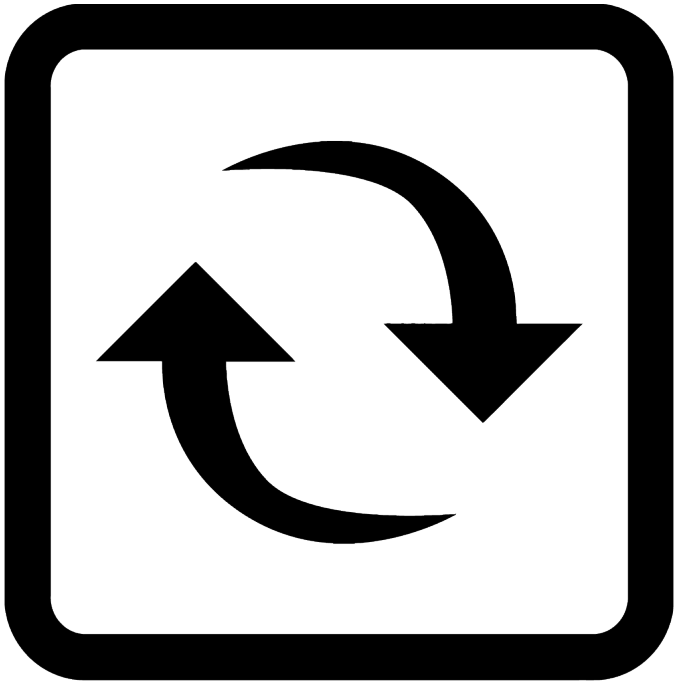
Rack Level Temperature and Humidity



INFRASENSING

Sensor Application Guide

I. Overview

Our Daisy Chained Temperature and Humidity Sensors are designed to monitor temperature and humidity levels inside data centers, server rooms, cabinets, and other critical facilities.

This document aims to guide the user in installing our DAISY-TEMP and DAISY-THUM in your facilities and also to provide recommendations for rack level sensor placement.

You may visit the sensor page through:
DAISY-TEMP https://infrasensing.com/sensors/sensor_daisy_temperature.asp
DAISY-THUM https://infrasensing.com/sensors/sensor_daisy_humidity.asp

II. What you need

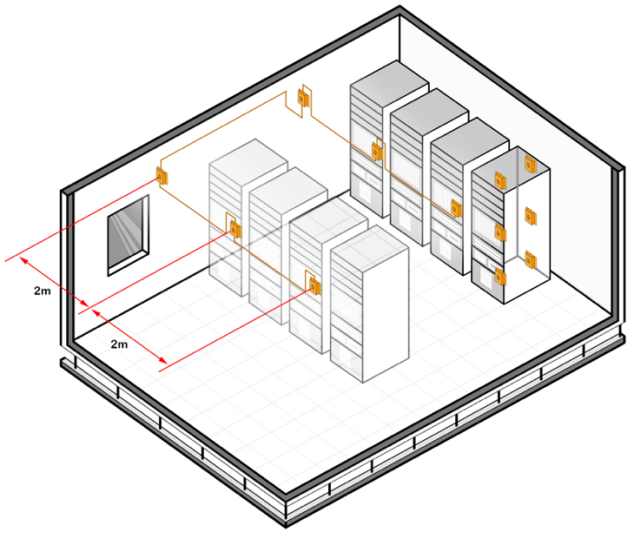
- Power source (PoE or 12V DC)
- BASE-WIRED
- LAN cable
- DAISY-STARTER
- Sensor probe(DAISY-TEMP or DAISY-THUM)

III. Recommended sensor placement

ASHRAE standards specify 6 temperature sensors per rack:

- 2 at the bottom of each side of the rack
- 2 in the middle
- 2 at the top

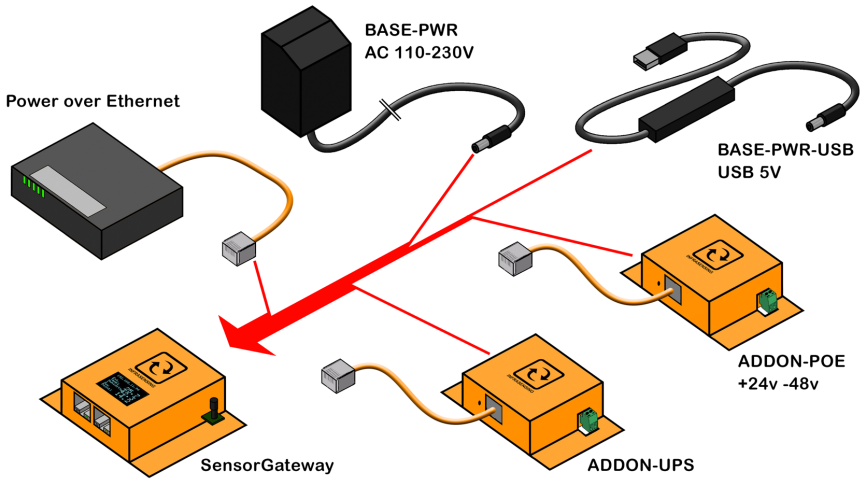
The temperature difference between intake(front or rack) and outtake(back of rack) should not be more than 20°C.
For data center white spaces, the daisy chain temperature & humidity (DAISY-THUM) sensor is recommended with a distance of 2m/6ft between each sensor.



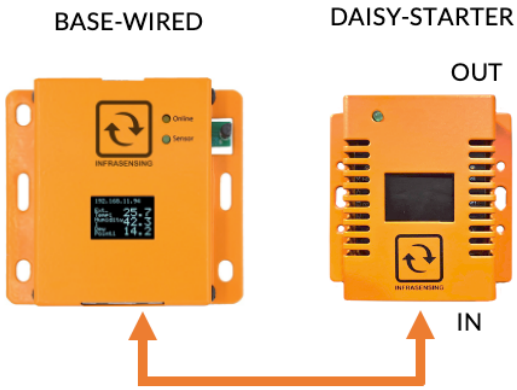
You may check this link for more information about rack level monitoring:
https://infrasensing.com/sensors/temperature_best_practices.asp

IV. Installation

4.1. Supply power to the BASE-WIRED via PoE(power over ethernet) or 12V DC adapter(BASE-PWR) Other power options include BASE-PWR-USB, ADDON-POE, and ADDON-UPS.



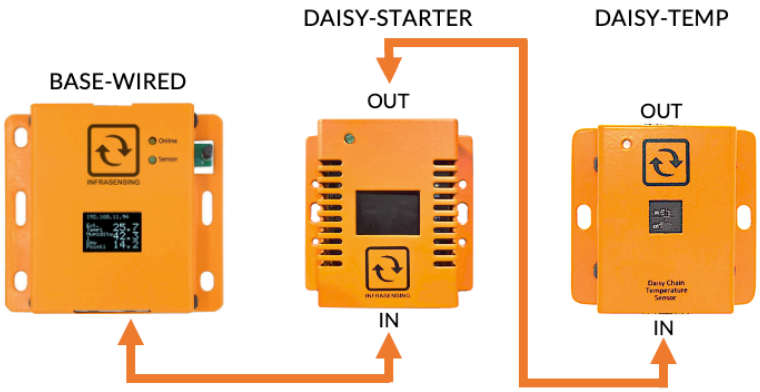
4.2. Connect the BASE-WIRED to the IN port of the DAISY-STARTER



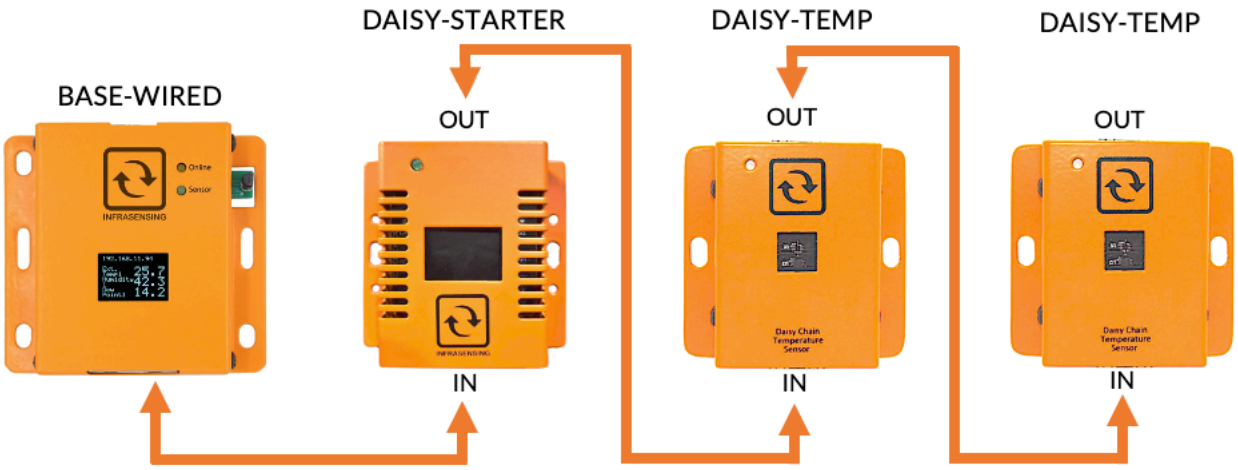
Notes

- Only 1 DAISY-STARTER can be connected to the BASE-UNIT.
- However, you can connect another sensor probe to the other port of the BASE-WIRED while the other port is connected to the DAISY-STARTER.

4.3. Connect the OUT port DAISY-STARTER to the IN port of DAISY-TEMP(or DAISY-THUM).



4.4. If you would be connecting another Daisy Sensor to the chain, you just have to connect the OUT port of the first Daisy Chain Sensor to the IN port of the next Daisy Chain Sensor. It should look like this sample:

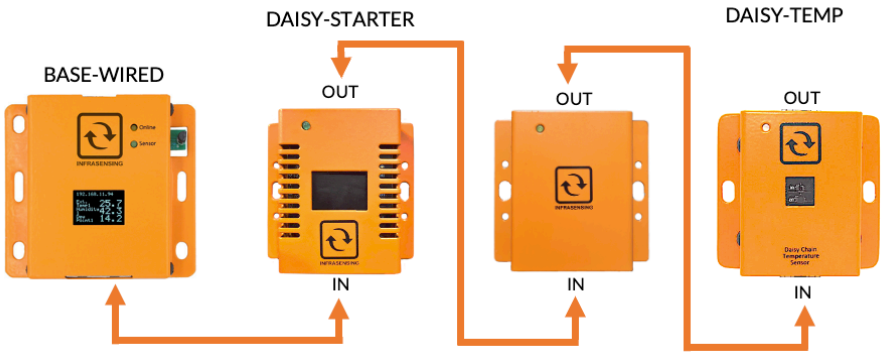


For the succeeding connections to the Daisy Chain, repeat step 4.4.

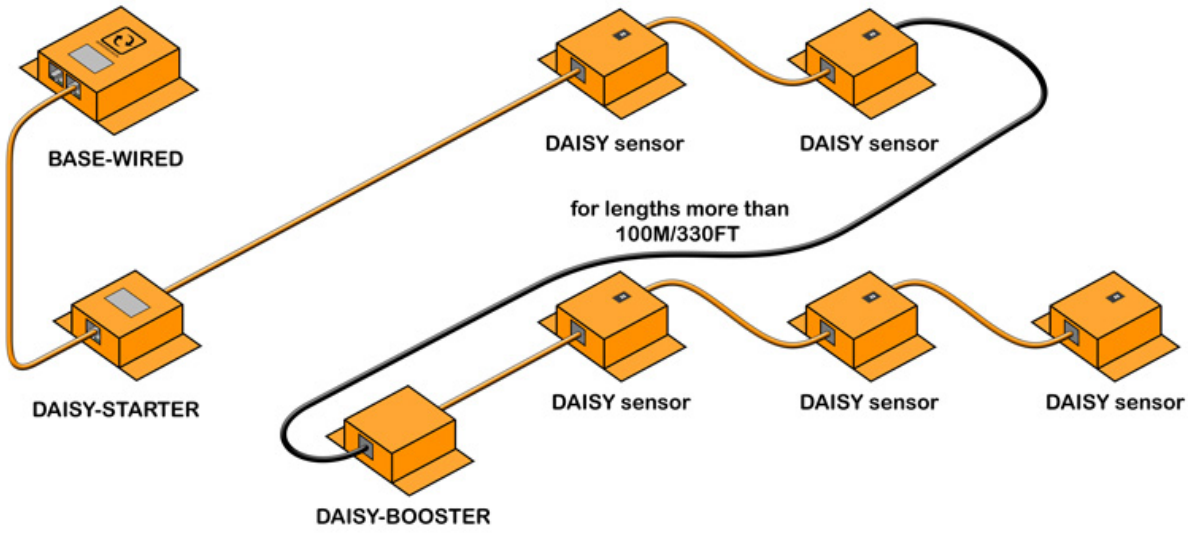
Notes

- The daisy chain length can only be up to 100 meters, for connections beyond 100 meters, you have to use DAISY-BOOSTER.
- For connections of 10 or more daisy chain sensors, the BASE-WIRED will be requiring 12V DC power supply.

1.1. The DAISY-BOOSTER extends the operating length of the daisy chain sensors beyond 100 meters. Just connect the daisy booster in between two daisy sensors. Connect the OUT port of the daisy sensor to the IN port of the DAISY-BOOSTER and connect the OUT port of the DAISY-BOOSTER to the IN port of the daisy sensor.



Here is another sample illustration using DAISY-BOOSTER with daisy sensors.



V. Daisy chain combinations

- You can combine different daisy chain sensors (DAISY-TEMP and DAISY-THUM) in every daisy chain setup.
- The maximum metric of every daisy chain setup is 48 readings, this determines how many daisy chain sensors can be connected to the series.
  Each daisy chain sensors have different number of readings to show:
  - 1x of ENV-TEMP uses 1 metric(temperature)
  - 1x of ENV-THUM uses 2 metrics(temperature and humidity)