

TEMPERATURE & HUMIDITY SENSOR



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

APPLICATIONS

- HVAC (Heating, Ventilation and Air Conditioning)
- Building management
- Logistics / storage
- Data centre / IT server room

BENEFITS & KEY FEATURES

- LoRaWAN®, Class A
- Easy to use and deploy
- Up to 10 years autonomy
- Temperature and Humidity measurements
 - Range : 0°C / +55°C; 0%rH / 100%rH
 - Accuracy: +/-0.2°C; +/-2%rH
 - Resolution: 0.1°C; 0.5%rH
- Data compression with batch report

CERTIFICATION

- RED, RoHS



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

- Minimum and maximum temperature thresholds exceeded,
- 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 pairing to the network.

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

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

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

Powered by a 3.6V/2600mAh battery, the sensor's autonomy is over 8 years with a configuration of 1 measurements every 10 minutes and 1 transmissions per hour.




The battery voltage level can be regularly monitored remotely.

THE LARGEST IOT PRODUCTS RANGE FOR YOUR PROJECT

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

WATTECO is a LoRa Alliance® member.

TECHNICAL DATA

RADIOFREQUENCY		
Frequency	EU: 863-870 MHz	
Transmit power	14 dBm	
Sensitivity	-140 dBm	
FIRMWARE		
Protocol	LoRaWAN®, Class A	
Measurement periodicity	From 10 minutes to 24 hours (configurable)	
Transmission interval	Immediate following measurement or batch at 30min to 48hrs (configurable)	
Data compression	By differential coding (configurable)	
Activation method	Activation by Personalization (ABP) ou Over-The-Air Activation (OTAA)	
Data encryption	AES128	
MEASUREMENTS		
	Temperature	Hygrometry
Range	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 and maximum thresholds configurable from 0°C to 55°C in steps of 0.1°C	
Hygrometry	Minimum and maximum thresholds configurable from 0%rH to 100%rH in 1%rH steps	
Alert	On unclipping the sensor / wall mounting	
POWER SUPPLY		
Voltage	3.6V / 2600mAh lithium battery (can be replaced after removing the cover) Transmitted battery voltage level (configurable in 0.1V steps)	
Autonomy (in a range of +10°C to +25°C)	> 10 years: 2 measurements and 2 transmissions per day > 8 years: 1 measurement per 10 minutes - 1 transmission (batch) per hour	
USER INTERFACE		
ILS switch + LEDs	Network pairing; signalling of sensor states; visible through the openings	
ENCLOSURE		
Size / Weight – IP rating	80 x 80 x 25mm / 95g - IP30	
Fastenings	2 screws and 2 dowels (supplied)	
ENVIRONMENT		
Operation	0°C / +55°C ; +0%rH / +95%rH (non-condensing)	
Storage	10°C / +30°C ; +0%rH / +60%rH	
STANDARDS & REGULATIONS		
Radio Equipment Directive 2014/53/EU, RoHS	  	
PRODUCT NUMBER		
REFERENCE	MODEL DESCRIPTION	
50-70-162	LoRaWAN® TEMPERATURE HUMIDITY SENSOR	
50-70-191	LoRaWAN® TEMPERATURE HUMIDITY SENSOR TROPICALISED VERSION	