INTELLIGENT & CONNECTED SOLUTIONS GROUP

LoRa Based Temperature and Humidity Sensor

SANMINA'S INTELLIGENT AND CONNECTED SOLUTIONS GROUP

Sanmina's Intelligent and Connected Solutions Group provides' end to end connected technology solutions for our end customers, partners, and suppliers leveraging Sanmina's global manufacturing, design, logistics, and supply chain expertise.

Sanmina's Intelligent and Connected Solutions Group's goal is to support our customers with reliable, scalable and cost optimized connected solutions that accelerate their time to market with manufacturable solutions.

LORA BASED TEMPERATURE AND HUMIDITY SENSOR

A sleek form factor, IP54 rated, battery powered LoRa based Temperature and Humidity Sensor that can be used to measure ambient temperature and relative humidity around physical locations. Leveraging the LoRa connectivity protocol, these sensors can support up to 300ft of range from sensor to gateway, from isolated locations such as a walkin freezer or up to 1.5 miles in open space.

An external temperature probe can be ordered to integrate with the sensor through an audio jack. This allows for additional application use cases, such as monitoring the temperature of liquids while keeping the sensor away from temperature conditions outside of the typical operating range shown in the Sensor Core Specifications table.

LoRa Temperature and Humidity Sensor (Sensor Core)

LoRa Temperature and Humidity Sensor with external temperature probe attached

TARGETED APPLICATIONS

Restaurants & food service, school cafeterias, greenhouses, storage rooms, ventilation and air condition systems, meat packing plants, and many more.

Features

The on-board temperature sensor readings are accurate to within the following tolerances for the specified ranges

Range	Accuracy
-20° to 0°C	+/- 1°C
0°C to 60°C	+/- 0.5°C

The humidity sensor readings shall be accurate to within the following tolerances for the specified ranges

Range	Accuracy
5% to 20% RH	+/- 5% RH
20% to 80% RH	+/- 3% RH
80% to 100% RH	+/- 5% RH

The optional external temperature probe readings is accurate to within the following tolerances for the specified ranges

Range	Accuracy
-40° to -5°C	+/- 1°C
-5°C to 40°C	+/- 0.5°C
40°C to 80°C	+/- 1°C
80°C to 125°C	+/- 2°C

Sensor Core Specifications

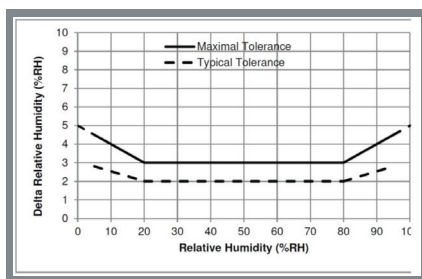|	
Sensor Operating Temperature Range	-25°C to 60°C
Temperature Probe Operating Temperature Range (Probe Only)	-40°C to 125°C
Battery Life	*3-5 years at 20 minute transmission rate
Accuracy	+/- 0.5°C at 25°C
Weight	51 grams
Antenna Type	Chip on board antenna
Typical Transmission Power	13.53 dBm
Receive Sensitivity	-115 dBm
Certifications	FCCID: 2AMS3WBOX1
*Battery life is determined by sensor reporting frequency and other variables	

Figure 1: Typical and Maximal Humidity Tolerance at 25°C
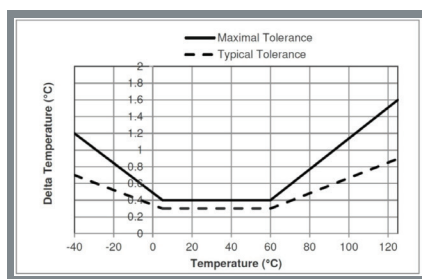

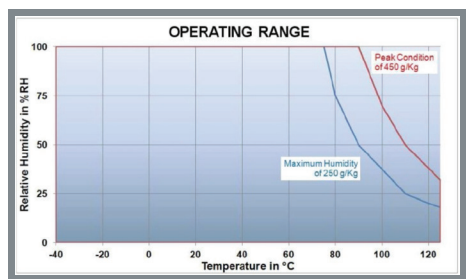*Figure 2: Typical and Maximal Ambient Temperature Sensor Tolerance in °C*

Figure 3: Maximum Operating Range of the Ambient Temperature and Humidity Sensor

ABOUT SANMINA CORPORATION

Sanmina Corporation is a leading integrated manufacturing solutions provider serving the fastest-growing segments of the global Electronics Manufacturing Services (EMS) market. Recognized as a technology leader, Sanmina provides end-to-end manufacturing solutions, delivering superior quality and support to Original Equipment Manufacturers (OEMs) primarily in the medical, communications networks, defense and aerospace, industrial and semiconductor systems, multimedia, computing and storage, automotive and clean technology sectors. Sanmina has facilities strategically located in key regions throughout the world.

For more information, please contact Sanmina's Intelligent and Connected Solution Group at sanminaIoT@sanmina.com