Datasheet

Conductivity controller

SUP-TDS210-C

Supmea®

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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

Conductivity controller

Features

PROS

- DirDirect change over to
  - Conductivity (μS/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

Benefits

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

Parameters

Power supply	
Power supply	AC:220VAC±10% or 110VAC 50Hz/60Hz DC:24VDC±20% Input power≥6W

Range	
Measure range:	0.00~2000μS/cm(max.20000μS/cm)
Temperature range:	-10~130℃

Communications	
Serial communications	RS485
Output	Current (4-20 mA)

Measurement Accuracy	
EC/TDS/Resistivity:	±1%FS
NTC10K:	±0.3℃
PT1000:	±0.3℃

Environmental Conditions	
Operating Environment	Temperature: 0~60 ℃ Relative Humidity: 10%~85% (non-condensing)
Storage Environment	Temperature: －15~65 ℃ Relative Humidity: 5%~95% (non-condensing)

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

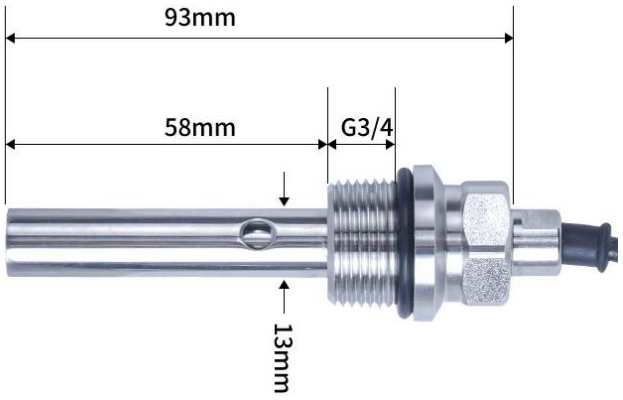
Temperature compensation	
Type:	NTC10K/PT1000
Model:	Manual/automatic

Function	
Output	Isolated 4-20mA output maximum loop is 750Ω,±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℃~50℃,the high temp range for SUP-TDS7001-H:0℃~100℃	

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~ 200.0μS/cm
1.0	SS316L	93mm	13mm	6mm	G3/4	1.00 ~ 2000μS/cm
A measurement is to be carried out in the 0.01μS/cm to 1μS/cm range. A conductivity cell with the cell constant K = 0.01 0.1 1 is chosen.						



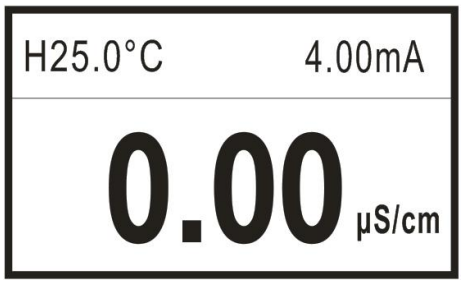
Display

Sign	Button name	Function description
ESC	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	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
ENT	ENTER	Under “Menu page” - Enter the sub-menu or confirm modification

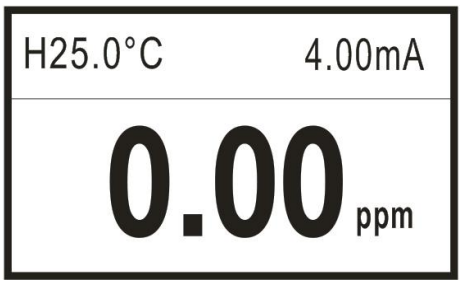
MENU + ▶	SHORTCUT KEY	Press and hold to enter the online calibration function interface
MENU + ▼	SHORTCUT KEY	Press and hold to enter the alarm setting function interface
MENU + ENT	SHORTCUT KEY	Press and hold to enter the electrode constant setting function interface

Monitor page

EC Monitoring page

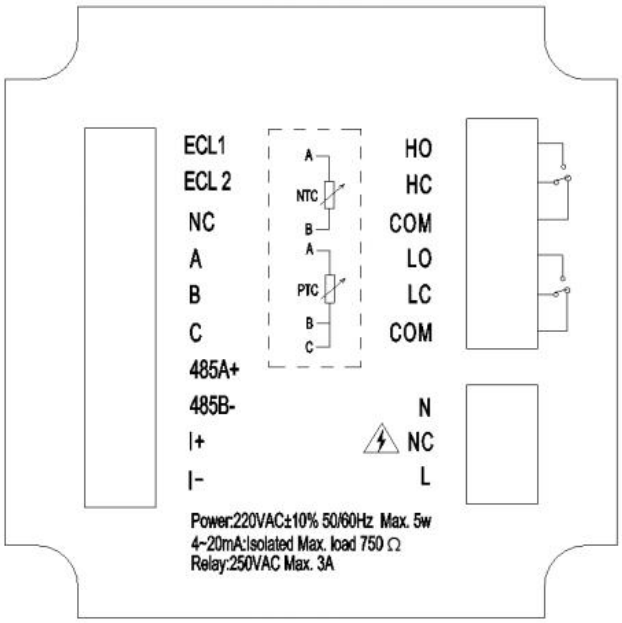


TDS Monitoring page

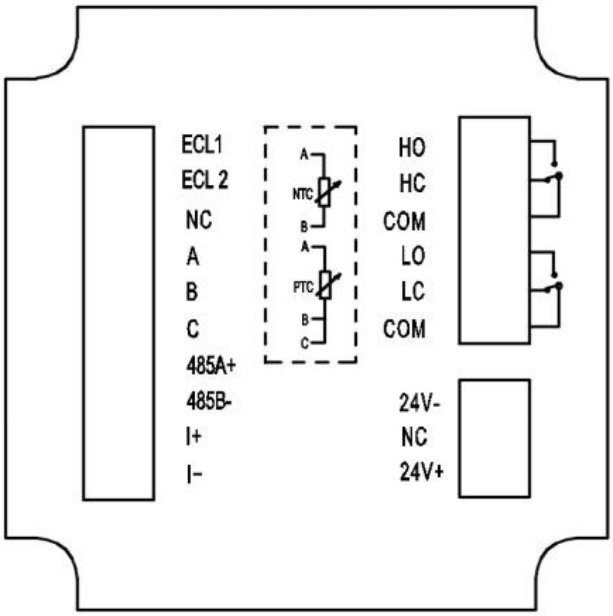


- Push MENU to enter password verification page,input password to enter the home page.
- Push ESC to enter alarm inquiry page,to inquire the current warning

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