

VENTIL'O



VENTIL'O measures air vacuum pressure in a Continuous Mandatory Ventilation (CMV) system or Air Handling Unit (AHU). Periodically or upon exceeding a configured threshold, VENTIL'O uploads its data via a LoRaWAN® network.

APPLICATIONS

- Supervision of CMV or AHU

BENEFITS & FEATURES

- LoRaWAN®, Class A
- Easy to install and use
- Differential data compression
- Autonomy > 10 years
- Depression measurement
 - Measuring range: 0 / + 500Pa
 - Accuracy: ± 10 Pa from 0 to 200Pa; $\pm 5.5\%$ beyond this range
 - Resolution: 1 Pa
- Room temperature measurement
 - Measuring range: -20°C to $+60^{\circ}\text{C}$
 - Accuracy: $\pm 2^{\circ}\text{C}$ between -10°C and $+60^{\circ}\text{C}$
 - Resolution: 0.1°C
- IP65 tropicalised
- Optional digital input to monitor equipment status

CERTIFICATION

- RED, RoHS



The VENTIL'O device is a battery-powered IoT sensor that allows the monitoring of a Continuous Mandatory Ventilation (CMV) system or Air Handling Unit (AHU) by periodically taking vacuum pressure measurements.

The following data is periodically transmitted over the LoRaWAN® network:

- Average of vacuum pressures measured,
- Minimum and maximum vacuum pressure measured,
- Low battery voltage
- Trigger input (if option used)

In the event of a threshold being exceeded, an alarm is transmitted.

Powered by a battery, the autonomy of the sensor is greater than 10 years for a configuration with a vacuum pressure measurement every 15 minutes and a transmission every 6 hours.

The sensor should be installed away from direct sunlight, rain and temperature variations so as not to affect these measurements.

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

- 2 tubes of 200cm and 2 pipettes for connection to the housing or duct,
- a magnetic switch to activate or deactivate the sensor,
- an NFC identification tag (product code, serial number, batch number).

VENTIL'O+ can be connected to an external equipment using an additional input. With this option, a trigger forces an additional measurement. Typically, it monitors a mechanical vacuum pressure switch.

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 (MHz)	Transmit Power (dBm)	Receiver Sensitivity (dBm)
	EU: 863-870	+14	-140

FIRMWARE

Protocol	LoRaWAN®, Class A.
Activation method	Activation by Personalization (ABP) or Over-The-Air Activation (OTAA)
Data encryption	AES128
Application layer	ZCL (ZigBee Cluster Library) – to be interpreted by the remote server
Measurements & Transmission cycles	Configurable from 10 minutes to 24 hours
Data compression	Yes (differential coding)

MEASUREMENTS

	Vacuum pressure	Temperature
Range	0 ... 500 Pa	-20 ... +60 °C
Accuracy	± 10 Pa from 0 to 200 Pa ± 5.5 Pa from 200 to 500 Pa	± 2°C from -10 to +60 °C
Resolution	1 Pa	0.1 °C

POWER SUPPLY

Voltage	3.6V / 3600mAh – Replaceable lithium battery
Autonomy in a range of +10°C to +25°C	> 10 years: 1 measurement / 15 minutes - 1 transmission / 6 hours

USER INTERFACES

NFC Tag	Product code, serial number, batch number
Buzzer	Configuration and network pairing
Magnetic switch	Reset, ON/OFF

ENCLOSURE

Size (mm)	Fastenings	IP rating	Fire resistance
92 x 92 x 56	Supplied screws and anchors	IP65 tropicalised	UL94-V0HB

ENVIRONMENT

Operating temperature	Storage conditions
-20°C to +50°C	+10°C to +30°C +20%rH to +60%rH

DIRECTIVES & STANDARD

Radio Equipment Directive 2014/53/EU, RoHS	  
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PRODUCT NUMBER

REFERENCE	DESCRIPTION
50-70-101	LoRAWAN® VENTIL'O SENSOR
50-70-064	LoRAWAN® VENTIL'O+ SENSOR - EXTERNAL MECHANICAL VACUUM PRESSURE SWITCH INPUT