

Datasheet

Conductivity controller

SUP-TDS210-C

Supmea

Committed to process automation solutions

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 (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	Conductivity controller Benefits ■ Affordable ■ Ease of operation ■ Low maintenance ■ Ensures product quality

Parameters

Screen size	2.8 inches 128*64 lattice screen.
Overall dimension	TDS210-B: 100mm×100mm×150mm TDS210-C: 100mm×100mm×150.5mm
Cutout dimension	92.5mm×92.5mm
Weight	0.58kg
Measure variables	EC/TDS/ER
Measuring range	0.01 electrode: (0~20.00)μS/cm / (0.05 ~ 18.18)MΩ*cm 0.1 electrode: (0.20~200.0)μS/cm 1.0 electrode: (2.00~2000)μS/cm, maximum 20000uS/cm 10.0 electrode: (0.02~20.00)mS/cm
	Temperature range: -10℃~130℃
Accuracy class	2.0
Temperature compensation	NTC10K / Pt1000 Temperature compensation: manual/automatic
Basic error of electronic unit	EC/TDS/ER: ±1%FS NTC10K: ±0.3℃ PT1000: ±0.3℃
Output	Isolated,(4 ~ 20)mA, maximum loop is 750Ω, ±0.2%FS
RS485 output	Isolated, MODBUS-RTU RS485
Relay	2 channels, Pickup/Breakaway AC250V/3A
Relative humidity	(10~85)%RH(No condensation)
Working temperature	(0~60)℃
Power supply	AC: 220VAC±10% 50Hz/60Hz DC: 24VDC±10%
Consumption	≤5W
Protection level	IP54
Storage conditions	Temperature: (-15~65)℃ Relative humidity: 5%~95%(No condensation)

Parameters

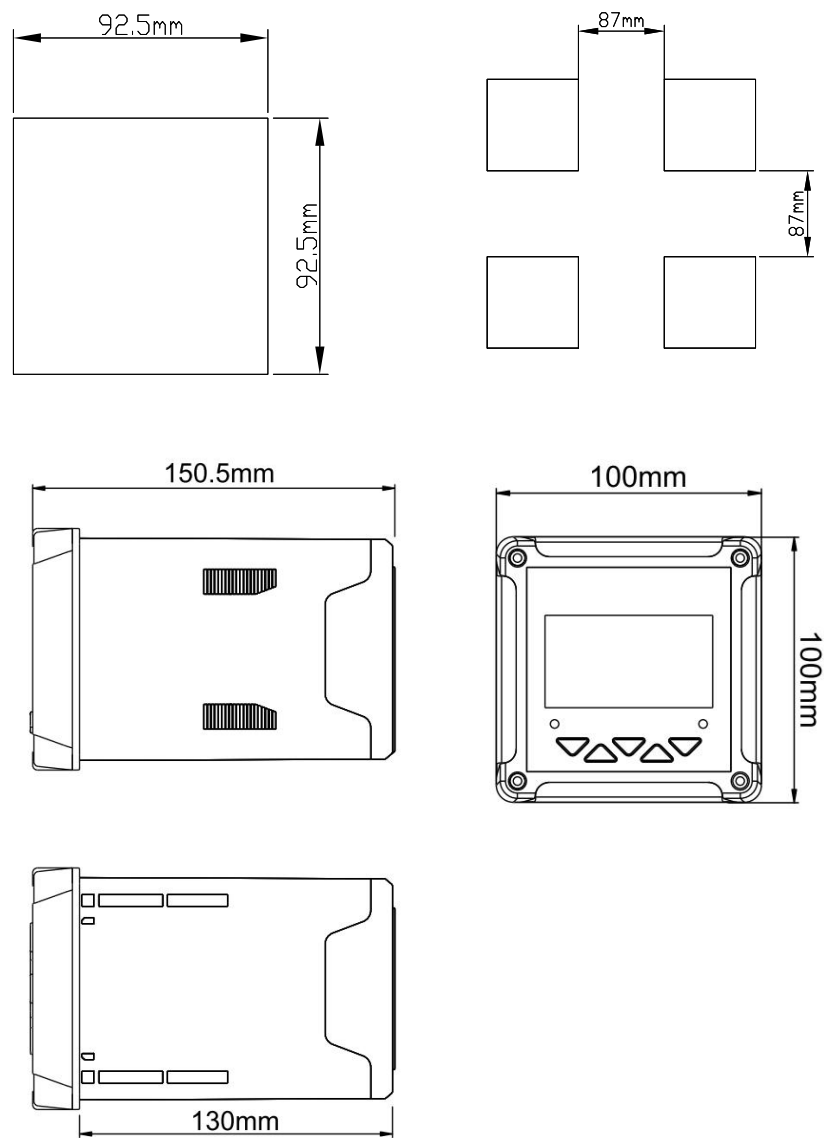


Fig.2 Dimension of TDS210-C

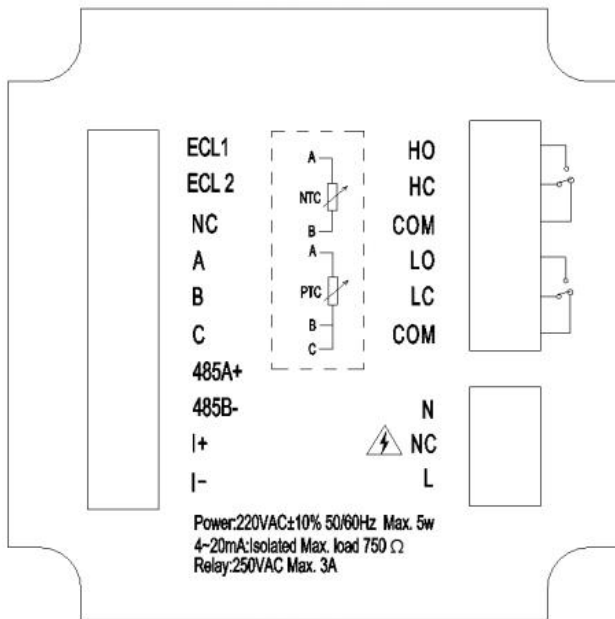
Display



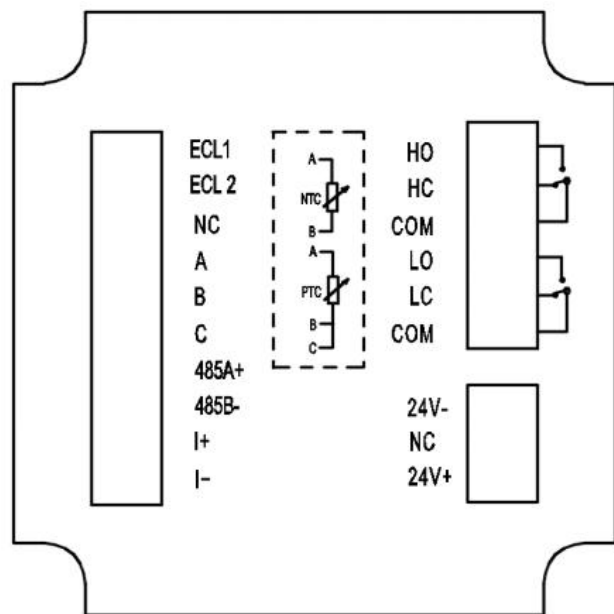
Sign	Button name	Function description
	ESC	Under "Monitoring page" - Alarm view Under "Menu page" - Return to the previous page
	RIGHT	Enter the menu under "monitoring interface" Exit the menu under "monitoring interface"
	MENU	Enter the MENU on the "monitoring page" Exit the MENU on the "menu page"
	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

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
Measuring range	DK						0.00 μ S/cm-600mS/cm
Output	B						4-20mA + RS485
	J						4-20mA + RS485+4G
Alarm output		4					2-channel SPDT
Electrical interface			1				M16 $\times$ 1.5 cable gland $\times$ 2 + M12 $\times$ 1.5 cable gland
Power supply				C			24VDC
				E			220VAC
				D			110VAC
Accessories					P1		304SS backplane mounting bracket