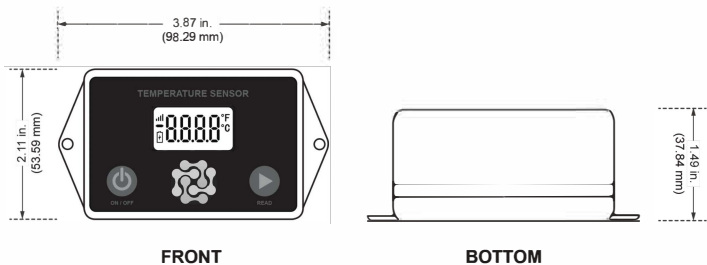


ioX Digital Temperature Sensor



Description



The ioX Digital Temperature Sensor assesses the temperature of whatever environment the probe is in. At the push of a button, temperature readings are displayed on the device's digital display and sent to ioX-Connect software through a sensor gateway (purchased separately), creating an easy-to-read log of current and past readings.

Features

- Integrated 4-digit display
- Measurement range: -40°F to +257°F
- Power and read buttons
- 3 and 10 foot temperature lead options
- Units: C/F
- Supports 21CFR Part 11B programs
- Embedded omni-directional antenna
- Wireless range of 720+ feet through 7+ walls*
- Frequency Hopping Spread Spectrum (FHSS)
- Advanced interference immunity
- Encrypt-RF Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- Up to 3200 persistent sensor message memory
- Over the air updates (future proof)
- Fast and easy setup/install (less than 15 minutes)

* Actual range may vary depending on environment

Platform Specifications

	3ft. Lead Options	10ft. Lead Options
Part Number	<ul style="list-style-type: none"> • 900 MHz (MNS2-9-W2-TS-SD-L03) • 940 MHz (MNS2-94-W2-TS-SD-L03) • 868 MHz (MNS2-8-W2-TS-SD-L03) 	<ul style="list-style-type: none"> • 900 MHz (MNS2-9-W2-TS-SD-L10) • 940 MHz (MNS2-94-W2-TS-SD-L10) • 868 MHz (MNS2-8-W2-TS-SD-L10)
Power	2.0-3.8 VDC (AA alkaline or lithium batteries)	
Current Consumption	0.2 µA (sleep mode), 0.7 µA (RTC sleep), 570 µA (MCU idle), 2.5 mA (MCU active), 5.5 mA (radio RX mode), 22.6 mA (radio TX mode)	
Operating Temperature Range (Board Circuitry and Batteries)	0°F to 130°F (-18°C to 55°C) using alkaline -40°F to 185°F (-40°C to 85°C) using lithium	
Optimal Battery Temperature Range (AA)	+50°F to +122°F (+10°C to +50°C)	
Integrated Memory	Up to 3200 sensor messages	
Wireless Range	720+ ft non-line-of-sight	
Security	Encrypt-RF® (256-bit key exchange and AES-128 CTR)	
Weight	3.08 ounces (Does not include battery weight)	
Certifications	  900 MHz product; FCC ID: ZTL-G2SC1 and IC: 9794A-G2SC1. 868 and 433 MHz product tested and found to comply with: EN 300 220-2 V3.1.1 (2017-02), EN 300 220-2 V3.1.1 (2017-02) and EN 60950	

Sensor Specifications

Temperature Measurement Specifications	Range: -40°F to +257°F (-40°C to +125°C)
	Accuracy: +/- 1.8° F (1° C)
	User-calibrated accuracy: +/- 0.45° F (± 0.25° C)
	Resolution: 0.1° F (0.1° C)
	Response time: 15 sec max*
	Units: C or F (User configurable on sensor and in iMonnit)
Lead Specifications	Probe Material: 304 stainless steel.
	Probe Dimensions: 5 mm dia. x 35 mm
	Lead Length: 3 ft or 10 ft (Contact EAMS Technologies for custom length options)
	Thermistor based temperature element
	Shielded cable and probe
Display Specifications	Operating temperature range: 14°F to 140°F (-10°C to 60°C)
	Storage temperature range: -4°F to 158°F (-20°C to 70°C)
	Symbols: 4 digits, 3 decimals, C/F, Low Battery, Signal Strength, Minus symbol
	Viewing Area: 14.0 mm x 26.0 mm
	Digit Size: 8.5 mm x 4.5 mm
	Current consumption: ~260 uA
Sensor Data	Temperature: xxx.x C or F, Signed Integer (Raw temperature data is in Celsius)
	Mode: 0 or 1, 0 = Read button not pressed, 1 = Read button pressed, Unsigned Byte

*Response time will be less than 15 seconds after probe tip reaches desired temperature. The probe tip temperature will change at different rates based on measurement medium. Ex: In still air probe tip may take minutes to reach desired temperature, in liquid bath probe tip may take only a few seconds to reach the desired temperature.

Example Applications

- Ambient temperature monitoring
- Environmental monitoring
- Data center monitoring
- Cooler and Freezer monitoring
- Laboratory monitoring
- Meeting Data Redundancy Regulations

Notes

Commercial Grade Sensors

ioX commercial-grade sensors are designed for applications in ordinary environments (normal room temperature, humidity, and atmospheric pressure). Do not subject these sensors to the following, as these environmental aggressors could degrade the device and its performance, leading to failures and burn-out:

- Corrosive or deoxidizing gas, e.g., chlorine gas, hydrogen sulfide gas, ammonia gas, sulfuric acid gas, and nitric oxides
- Volatile or flammable gas
- Dusty conditions
- Extremely low or high pressures
- Wet or excessively humid locations
- Places where saltwater, oils, chemical liquids, or organic solvents are routinely present
- Applications/locations prone to excessive or strong vibration
- Other sites where similar hazardous conditions exist

Use these products within the specified temperature range. Higher temperatures could deteriorate both the product and its functionality.

For more information about our products or to place an order, please contact our sales department at sales@iox-connect.com

Visit us on the web at www.iox-connect.com



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