Datasheet

Conductivity controller

SIN-TDS210-B

Sinomeasure

Committed to process automation solutions

Tel: 86-13336194863

E-mail: info@sinomeasure.com

www.sino-measure.com

Datasheet

Conductivity meter for water measurement
SIN-TDS210-B EC/ TDS/ Resistivity

The model SIN-TDS210-B 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 keypad.

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

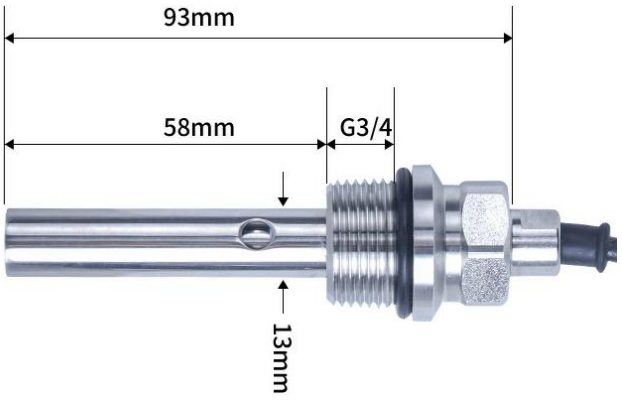
Temperature compensation	
Type:	NTC10K/PT1000
Model:	Manual/automatic

Function	
Output	Isolated 4-20mA output maximum loop is 750Ω,±0.2%FS
Relay	2 relays AC250V/3A

Parameters

Electrode selection:SIN-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 SIN-TDS7001:0℃~50℃,the high temp range for SIN-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.						



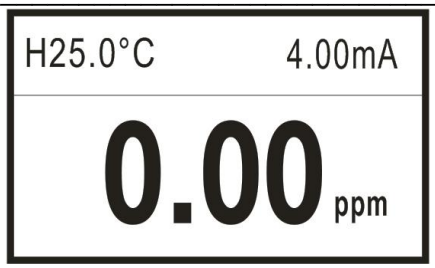
Display

1. Temperature：Compensation temperature
2. Analog output：Analog output
3. Measured value：Real-time measurements value
4. High alarm：High alarm
5. Low alarm：Low alarm

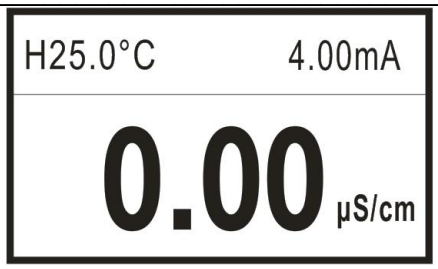
Sign		Name of the key	Function description
7	MENU	MENU	Enter the MENU on the “monitoring page” Exit the MENU on the “menu page”
6	ESC	EXIT	Check related warning status on the “monitoring page”; Return to previous level page in the up& down level page linked to “menu page”
8	▶	RIGHT	Enter the menu under “monitoring interface” Exit the menu under “monitoring interface”
8	▼	DOWN	Relevant menu is selected under the “menu interface” Relevant numerical value is modified under the setup status
9	ENT	ENTER	Enter the sub-menu or confirm modification on the “menu Page”

Monitor page

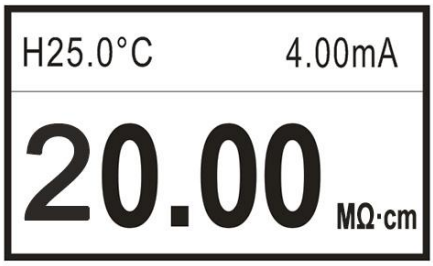
★ **TDS monitor page**



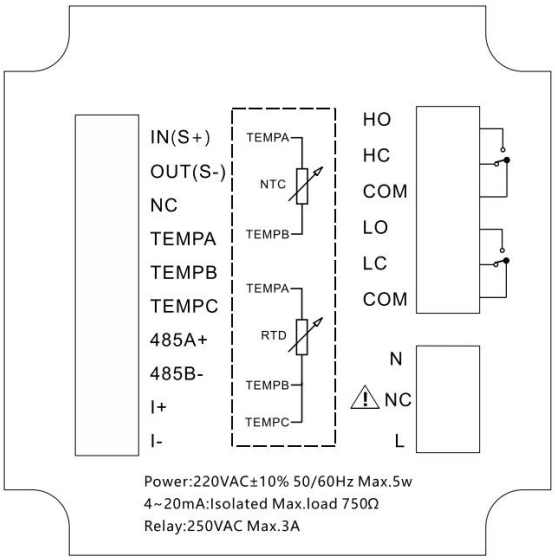
★ **EC monitor page**



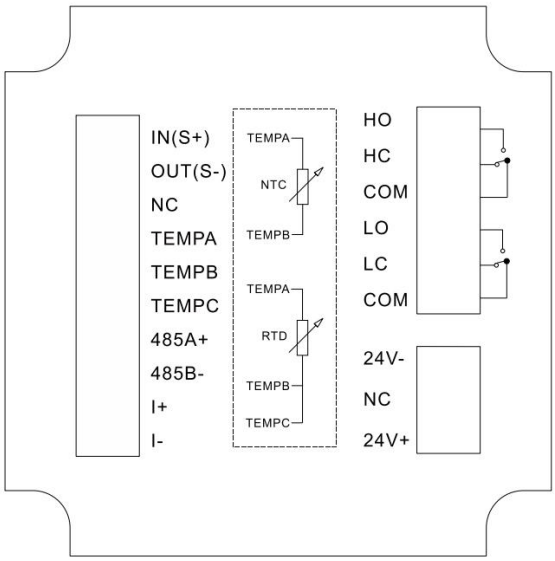
★ **Resistivity monitor page**



Wiring



220VAC wiring diagram



24VDC wiring diagram

- IN（S+）: Conductivity electrode IN（S+）
- OUT（S-）: Conductivity electrode OUT（S-）
- NC: Unidentified
- TEMPA: Temperature compensation terminal A,NTC10K or PT1000A
- TEMPB: Temperature compensation terminal B,NTC10K or PT1000B
- TEMPC: Temperature compensation terminal C, PT1000 three-wire temperature grounding, PT1000 two-wire need to be short-connected to TEMPB, When connected to NTC10K, C terminal is not connected.
- 485A + : RS485 communication interface A +
- 485B - : RS485 communication interface B -
- I + : (4~20)mA output +
- HO: High alarm normally open
- HC: High alarm normally closed
- COM: High alarm common terminal
- LO: Low alarm normally open
- LC: Low alarm normally closed
- COM: Low alarm common terminal
- N: AC220V neutral wire
- NC: Unidentified
- L: AC220V live wire
- 24V+：24VDC+
- 24V-：24VDC-

Ordering code

SIN-TDS210-B-RT1-K1-O1-D1-A2-V1											Description
SIN-TDS210-B	-	-	-	-	-	-	-	-	-	-	
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