

LoRaWAN™ HUMID'O



Humid'O is a sensor for detecting the presence of water on the ground, it is composed of a detection probe and the PRESS'O analog sensor. Connected to a public or private network LoRaWAN™ Humid'O allows to monitor and alert at the beginning of a flood in a room.

APPLICATIONS

- Detection of water leaks, remote monitoring of a technical room (boiler room, data centre, building common, etc.), sending alerts in the event of flooding.
- Optimized maintenance: avoids human interventions to inspect remote premises.
- Financial: the corrective intervention is immediate, no structural damage and no water anomaly consumption.
- Innovative: provides a safe service for occupants of logistics buildings.

BENEFITS & FEATURES

- LoRaWAN™, Class A
- Easy to install and use
- Extra flat probe supplied and connected to the analog input 0-10V
- Differential data compression
- Battery operation
- 10 years of battery life (measurement at 10 minutes and transmission at 1 hour)
- IP55

CERTIFICATION

- RoHS, CE, FCC

HUMID'O is an assembly equipped with a water leak detection measuring probe connected to the 0-10V analog input of the PRESS'O sensor. To be connected to the public or private LoRaWAN™ long-range and bidirectional network.

HUMID'O meets the need for monitoring and alerting from the very first moment of the presence of groundwater in a poorly visited area.

Whether for private use in private homes, or for public use in collective housing and storage buildings.



The operating principle is the measurement of voltage variation across the voltage divider bridge formed by the variable resistance probe ($R = 300 \text{ k}\Omega$ dry, $R = 2 \text{ k}\Omega$ wet) and the 0-10V analog input of the PRESS'O.

Alert information is transmitted when thresholds configured for the 0-10V input are exceeded.

The analog value uploaded indicates the alert status:
Humid > 5 Volt; Dry < 1 Volt.

HUMID'O measures periodically at 10 minutes and emits a frame every 12 hours, then upon detection of the wet threshold (5Volts) sends an alarm and reports every 30 minutes. Return to the initial configuration when changing to the dry state (1Volt).

HUMID'O is battery operated. When powered by a 3.6V/3.6Ah battery, the sensor's autonomy is 10 years for a configuration that measures at 10 minutes and emits one emission per hour.

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nke Watteco is a European leader in the design and manufacture of intelligent radio frequency sensors and actuators as well as multi-protocol remote reading and data collection solutions.

nke Watteco is a member of the LoRa® Alliance

TECHNICAL SPECIFICATIONS

RADIOFRÉQUENCE	
Frequency (MHz)	EU: 863-870 US: 902-928
Transmitted power (dBm)	+14
Sensitivity (dBm)	-140
FIRMWARE	
Protocol	LoRaWANTM, Class A
Transmission cycles	10mn, 1h, 12h or specified by the network
Data compression	yes (differential coding) or no
Activation method	Activation by Personalization (ABP) Over-The-Air Activation (OTAA)
Data encryption	AES128
INPUTS	
Number of entries	1 input 0-10V for detection probe; to be placed on the floor (format 25x 200 mm to protected by a small plate) supplied with 2m cable and adhesive tape...
OUTPUTS	
Voltage supply gauge	10 or 14 V controllable by switch
POWER SUPPLY	
Voltage	3.6V / 3600mAh - lithium battery removable on stand 9V - 24V / 300mW - external power supply
Autonomy in a range from +10°C to +25°C	10 years: 1 measurement at 10 minutes - 1 transmission per hour
INTERFACE	
Buzzer	Configuration and association on the network
Magnetic switch	Reset, ON/OFF
Dimension (mm)	84x82x85x85
IP Class	IP55
ENVIRONMENTAL	
Operating temperature (°C)	-20 / +50
Storage temperature (°C)	-10 / +30
STANDARDS & REGULATIONS	
EN, 61000-4-2 EN 300-220-1 V2-4-1, EN 301 489 V1-6-1 CE, FCC part 15,247 subpart C, RoHS	

PRODUCT NUMBER

REFERENCE	DESCRIPTION
50-70-144	LoRaWANTM HUMID'O SENSOR delivered with probe on 2 m cable