

NexSens TS210/T-Node FR Temperature String Quick Start Guide

NexSens TS210 and T-node FR Thermistor Strings provide high accuracy temperature data for profiling in lakes, streams, and coastal waters. Both feature a titanium thermistor secured and epoxied in a protective housing for underwater deployments.



TS210

Sensor Information

- Power: 5-24VDC
- Protocol: Modbus-RTU
- Baud Rate: 19200
- Parity: N81
- Default Address: 1*
- Universal Address: 251
- Format: Big Endian
- Timeout: 500ms

*On a pre-assembled string, the nodes will be addressed in increasing numerical order.



T-Node FR

Modbus-RTU Register Information

Function 0x04 (Read input registers)			
Registers	Data Type	Data Size	Purpose
0x0006,0x0007	Float	2 registers	Requests the temperature recorded by the T-Node FR/TS210 in Celsius

Ex. 01, 04, 00, 06, 00, 02, 91, CA

- Requests the temperature reading from a T-Node FR/TS210 sensor with Modbus address 1.

Wiring Table for UW-FLxR Cable

Note: The UW-Receptacle to Flying Lead cable is an accessory that may be purchased separately for integration with a third-party Modbus controller. It is not needed to connect the temperature string to a NexSens X2-Series data logger.

Receptacle Pin	Wire Color	T-Node FR/TS210
1	Green	RS485A
2	Blue	RS485B
3	Brown	Pass-through
4	Red	12VDC
5	White	Pass-through
6	Yellow	Pass-through
7	Black	GND
8	Orange	Pass-through

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NexSens Data Logger Connection

- 1 Setup your data logger on WQData LIVE by following the **Quick Start Guide** included with your order, or by visiting the **NexSens Knowledge Base | Data Logger | User Guides** on the NexSens website.
 - a. <https://www.nexsens.com/knowledge-base-v2>

- 2 Once the T-Node FR/TS210 string has been configured for deployment, and the data logger setup on WQData LIVE plug the string into the data logger.

- 3 After the next logger reading:
 - a. Confirm that all of the nodes on the string have been recognized.
 - b. Ensure that each show valid temperature readings.
 - c. Gather a few readings before deployment.

For additional information, please reference the TS210 or T-node FR User Guides located on the NexSens Knowledge Base website.

<https://www.nexsens.com/knowledge-base-v2/sensors/ts210/user-guide>

<https://www.nexsens.com/knowledge-base-v2/sensors/t-node-fr/user-guide>