

Temperature-Humidity Sensor



The Temperature-Humidity sensor is a LoRaWAN® Class A wireless sensor device that measures and transmit over long distance temperature and humidity.

APPLICATIONS

- HVAC (Heating, Ventilating and Air Conditioning)
- Building management
- Logistic / storage
- Data center / IT server room

BENEFITS & KEY FEATURES

- LoRaWAN®, Class A
- Easy to use and deploy
- Up to 10 years autonomy
- Temperature and Humidity measure
 - Range : 0°C / +40°C ; 0%rH / 100%rH
 - Accuracy: +/-0,3°C ; +/-3%rH
 - Resolution: 0,2°C ; 0,5%rH
- Data compression for batch report

CERTIFICATION

- RoHS, CE



The sensor measures temperature and relative humidity indoors. Data transmission on public or private LoRaWAN® network is done periodically or immediately in case of alert:

- Exceeding of thresholds Minimum or maximum temperature.
- Minimum and maximum humidity thresholds exceeded.
- Sensor unclipped from its wall mounting.

Installation and commissioning are quick and easy. The sensor is equipped with:

- a switch (ILS) for activation and deactivation,
- LEDs to monitor the configuration and association on the network.

Each sensor is identified by a QR code on the label and an NFC tag in the box.

The measurement data is transmitted individually or aggregated and compressed (batch mode) before being transmitted on the LoRaWAN® network.

Batch mode significantly reduces the amount of data transmitted while preserving the sensor's autonomy.

Powered by a 3.6V/2500mAh battery, the sensor's autonomy is over 8 years with a configuration of 2 measurements and 2 transmissions per day.




The battery voltage level can be regularly monitored remotely.

WE HAVE THE SENSORS ADAPTED TO YOUR USES

nke WATTECO is a European leader in the design and manufacture of intelligent IoT devices to fit to all remote reading and data collection solutions.

nke Watteco is a member of the LoRa® Alliance.

TECHNICAL CHARACTERISTICS

RADIOFREQUENCY		
Frequency	EU: 863-870 MHz	
Emitted power	14 dBm	
Sensitivity	-140 dBm	
FIRMWARE		
Protocol	LoRaWAN®, Class A	
Measurement periodicity	10mn to 24 h (configurable)	
Transmission interval	Immediate following measurement or batch 30mn to 48h (configurable)	
Data compression	By differential coding (configurable)	
Activation method	Activation by Personalization (ABP) ou Over-The-Air Activation (OTAA)	
Data encryption	AES128	
MEASURES		
	Temperature	Hygrometry
Beach	0°C to +55°C	0% to 100% rH
Accuracy	0.2°C between +12°C and +25°C; otherwise ± 0.5°C	± 2% between +12°C and +25°C
Resolution (in nominal range)	0,1°C	1%
ALARMS		
Temperature	Minimum or maximum thresholds configurable from 0°C to 50°C in steps of 1°C; by default mini = 14°C maxi = 28°C	
Hygrometry	Min or Max thresholds configurable from 0%rH to 100%rH in 1%rH steps; default min = 20% rH & max = 70% rH	
Alert	On unclipping the sensor / wall mounting	
FOOD		
Voltage	Lithium battery 3,6V / 2500mAh on holder (battery can be changed after removing the cover) Transmitted battery voltage level (configurable in 0.1V steps)	
Autonomy (in a range of +10°C to +25°C)	> 8 years: 2 measurements and 2 transmissions per day 6 years: 1 measurement per 10 minutes - 1 transmission (batch) per hour	
USER INTERFACE		
ILS switch + LEDs	Association to the network; signaling of sensor states visible through the openings	
BOX		
Dimensions / weight - Sealing	80x80xth.25mm / 95grs - IP30	
Attachment	2 screws and 2 dowels (supplied)	
TEMPERATURE		
Operation	0°C / +55°C +0%rH / +95%rH (non-condensing)	
Storage	10°C / +30°C +0%rH / +60%rH	
STANDARDS & REGULATIONS		
EN, 61000-4-2 EN 300-220-1 V2-4-1, EN 301 489 V1-6-1 CE, RoHS		  

ORDERING INFORMATION

REFERENCE	MODEL DESCRIPTION
50-70-053	LoRaWAN® TEMPERATURE HUMIDITY SENSOR