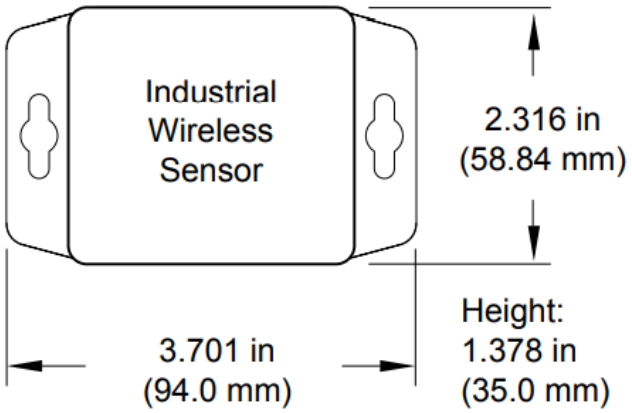
RTD Low Temperature Sensor

IIS-RTD-L-Temp

The Low Temperature Sensor uses a glass coated platinum RTD sensor to accurately measure temperatures from -200°C to +162°C (-328°F to +325°F).

- Standard accuracy at 0°C: +/- 3.3°C
- Calibrated accuracy at 0°C: +/- 0.5°C
- Temperature range: -200°C to +162°C (-328°F to +325°F)

The Low Temperature Sensor outputs the ambient temperature in degrees Celsius or Fahrenheit. It is programmed to sleep for a user-given time interval (heartbeat) and then wakeup, power up the RTD sensor and wait for it to stabilize then mathematically compute the temperature and transmit the data to the base.



Supply voltage		2.0–3.8 VDC (3.0–3.8 VDC using power supply) *
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 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	1500 mAh
Optional solar feature	Solar panel	5VDC/30mA (53mm x 30mm)
	Charging temperature range	0° to 45°C (32° to 113°F)
	Max temperature range	-20° to 60°C (-4° to 140°F)
	Included rechargeable battery	600 mAh/>2000 charge cycles (80% of initial capacity)
	Solar efficiency	Optimized for high and low-light operation **
	Charging efficiency	5% ****
	Luminous sustainability	Minimum of 10,000 LUX ****
RTD temperature range (RTD and cable only)		-200°C to +162°C (-328°F to +325°F)
Accuracy @ 0°C		+/- 3.3°C Standard (+/- 0.5°C Calibrated) ***
Dissipation constant		2mW/°C
Thermal time constant		15-sec max
Datlogging		Datalogs 2000 to 4000 readings if gateway connection is lost (non-volatile flash, persists through the power cycle): - 10-minute heartbeats = ~ 22 days - 2-hour heartbeats = ~ 266 days
Wireless range		1,200+ ft non-line-of-sight
Security		Encrypt-RF® (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 FC Industry Canada		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

* Hardware cannot withstand negative voltage. Please take care when connecting a power device.
** Light present 25% of day yields 125% of operating power to support 10-minute heartbeats.
*** See RTD accuracy chart on last page.
**** Solar feature's energy harvesting circuitry works indoors with low light.
***** The ALTA Low Temperature sensor is not meant for wet, damp, high humidity environments.