

T-Node FR

THERMISTOR STRING

- Build multi-point temp strings
- ± 0.075 °C temperature accuracy
- Integral titanium thermistor
- RS-485 Modbus RTU signal output
- Easily integrate 3rd party sensors

The NexSens **T-Node FR** Thermistor String provides high accuracy temperature data in a connectorized and addressable architecture for water quality profiling. Each node features an integral titanium thermistor secured and epoxied in a protective housing for underwater deployments. The nodes are connected in-series using marine-grade **UW Cables** with braided Kevlar core and double O-ring seals.

Each **T-Node FR** sensor is accurate to ± 0.075 C for high-precision measurements. The exposed titanium thermistor makes direct contact with water, allowing readings to stabilize within 60 seconds. Temperature data is transmitted on a RS-485 Modbus RTU string bus for integration with data loggers and SCADA systems. The string is powered by 4-28 VDC for operation on a 12 or 24 VDC power supply.

Mating **UW Cables** are available in lengths from 0.5m to 50m with a maximum 1,219 meters (4,000 feet) or 250 nodes. Strings terminate in a NexSens UW plug and receptacle connector, allowing additional sections or sensors to be added as required. Optional accessories include water quality sensors, pressure sensors, signal splitters, cable clamps, stainless steel mooring line and communication adapters.

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specifications

Sensor	Thermistor
Range	0 to 45°C (32 to 113°F)
Accuracy	±0.075°C
Resolution	0.01 C
T90 Response Time	60 seconds
Refresh Rate	2 seconds
Maximum Sensors	250
Maximum Length	1219m (4000 ft)
Maximum Depth	200m (656 ft)
Communications	RS-485 Modbus RTU
Power Requirement	4 - 28 VDC
Current Draw Per Node	1.3mA active; 0.35mA sleep; 0.05mA deep sleep
Connection Seal	Double o-ring, gland and face seal
Connector	8 pin, sensorBUS
Dimensions	13.46cm L x 3.56cm Dia. (5.3" L x 1.4" Dia.)

Wetted Materials

Cable – Polyurethane Texin 950; Strain Relief – Nylon; Body & Plug – PVC; Screw – Acetal; Thermistor Tube – Titanium (Grade 5); O-Rings – Silicone, EPDM; Epoxy – Resin Lab EP1282



parts list

Part #	Description
T-Node FR	T-Node FR connectorized water temperature sensor
UW-0.5	Underwater connectorized cable assembly, 0.5m
UW-1	Underwater connectorized cable assembly, 1m
UW-2	Underwater connectorized cable assembly, 2m
UW-3	Underwater connectorized cable assembly, 3m
UW-4	Underwater connectorized cable assembly, 4m
UW-5	Underwater connectorized cable assembly, 5m
SS187-L	Custom built 3/16" vinyl coated SS mooring line, priced per meter
TS-Clamp	Mooring clamp kit for NexSens thermistor strings & 3/16" vinyl coated SS wire rope, pack of 2
UW-FL1R	UW receptacle to flying lead cable, 1m
RS485-RS232	RS-485 to RS-232 adapter



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