kerberos

# KET-AIR-200

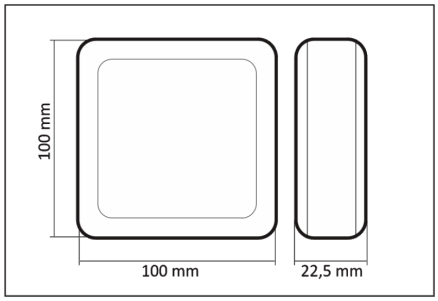
## Applications

Air Quality

## Versius

KET-AIR-210

KET-THL-305




IP40 | X- MONITOR | 2xAA | 5-12 VDC

# Wireless ambient sensor of indirect CO2 and volatile organic compounds

- **Innovative e-ink display always visible**
- **Perfect integration into BMS / BEMS systems**
- **Integrated thermostat function**
- **Internal memory**

Considering that people spend up to **90% of their time indoors**, the presence of **gaseous pollutants**, particularly **Volatile Organic Compounds (VOCs)**, is significantly higher compared to open spaces. In high-density environments such as offices, schools, hospitals, and other **public premises**, especially in modern buildings characterized by **poor air exchange**, there is an increase in the concentration of **carbon dioxide (CO2)** produced by human activity. These negative indoor environmental conditions can significantly impact **people's well-being**, contributing to health problems, **decreased concentration**, and reduced **productivity**. The **KET-AIR-200** device uses an indirect method of measuring **CO2** based on a **MOX technology sensor**, which estimates the amount of carbon dioxide by detecting the hydrogen concentration. Combined with a sensor dedicated to measuring **Volatile Organic Compounds (VOCs)**, the KET-AIR-200 allows for the implementation of effective measures to increase and improve **ventilation efficiency** and **air purification**, creating healthier and more comfortable indoor environments. The **KET-AIR-200** also integrates high-precision sensors for measuring **Temperature**, **Relative Humidity**, and **Ambient Light**, providing comprehensive environmental monitoring. Thanks to the high sensitivity of its amplified radio module, the device reaches distances of over **600 meters in open air**, ensuring a reliable connection with other products in the **X-Monitor** network, leveraging the benefits of **IEEE 802.15.4 wireless technology** for efficient and flexible communication. The **KET-AIR-200.DY version** is equipped with a **zero-power e-ink display** that provides users with detailed information on the level of **thermal comfort** present in the environment, ensuring **optimal and continuous reading** of the detected parameters with **minimal energy consumption**. The **KET-AIR-200.TS version** allows the user to **set the desired comfort level**, further personalizing the indoor environment. Designed for easy integration into building management and energy management systems (**BMS / BEMS**), the device offers a **simple and remotely manageable user interface**, facilitating the monitoring and control of air quality and environmental parameters. Designed for professional use, it supports **remote or local firmware updates** during maintenance operations. For applications in public environments, it includes **keypad lock** and **limitation of active functions**, ensuring safe and controlled use.

## Technical Features

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|---|---|
| General specifications | **Protection Range**: IP40<br>**Operative Temperature**: -10 ÷ +60 °C<br>**Storage Temperature**: -15 ÷ +60 °C<br>**Relative Humidity**: MAX 80% not condensing |
| Case | **Dimensions**: 100 x 100 x 22.5 mm (W x H x D)<br>**Mounting**: Panel mounting with supplied supports<br>**Material**: ABS, self extinguishing: UL 94 V-O |
| Power supply | **Supply Voltage**: 12 VDC or via USB<br>**Consumption**:<br>**Connectors types**: Removable spring clamps |
| Datalogger function | **Memory Type**: Internal Flash (only for .DL version)<br>**Data Storage Capacity**: Retention of more than 60,000 data with date and hour even if there is no connection |
| Digital inputs | **Channels**: 1 for dry contact with detection time at contact variation of about 50ms. (optional)<br>**Digital Inputs**: |
| Radio module | **Supported Protocols**: X-Monitor Protocol (X-MP) / IEEE 802.15.4<br>**Radio Frequency**: 2.4 GHz ISM Band<br>**Output Power**: +3 ÷ +20 dBm<br>**Sensitivity**: -101 dBm<br>**Antenna Type**: 1 internal<br>**Max Distance (Free Air)**: Over 600 m |
| Functionality | **Radio Signal Indicator**: Integrated (LinkQuality)<br>**Output Power Adjustment**: From local keyboard and remotely<br>**Firmware Upgrade**: Over The Air and via USB C connector<br>**User menu**: Thermostat function with temperature summer / winter mode, comfort / saving / off mode, air speed setting, (only .TS version)<br>**Support for public environment**: Anti-removal support, keyboard lock and active function limitation |
| Temperature sensor | **Sensor Type**: Digital<br>**Measure Range**: -40 ÷ +123.8 °C<br>**Precision**: ±0.4 ÷ 25 °C<br>**Repeatability**: ±0.1 °C<br>**Resolution**: ±0.01 °C |
| Humidity sensor | **Version**:<br>**Measure Range**: 0 ÷ 100%RH<br>**Precision**: ±3%RH from 20 to 80%RH<br>**Repeatability**: ±0.1%RH<br>**Resolution**: ±0.03%RH<br>**Hysteresis**: ±1%RH<br>**Long Period Stability**: <0.5%RH/year |
| Light sensor | **Number of sensors**: 2, on front and on top<br>**Measure Range**: 10 ÷ 1000 Lux<br>**Response Curve**: Similar to that of the human eye |