

# WATTECO Move O LoRaWAN Smart Sensor Owner's Manual



SMART BUILDING



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## Move'O

Move'O detects the presence of people and measures the temperature, humidity and brightness of a room. This data is transmitted via a public or private LoRaWAN radio frequency network® .

⇒ The MOVE'O sensor has 4 sensors: passive infrared (PIR), temperature T°C, humidity Hr%, and luminosity for indoor use.

## APPLICATIONS

- Monitoring the occupancy of a waiting room
- Occupancy rate of meeting rooms
- Heating control according to the occupancy of a zone
- Classification of the BMS in class A within the framework of the CEE scheme

## BENEFITS & FEATURES

- LoRaWAN® , Class A.
- Easy to install and use.
- 5 years of autonomy.

- 4 sensors : Presence, Temperature, Humidity, Brightness

Measuring ranges / accuracies :

- ✓ **Movement:** up to 12m, 102° x 92° detection, 68 zones.
- ✓ **Temperature:** 0°C to +55°C /  $\pm 0.2^{\circ}\text{C}$
- ✓ **Hygrometry:** 0% to 100%rH /  $\pm 2\%$ .
- ✓ **Brightness:** 0.01Lux to 83,000 Lux / 5%.

#### CERTIFICATION

- RoHS, RED

Thanks to its infrared technology (PIR), Move'O detects presence through movement. Presence detection is achieved by the changes in infrared radiation that occur when a person moves with a different temperature than the environment.

In addition, Move'O measures the temperature, humidity and luminosity of a space, ensuring the comfort of the building's occupants.

Move'O responds to questions of energy efficiency. Indeed, this sensor makes it possible to know the activity in a zone, and thus to be able to regulate the heating according to the frequentation of this room.

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



In the standard report, the information transmitted corresponds to the status of the current presence detection.

A delay time (seconds) is used to specify after how long without movement the sensor will decide that the room is unoccupied.

In batch reporting, the periodically transmitted information contains the states of the presence detection and the time stamp of the records.

Installation and commissioning is quick and easy.

- The sensor is equipped with :
- a magnetic switch allowing association to the network and various interventions (e.g. prolonged standby),
  - LEDs to monitor the association on the network and to know the main status of the sensor.

Powered by one 3.6V/2600mAh battery, the sensor has an autonomy of at least 5 years with 1 transmission every 30 minutes in batch mode.

WE HAVE THE RIGHT SENSORS FOR YOUR NEEDS

WATTECO is a leading European designer and manufacturer of intelligent radio frequency sensors and actuators as well as multi-protocol remote data collection solutions. WATTECO is a member of the LoRa Alliance® .




LoRaWAN® Move'O V1.0 modified on 20/06/2024 This document is the property of Watteco. The characteristics presented are given as an indication, they are in no way contractual and are subject to change

TECHNICAL CHARACTERISTICS



RADIOFREQUENCY	
Frequency	EU: 863-870 MHz
Emitted power	+14 dBm
Sensitivity	-140 dBm
FIRMWARE	
Protocol	LoRaWANTM , Class A
Measurement periodicity	10mn to 24h
Transmission interval	30mn to 48h
Data compression	Yes by default; can be disabled.
Activation method	Activation by Personalization (ABP) or Over-The-Air Activation (OTAA)
Data encryption	AES128

MEASURES	Movement	Temperature	Hygrometry	Brightness
Range	Detecting distance: 12 m, 6m, 3m	+0°C to +55°C	0% to 100% HR	0.01 to 83,000 Lux
Accuracy	105° horizontal, 92° vertical	± 0.2°C between [12°C to +25°C] otherwise ± 0.5°C	± 2% between [+12°C to +25°C].	5%
Resolution	—	0,1°C	1%	—

POWER SUPPLY	
Voltage	3.6 V / 2600 mAh lithium battery (can be replaced after removing the cover) Battery voltage level measured and transmitted regularly (configurable interval)
Autonomy in SF12 (in the range of +12°C to +25°C)	5 years with 1 report every 30 minutes
USER INTERFACE	
Magnetic switch + LEDS	Association on the network, sensor status.
ALARMS	
Detection	On detection of movement, temperature and humidity thresholds
Alerts	On battery level below 2.7 Volts;
BOX	
Size / Weight	74x74x35mm / 69 g
ENVIRONMENT	
Operation	+0°C / +55°C ; +0%rH / +95%rH (non-condensing)
Storage	+10°C / +30°C; +0%rH / +60%rH
STANDARDS & REGULATIONS	
RED 2014/53/EU,	  

## PRODUCT NUMBER

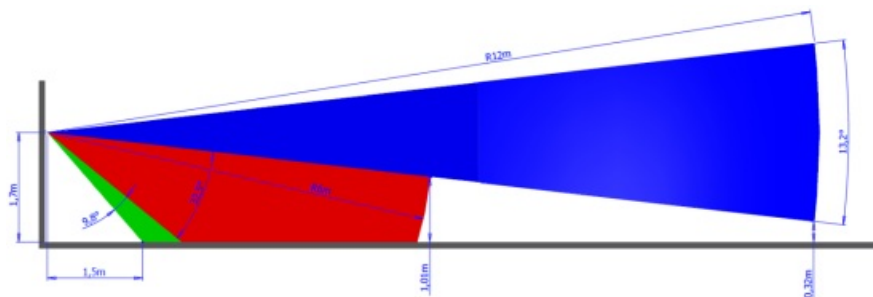
REFERENCE	DESCRIPTION
50-70-225	LoRaWAN™ MOVE'O SENSOR

## MOVEMENT TECHNICAL CHARACTERISTICS

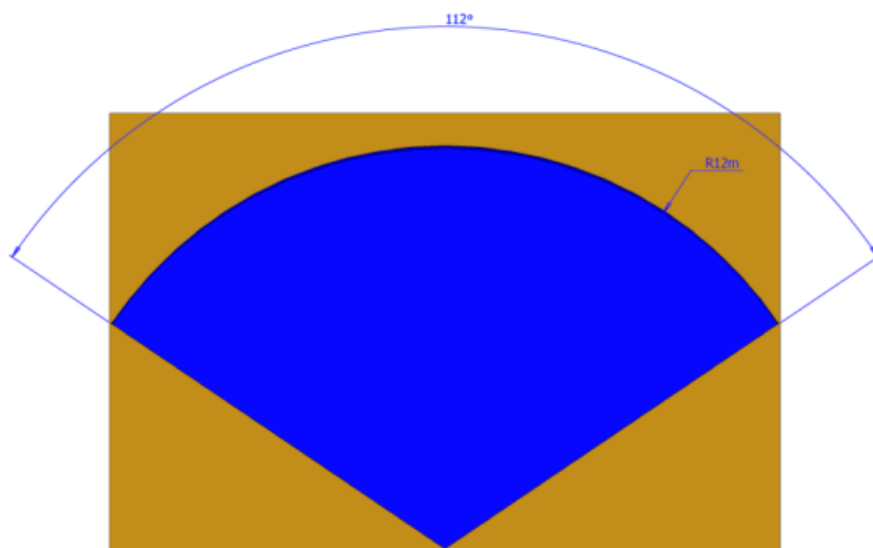
The infrared technology (PIR) in the Move'O detects presence with 3 different zone:

- 1st zone: 12m with a radius of 112° horizontally and 13,2° vertically
- 2nd zone: 6m with a radius of 112° horizontally and 32,5° vertically
- 3rd zone: 3m with a radius of 112° horizontally and 9,8° vertically

Below the detection zone, when the device is placed at 1,7m above the floor:



Side view



Top view

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## Documents / Resources



[WATTECO Move O LoRaWAN Smart Sensor \[pdf\]](#) Owner's Manual

Move O, Move O LoRaWAN Smart Sensor, LoRaWAN Smart Sensor, Smart Sensor, Sensor

## References

- [W Concepteur et fabricant de capteurs transmetteurs radio connectés IoT - WATTECO](#)
- [User Manual](#)