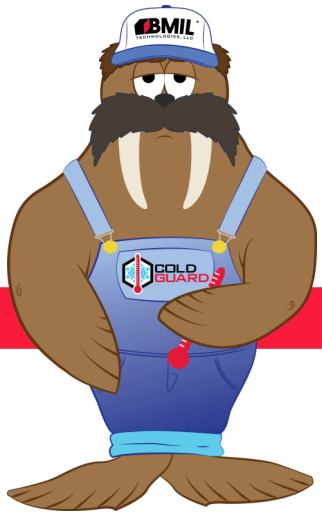
ColdGuard AC Current Sensor

The ColdGuard Wireless AC Current Sensor measures the RMS current of an alternating current (AC) system using a current transformer (CT) that wraps around the “hot” wire of a two wire (hot, common, ground (optional)) power system. The sensor reports Minimum RMS current, maximum RMS current, average RMS current, and amp hours to the ColdGuard system. The ColdGuard system is capable of generating watt hour or kilowatt hour readings as well.

To measure current, clip the CT around only a single wire of the AC system (clipping around a hot and neutral wire at the same time will result in 0 current readings). After the sensor powers on and connects to the gateway it will begin taking measurements based on the averaging interval (5 seconds default). The sensor reports amp hours, max RMS current, min RMS current, and average RMS current.

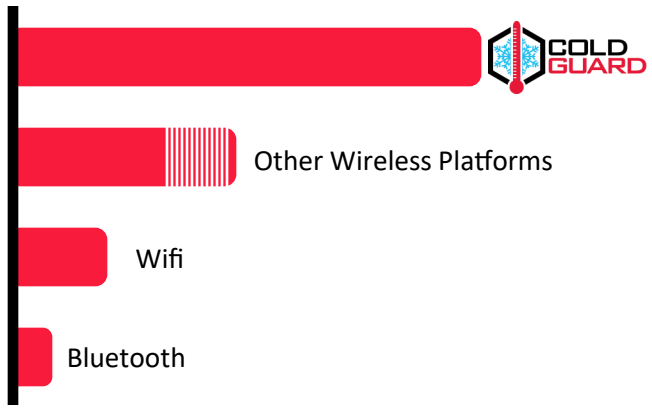
ColdGuard sensors are enclosed in reliable, weatherproof NEMA rated enclosures. Our NEMA rated enclosures are constructed for both indoor or outdoor use and protect the sensor circuitry against the ingress of solid foreign objects like dust as well as the damaging effects of water (rain, sleet, snow, 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 AC Current Sensor Specifications

Supply Voltage	2.0 - 3.6 VDC *
Current Consumption	0.7 µA (sleep mode) 2 mA (radio idle/off mode) 2 mA (measurement mode) 25 mA (radio RX mode) 35 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
Absolute Max CT Current	200 Amps RMS (Arms)
Maximum Accurate CT Current	150 Arms
Frequency Range	50 – 100 Hz
Accuracy	+/- 2% @ 2 to 150 Arms, +/- .4 Arms @ <15 Arms ****
Calibrated Accuracy with Appropriate Offset	+/- 1% @ 2 to 150 Arms, +/- .2 Arms @ <2 Arms ****
Offset Limits	-1.27 to + 1.27 Arms (default set to +.3 Arms) *****
Measurement Resolution	~.1 Arms
Current Transducer Dimensions	67mm x 49mm x 42mm (24mm inner diameter)
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	5.0 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.
****	CTs are inherently less accurate at or below 10% of max range. For best results; calibrate at a current between 30% and 90% of max accurate range.
*****	Offset is used to overcome a diode voltage drop inherent to the hardware. To accurately account for this drop a default offset is used. To best identify the optimal value of this offset; make a series of measurements at .2 to 2 Arms and find the current (Arms) difference between your measurement standard and the ColdGuard sensor.