**FCC ID:** M5ZWOW

Installation and Operation Instructions for the Wireless Temperature Sensor.

# Point Six, Inc.

| Wireless Temperature Sensor<br>Model WOW |
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## Installation and Operation Instructions

The WOW wireless temperature sensor transmits both a digital temperature and a unique serial number to a 418 MHz receiver. The WOW is enclosed in a high impact ABS enclosure for direct surface mounting in the environment to be measured. WOW is battery operated

**Application:** Apply the sensor to the surface to be monitored with double-sided adhesive tape. Make sure that the side labeled with FCC ID is visible and away from any metal surfaces.

**Service Function:** The wireless temperature sensor has an installation mode switch. A momentary push of this switch will start the convert/transmit cycles. When new and until this button is pushed the WOW will not transmit. The WOW will transmit a special installation status mark in the data packet immediately after the installation/start switch is pushed. After the start a push of the installation switch will result in the immediate transmission of temperature, ID and installation status mark.

**Battery:** A 3.0-3.6 Volt lithium battery powers the WOW wireless temperature sensor. The battery will last for more than 10 years in the idle state (as shipped from the manufacturer). The WOW will transmit data for as long as 7 years at a rate of once each minute once started. The WOW is completely covered with a water resistant rubber coating to protect the electronics from the environment and condensation. The user cannot replace the battery. The WOW may be placed in a quiescent state (battery life greater than 10 years) by holding the installation switch closed for more than 12 seconds.

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| **FCC ID: M5ZWOW**<br>**MADE IN USA** |

# Wireless Temperature Sensor Data Format

The Point Six, Inc. 418 MHz wireless temperature transmitters require a compatible receiver with the ability to receive, error check and provide RS232 and RS422/485 interface.   This document describes the data format provided by the **HA8-wow**  418 MHz. Receiver.

The transmit packet from a receiver is approximately 15 milliseconds in duration and consists of 13 bytes of data:

1-byte ID/Mode field
8-byte serial number
2-byte temperature data
2-byte CRC-16 error check

The HA8-wow receiver processes this packet.  The receiver performs a CRC-16 error check on the packet.  If the data is not accurate it is discarded.  When a packet is received that is error free it is converted to a 29-character packet and transmitted out the serial port at 19,200 Baud. The data is transmitted serially in ASCII Hex format and terminated with a CR character. This format requires two bytes for each byte of data; 14 data bytes x 2=28 plus the CR is 29 characters

The resulting binary data format of the packet is:

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| 1-byte ID field | this field will contain a byte whose LSBit indicates the service state of the transmitter, 0=normal, 1=service mode. |
| 8-byte serial# | this field contains the serial number of the 1-Wire sensor. |
| 2-byte temperature | this field contains the temperature data stored MSB first in two's compliment 16-bit form of 1/16  deg. C units. |
| 2-byte CRC-16 | this is the originally received data packet CRC as described above. |
| 1-byte checksum | the checksum is a mod 256 sum of all the ASCII character values in the response but does not include the CR |

## Example:

**D4**287F44040000005A01602ED477<CR>
> This field is the mode indicator, the LS-bit which indicates the service state of the transmitter, 0=normal, 1=service mode.

D4**287F44040000005A**01602ED477<CR>
> This field is the unique serial number of the 1-Wire temperature sensor.

D4287F44040000005A**0160**2ED477<CR>
> This is the temperature data field; two's compliment 16-bit data stored MSB first in 1/16 deg. C units. The value shown is +22 Deg. C.

D4287F44040000005A0160**2ED4**77<CR>
> 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 mode flags and ending with inclusion of the temperature data.

D4287F44040000005A01602ED4**77**<CR>
> This field is the mod 256 sum of all the ASCII character values in the response but does not include the <CR>.

D4287F44040000005A01602ED477**<CR>**
> This is the CR terminator, 0Dhex.

## _FCC Radio Frequency Interference Statement_

## Wireless Temperature Sensor        FCC ID: M5ZWOW

**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 Inc_**. could void the user's authority to operate the equipment.