



ColdGuard Temperature Sensor

The ColdGuard Wireless Temperature Sensor uses a type NTC thermistor to measure temperature.

- Accurate to $\pm 1^\circ \text{C}$ ($\pm 1.8^\circ \text{F}$)
- Increased accuracy by user calibration to $\pm 0.25^\circ \text{C}$ ($\pm 0.45^\circ \text{F}$)

The ColdGuard Wireless Temperature Sensor outputs the ambient temperature in degrees Fahrenheit. It is programmed to sleep for a user-given time interval (heartbeat) and then wakeup, send power to the NTC Thermistor and wait for it to stabilize, and convert the analog data, mathematically compute the temperature and transmit the data to the gateway. To stay within the abilities of the processor, the temperature is computed off a data table provided by the manufacturer. To reduce error, a variable resistor configuration is implemented over specified temperature ranges.

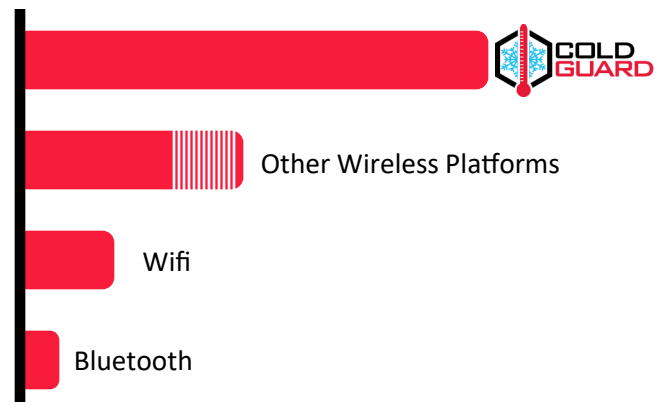
ColdGuard sensors are enclosed in reliable, weather-proof NEMA rated enclosures. Our NEMA rated enclosures are constructed for both indoor or outdoor use and protect the sensor circuitry against the ingress of solid foreign objects like dust as well as the damaging effects of water (rain, sleet, snow, splashing water, and hose directed water).



- Wireless range of 1,000+ feet through 12-14 walls *
- Frequency Hopping Spread Spectrum (FHSS)
- Improved interference immunity
- Encrypt-RF™ Security (Diffie-Hellman Key Exchange+ AES-128 CBC for sensor data messages)
- 16,000 sensor message memory
- Over the air updates (future proof)
- Plug & Sense, no hassle set-up
- No PC required for operation
- Local status LEDs with transmission and online status indicators
- On-line heart-beat control
- Power outage notification

*Actual range may vary depending on environment.

Wireless Range Comparison





ColdGuard Temperature Sensor Specifications

Supply Voltage	2.0 - 3.8 VDC (3.0 - 3.8 VDC Using Power Supply) *
Current Consumption	0.2 μ A (Sleep Mode) 0.7 μ A (RTC Sleep) 570 μ A (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 Battery)	-40°C to +85°C (-40°F to +185°F) **
Included Battery	Max Temperature Range: -40° to +85°C (-40° to +185°F) Capacity: 1800 mAh
Thermistor Temperature Range (Thermistor Only)	-40°C to +125°C (-40°F to +257°F) (Limited to Main Unit Circuitry, -40°C to +85°C)
Accuracy @ 25°C	+/- 1% (1° C or 1.8° F)
User Calibrated Accuracy	+/- 0.25° C (± 0.45° F)
Time Constant @ 25°C	30 sec
Integrated Memory	Up to 512 sensor messages
Wireless Range	1,000+ ft. non-line-of-sight ***
Security	Encrypt-RF tm (256-bit key exchange and AES-128 CTR)
Weight	4.7 Ounces
Enclosure Rating	NEMA 1, 2, 4, 4x, 12 and 13 rated, sealed and weather proof
UL Rating	UL Listed to UL508-4x specifications (File E194432)
Certifications	900 MHz Product: FCC ID: ZTL-G2SC1 and IC: 9794A-G2SC1
	*Hardware cannot withstand negative voltage. Please take care when connecting a power device.
	**At temperatures above 100°C, it is possible for the board circuitry to lose programmed memory.
	***Actual range may vary depending on environment.

