

Point Sensor Temperature 3006-21



FEATURES

- 10K internal thermistor
- Onboard calibration table provides linear output
- Slow response – resists short term temperature spikes
- 30-Bit unique ID
- Up to 600-foot range
- Transmission rates from 10 to 17 seconds random
- Up to 100 sensors can coexist
- Battery lasts up to 4 years
- Very small (2.5" X 2.0" X 1.0") ABS Enclosure
- Complies with part 15 of the FCC rules
- Water resistant coating for wet environments
- CRC-16 error checked Status, ID and Temperature
- Internal Loop antenna
- Low Cost

DESCRIPTION

The Point Sensor Temperature sensor is a battery operated digital temperature sensor with a microprocessor controlled 418 MHz. FCC certified radio transmitter. The Point Sensor Temperature sensor has an on board time of day clock that allows it to spend most of the time in a low power quiescent state. At predetermined time intervals the clock will wake up the onboard microprocessor. Onboard calibration tables provide a linear temperature output using an internal thermistor. This information is combined with a CRC-16 error check and transmitted in a very short data packet that results in a very short transmitter on-time. This architecture allows the Point Sensor Temperature sensor to consume very low energy resulting in a battery life of up to 4 years.

The electronics are coated with a conformal material that provides a moisture barrier against condensation. Submersion in water is not recommended. A button on the top of the ABS cover permits a user to activate the service switch. When the service switch is pushed a data transmission occurs immediately and a special mark is introduced in the ID field of the transmitted data packet to indicate which sensor is in service or installation. The Sensor is shipped with the transmitter turned off (anytime the Sensor is to be shipped the transmitter should be turned off or must be placed in a shielded container to prevent interference that might cause shipping problems). Start the Sensor by removing the battery pull tab to engage the battery. The Point Sensor Temperature can be turned off by re-inserting the battery pull tab or by removing the battery.

Transmission rate	10-17 seconds random
Shelf life with battery installed	10 Years in quiescent mode
Dimensions (enclosure)	2.5 W X 2.0 H X 1.0 D (inches)
Weight	1.0 oz.
Storage Temperature	-40° to 85° C
Operating Temperature	-40° to 85° C
Accuracy (-10 to 85 Deg. C)	+/- .5° C
Battery life with transmissions	Up to 4 years
Battery	3.6 volt Lithium
FCC Certified	FCC ID: M5ZP6EZIO

Point Six Wireless
Unique, High Value Wireless Solutions

Installation and Operation Instructions

Point Sensor Temperature

The Point Sensor Temperature wireless temperature sensor transmits both a digital temperature and a unique serial number to a 418 MHz receiver. The Point Sensor Temperature is enclosed in a high impact ABS enclosure for direct surface mounting in the environment to be measured. Point Sensor Temperature is battery operated. Transmission times of 10 to 17 seconds random.

Application: Apply the sensor to the surface to be monitored with double-sided adhesive tape. Make sure that the side with the product label is away from any metal surfaces.

Service Function: The sensor has an installation mode switch (pushbutton located in center of enclosure lid). When the pushbutton is momentarily pressed, the device will transmit a special installation status mark in the data packet immediately after the service switch is released. The immediate transmission of temperature, ID and installation status mark will occur anytime this switch is pressed. The Point Sensor Temperature may be placed in a quiescent state by re-installing the battery pull tab or removing the battery.

Battery: A 3.6 Volt lithium battery powers the wireless temperature sensor. The battery will last for more than 5 years in the quiescent state (as shipped from the manufacturer). The device will transmit data for as long as 4 years at a rate of once every 10 to 17 seconds once started. The electronic components are completely covered with a water resistant coating to protect from condensation. The user can replace the battery.

**FCC ID: M5ZP6EZIO
MADE IN USA**

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES, OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESERED OPERATION

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15, Subpart B, of the FCC Rules. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause interference to radio communications.

The limits are designed to provide reasonable protection against such interference in a residential situation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna of the affected radio or television
- Increase the separation between the equipment and the affected receiver.
- Connect the equipment and the affected receiver to power outlets on separate circuits.
- Consult the dealer or an experienced radio/TV technician for help.

MODIFICATIONS

Changes or modifications not expressly approved by **Point Six Wireless** could void the user's authority to operate the equipment.

Wireless Transmitter Packet-Data Specification

Temperature Sensor Data Format (Legacy Packet)

“Temp” (54/53)

IDSSSSSSSSSSSSSSSSSTTTTCCCCKK<CR>

Note: All fields are in ASCII Hex

“ID”

This field is the device ID; 54 indicates normal mode, 53 indicates service mode; (service mode button has been pushed).

“SSSSSSSSSSSSSSSS”

This field is the 64 bit unique serial number of the wireless temperature sensor.

“TTTT”

This is the temperature data field; two's compliment 16-bit data stored MSB first in 1/16 deg. C units.

“CCCC”

This field is the CRC-16 error check as was originally received and checked. This CRC is over the first 11 bytes of the packet starting with the device type and ending with but not including CRC-16.

“KK”

This field is the mod 256 sum of all the binary data values as represented by the ASCII hex values in the response but does not include the <CR>.

Example:

53282764080000003F0160716483

SN=282764080000003F; Temp=0160 – 22.0 degC; CRC16 =7164; Checksum=83