm	13mm	6mm	G3/4	0.1 ~ 200.0 μS/cm
1.0	SS316L	93mm	13mm	6mm	G3/4	1.00 ~ 2000 μS/cm

A measurement is to be carried out in the 0.01 μS/cm to 1 μS/cm range. A conductivity cell with the cell constant K = 0.01 0.1 1 is chosen.



Display

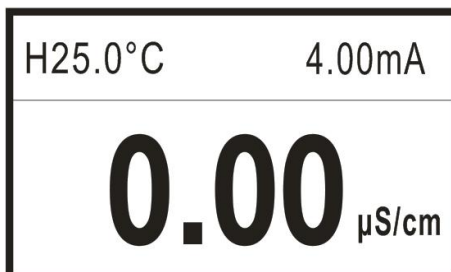


Sign	Button name	Function description
	ESC	Under "Monitoring page" - Alarm view Under "Menu page" - Return to the previous page
	RIGHT	Enter the menu under "monitoring interface" Exit the menu under "monitoring interface"
	MENU	Enter the MENU on the "monitoring page" Exit the MENU on the "menu page"
	DOWN	Under "menu page" - Select the related menu Modify the values in the configuration state
	ENTER	Under "Menu page" - Enter the sub-menu or confirm modification

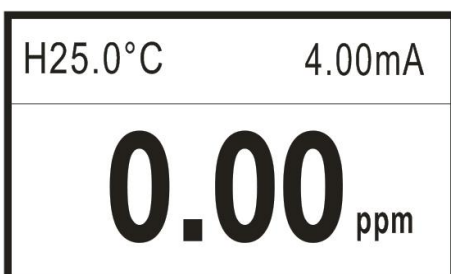
 + 	SHORTCUT KEY	Press and hold to enter the online calibration function interface
 + 	SHORTCUT KEY	Press and hold to enter the alarm setting function interface
 + 	SHORTCUT KEY	Press and hold to enter the electrode constant setting function interface



Monitor page

EC Monitoring page

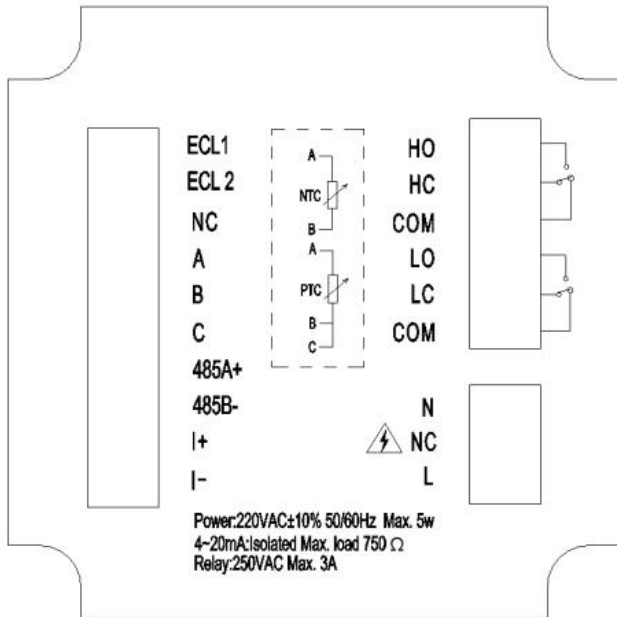


TDS Monitoring page

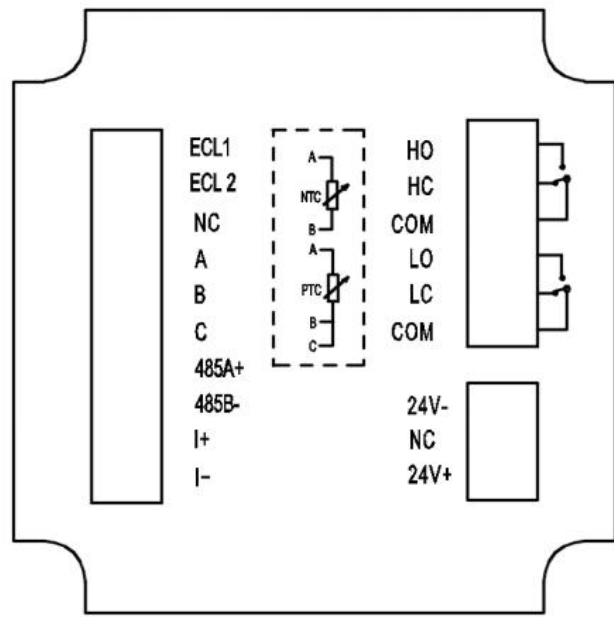


- Push  to enter password verification page,input password to enter the home page.
- Push  to enter alarm inquiry page,to inquire the current warning

Wiring



220VAC wiring diagram



24VDC wiring diagram

- ECL1: Measuring terminal of the electrode
- ECL2: Reference terminal of the electrode
- NC: Unidentified
- A: Temperature compensation terminal A, NTC10K and PT1000 connect here
- B: Temperature compensation terminal B, NTC10K and PT1000 connect here
- I+: 4-20mA output end +
- I-: 4-20mA output end -
- HO: High alarm normally open relay
- HC: High alarm normally closed relay
- COM: high alarm common
- LO: Low alarm normally open relay
- C: Temperature compensation terminal C, PT1000 three-wire temperature grounding, PT1000 two-wire need to be short-connected to TEMPB, not NTC10K.
- 485A+: RS485 communication interface A+
- 485B-: RS485 communication interface B-
- LC: Low alarm normally closed relay
- COM: low alarm common
- N: AC220V/AC110V neutral wire
- L: AC220V/AC110V live wire
- 24V+: 24VDC +
- 24V-: 24VDC -

Ordering code

SUP-TDS210-C-RT1-K1-O1-D1-A2-V1											Description	
SUP-TDS210-C	-	-	-	-	-	-	-	-	-	-		
Range	RT1											0-2000 μ S/cm
Cell constant		K1										K=0.01~ 20.00 μ S/cm
		K2										K=0.1~ 200 μ S/cm
		K3										K=1.0 ~ 2000 μ S/cm
Transmit output			O1									4-20mA
Communication				D1								RS485
Relay output					A2							2 relay output
Power supply							V1					24VDC
							V2					220VAC
							V4					110VAC