

## PoE-X Humidity Sensor



### General Description

The [Power-over-Ethernet \(PoE\) Humidity \(RH\) Sensor](#) accurately monitors the relative humidity of the air within a room or enclosure. Additionally, the iMonnit Online Sensor Monitoring and Notification System also calculates dew point and absolute humidity and stores all these data points in the online system where the data can be reviewed and exported as a data sheet or graph. Notifications can be set up through the online system to alert the user when defined thresholds have been met or exceeded.

### Monnit PoE-X Sensor Features

- Power-over-Ethernet ready (injector hardware required)
- Embedded LEDs for transmission & online condition indicators
- 50,000 sensor message memory (non-volatile)
- Modbus TCP & SNMP v1 interface capabilities
- No PC required (managed through apps and smart devices)
- Remote update capable w/automatic updates
- Works with iMonnit Cloud and Enterprise software applications
- Optional 5V DC power supply available
  - [Optional Power Adapter](#)

## Technical / Device Specifications

DEVICE SPECIFICATIONS	
Part Number	MNS-P-C1-HU-RH
Communication Hardware	10 / 100 Ethernet Controller
PoE Requirements	Class 1 Device (500mW)
IEEE Standard Compliance	802.3AF-2003 / 802.3AT-2009 Class 1
Operation	Full- and Half-Duplex
Cross-Over Correction	Automatic MDI / MDI-X
Protocols Supported	DHCP, DNS, NTP, UDP, TCP, SNMP, Modbus TCP
Input Power	Supplementary Power Requirement
Cable Connector	RJ45
Supplementary Power Connector	2.1 x 5.5 mm barrel jack, center positive
Device Memory	Up to 50,000 sensor messages; varies based on sensor type. (Sensor messages will be stored in the event of Internet outage and transferred when connection is restored.)
Forced Communication / Reset Hardware	Button
Operating Temperature	-20 to +60°C (-4 to 140°F)
Storage Temperature	-40 to +85°C (-40 to 185°F)
SENSOR SPECIFICATIONS	
Accuracy	16.4 ft (5 m)
RH Operating Range	0 - 100% RH
RH Response Time	8 sec ( tau 63% )
Weight	4.42 oz. (125 g)

## Sensor Accuracies

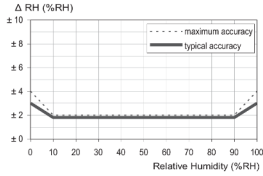


Figure 1. Typical and maximal tolerance at 25°C.

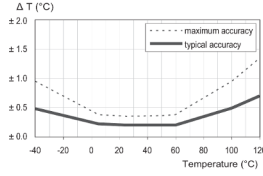


Figure 2. Maximal tolerance for temperature sensor in °C.

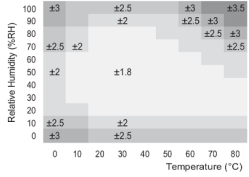


Figure 3. Typical accuracy of relative humidity measurements given in %RH for temperatures between 0 – 80°C.

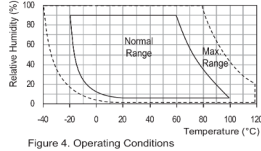
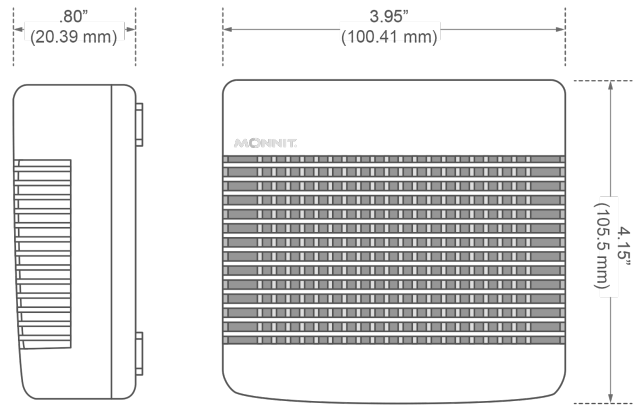


Figure 4. Operating Conditions



## Example Applications

- Greenhouse humidity monitoring
- Art gallery and museum environmental monitoring
- General weather and environmental monitoring
- Agriculture environmental monitoring
- Humidor monitoring
- And many more

## Notes

### Humidity Operating Range

The sensor is designed for operation within the recommended “Normal Range” (see Figure 4 on page 2). Long-term exposure to conditions outside Normal Range, especially at humidity >80%RH, may temporarily offset the RH signal (+3%RH after 60h). After returning to the Normal Range it will slowly return towards calibration state by itself. Prolonged exposure to extreme conditions may shorten the device’s service life.

### Commercial Grade Sensors

Monnit commercial-grade sensors are designed for applications in ordinary environments (normal room temperature, humidity, and atmospheric pressure). Do not subject these sensors to the following, as these environmental aggressors could degrade the device and its performance, leading to failures and burn-out:

- Corrosive or deoxidizing gas, e.g., chlorine gas, hydrogen sulfide gas, ammonia gas, sulfuric acid gas, and nitric oxides
- Volatile or flammable gas
- Dusty conditions
- Extremely low or high pressures
- Wet or excessively humid locations
- Places where saltwater, oils, chemical liquids, or organic solvents are routinely present
- Applications/locations prone to excessive or strong vibration
- Other sites where similar hazardous conditions exist

Use these products within the Monnit-specified temperature range. Higher temperatures could deteriorate both the product and its functionality.

For more information about our products or to place an order, please contact our sales department at 801-561-5555. Visit us on the web at [www.monnit.com](http://www.monnit.com).

**MONNIT**

Monnit Corporation

3400 South West Temple • Salt Lake City, UT 84115 • 801-561-5555  
www.monnit.com