

MULTI-MEASUREMENT SENSOR VAQA'O



The VAQA'O sensor measures the temperature, relative humidity, concentration of Volatile Organic Compounds (VOC) and Carbon Dioxide (CO₂) in the ambient air of a room in a building, an apartment or a house. VAQA'O transmits data via a public or private LoRaWANTM radio frequency network.

APPLICATIONS

- Supervision of heating, ventilation and air conditioning installations
- Energy optimization of buildings (residential, tertiary)
- Air quality monitoring in establishments receiving the public (school, gymnasium, etc...)

BENEFITS & FEATURES

- LoRaWANTM, Class A.
- Easy to install and use.
- > 3 years of autonomy.
- Measuring ranges / accuracies (from +12°C to +25°C) :
 - ✓ Temperature: +0°C to +55°C / ± 0.2°C
 - ✓ Hygrometry 0% to 100%rH / ± 2% Hygrometry
 - ✓ CO₂: range 0-5000ppm/ accuracy ± 100ppm
 - ✓ VOC index: 0 to 500 / ± 5

CERTIFICATION

- RoHS, CE



The VAQA'O sensor measures the temperature, hygrometry, CO₂ and VOC concentration inside buildings. Data transmission on the public or private LoRaWANTM network is carried out periodically or in the event of an alert when thresholds are exceeded:

- Min. and max. temperature
- Min. and max. humidity
- CO₂ min. and max.
- VOC min. and max.

If the Sensor is unclipped from its wall mount or moved, an alert is transmitted.

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

- a switch (ILS) allowing association to the network,
- indicators (LEDs) allowing to follow the association on the network and to know the main states of the sensor.

The measurement data are transmitted individually or aggregated and compressed before being transmitted over the LoRaWANTM network.

This transfer technique considerably reduces the amount of data transmitted while preserving the autonomy of the sensor.

Powered by a pack of 3 batteries 3.6V/2600mAh, the autonomy of the sensor is more than 3 years with the default configuration: a measurement reading on all sensors every 10 minutes and 1 transmission every hour, the data being compressed.

NKE WATTECO, YOUR PARTNER IN SMART SENSORS & ACTUATORS

nke Watteco is a leading European designer and manufacturer of intelligent radio frequency sensors and actuators as well as multi-protocol remote sensing and data collection solutions.


nke Watteco is a member of the LoRa[®] Alliance

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TECHNICAL SPECIFICATIONS

RADIO FREQUENCY				
Frequency	EU: 863-870 MHz			
Transmitted power	+14 dBm			
Sensitivity	-140 dBm			
FIRMWARE				
Protocol	LoRaWAN™, Class A			
Measurement interval / Transmission interval	10mn to 24h / 30mn to 48h			
Data compression	Yes by default; can be disabled.			
Method of activation	Activation by Personalization (ABP) ou Over-The-Air Activation (OTAA)			
Data Encryption	AES128			
MEASURES				
	Temperature	Hygrometry	CO2	VOC Index
Range	+0°C to +55°C	0% to 100% HR	0-5000	0 à 500
Accuracy	± 0.2°C between +12°C to +25°C; otherwise ± 0.5°C	± 2% between +12°C and +25°C	± 100ppm	± 5
Resolution	0,1°C	1%	1ppm	1
POWER SUPPLY				
Voltage	Pack of 3 Lithium batteries 3,6V / 2600mAh			
Autonomy (in the range of +12°C to +25°C)	> 3 years with 1 measurement reading on the sensors every 10 minutes and 1 radio transmission every hour, the measurements being compressed.			
USER INTERFACE				
ILS switch + LEDs	Network association, sensor status.			
ALARMS				
Temperature	Min & Max values configurable from 0°C to 50°C in 1°C steps			
Humidity	Min & Max values configurable from 0%rH to 100%rH in steps of 1%rH			
CO2	Min & Max values configurable from 0 ppm to 5000 ppm			
VOC Index	Min & Max values configurable from 1 to 500			
Alert	On unclipping the Sensor / wall mounting or when moving			
CASE				
Dimension / Weight	120x80xep.25mm / 185 grs			
ENVIRONMENT				
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				

PRODUCT NUMBER

REFERENCE	DESCRIPTION
50-70-168	LoRaWAN™ VAQA'O TEMP, HR, CO2, COV SENSOR

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