Point Six Wireless
Unique, High Value Wireless Solutions
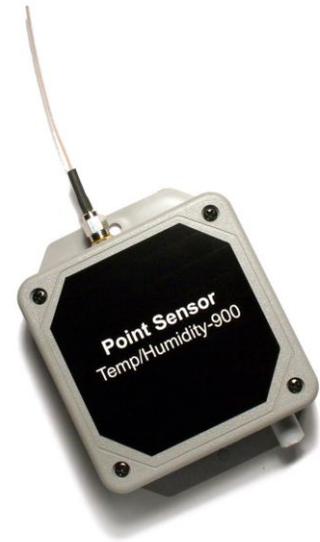
Point Sensor Temperature/Humidity

FEATURES

- **Sensirion SHT71 single chip temperature/humidity sensor**
- **Calibration/linearization data stored in sensor**
- **Integrated 100mw, 900 MHz SSFH radio for long range performance**
- **Optional 2.4 GHz radio**
- **30-Bit unique ID**
- **Range Indoor: Up to 1300 feet**
- **Range Outdoor: Up to 1 mile with standard antenna**
- **Battery lasts up to 2 years at 5 minute transmit intervals**
- **Very small (3.25" X 3.25" X 1.375") ABS Enclosure**
- **Complies with part 15 of the FCC rules**
- **CRC-16 error checked Status, ID and Temperature**
- **External ¼ wave antenna with RPSMA connector (Optional antennas available)**
- **Conformal coated**

DESCRIPTION

The Point Sensor Temp/Humidity-900 sensor is a battery operated temperature and humidity sensor with a microprocessor controlled 900 MHz. FCC certified radio transmitter. The Point Sensor Temp/Humidity-900 sensor has an on board 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. Unique serial number information, linearized temperature, linearized and temperature compensated humidity data are 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 Temp/Humidity-900 sensor to consume very low energy resulting in a battery life of up to 2 years.

The electronics are coated with a conformal material that provides a moisture barrier against condensation. Submersion in water is not recommended. An internal reed switch permits a user to activate the service switch with a magnet. When a magnet is swiped across the enclosure at the "Service" label, 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). The sensor is started by sliding the On/Off Switch towards the SMA antenna connection. The Point Sensor Temp/Humidity-900 sensor can be turned off by sliding the On/Off switch away from the SMA antenna connection.

Transmission rate	Preprogrammed at factory (5 minutes default)
Shelf life with battery installed	10 Years in quiescent mode
Dimensions (enclosure)	3.25 W X 3.25 H X 1.375 D (inches)
Weight	4.7 oz.
Storage Temperature	-40° to 85° C
Operating Temperature	-40° to 85° C
Temperature Accuracy (@25ºC)	+/-.4° C
Humidity Accuracy (20% to 80% RH)	+/-3%
Battery life with transmissions	2 years with TX period of 5 minutes
Battery	(2) 3.6vdc Lithium Thionyl Chloride
FCC Certified	FCC ID: OUR9XSTREAM

# Point Sensor Temperature/Humidity

Installation and Operation Instructions

The Point Sensor Temperature/Humidity wireless temperature and humidity sensor transmits linearized temperature, linearized and temperature compensated humidity data, and a unique serial number to a 900 MHz receiver. The Point Sensor Temperature/Humidity is enclosed in a high impact ABS enclosure for direct surface mounting in the environment to be measured. Point Sensor Temperature/Humidity is battery operated. Transmission times are preprogrammed at the factory (default rate is every 5 minutes).

Application: Apply the sensor to the surface to be monitored with double-sided adhesive tape or with screws through the flanges.

Start/Stop Function: The sensor is started when the On/Off switch is moved towards the SMA antenna connector. The Sensor has an internal reed switch (indicated as "Service" on product label). Momentarily placing a magnet next to this switch will cause the device to transmit a special installation status mark in the data packet immediately after the magnet is removed. The immediate transmission of temperature, humidity, ID and installation status mark will occur anytime the reed switch is activated. The Point Sensor Temp/Humidity-900 may be placed in a quiescent state (no transmission) by sliding the On/Off switch away from the SMA antenna connector.

Battery: Two 3.6 Volt lithium batteries powers the wireless temperature/humidity sensor. The device will transmit data for as long as 2 years at a transmission rate of once every 5 minutes. The electronic components are completely covered with a water resistant coating to protect from condensation. The user can replace the batteries.
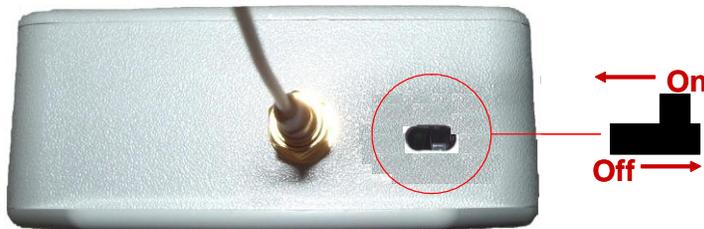
FCC ID: OUR9XSTREAM
MADE IN USA

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

Wireless Temperature Sensor Data Format

IDSSSSSSSSnnrrhhhhttttCCCCKK<CR>

Note: All fields are in ASCII Hex

"ID"
The device type field: Humidity2 has device type **52** hex. A **51** hex when in service mode.

"SSSSSSSS"
The MS-30 bits of these 4-bytes are the serial number of the Humidity2 device. The LS-2 bits are set to zero.

"nn"
Always "00".

"rr"
This 1 byte field is not used and contains generic 00 data.

"hhhh"
This is the humidity data field. This field is 16 bits stored MSB first (bits 15-8) and LSB last (bits 7-0) from left to right. This field has a possible range of 0 to 4095 where 0 is 0 %R and 4095 is 100 %RH

"tttt"
This is the temperature data field. This field is 16 bits stored MSB first (bits 15-8) and LSB last (bits 7-0) from left to right. This field has a possible range of 0 to 4095 where 0 is –40 degC and 4095 is 80 degC.

"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:

5260357004020006250852 49D1FC
SN = 60357004H ; Humidity = 0625H = 38.4%RH ; Temp = 0852H – 22.4 degC; CRC16 =49D1H; FC - Checksum

51603570040200060A084CF7540B