



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.



APPLICATIONS
Air Quality
Building management system

VERSIONS
KET-AIR-210
KET-THL-305
KET-TLP-105



TECHNICAL FEATURES	
GENERAL SPECIFICATIONS	Protection Range: IP40 Operative Temperature: -10 ÷ +60 °C Storage Temperature: -15 ÷ +60 °C Relative Humidity: MAX 80% not condensing
CASE	Dimensions: 100 x 100 x 22.5 mm (W x H x D) Mounting: Panel mounting with supplied supports Material: ABS, self extinguishing: UL 94 V-0
POWER SUPPLY	Supply Voltage: 12 VDC or via USB Consumption: Connectors types: Removable spring clamps
DATALOGGER FUNCTION	Memory Type: Internal Flash (only for .DL version) 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) Digital Inputs:
RADIO MODULE	Supported Protocols: X-Monitor Protocol (X-MP) / IEEE 802.15.4 Radio Frequency: 2.4 GHz ISM Band Output Power: +3 ÷ +20 dBm Sensitivity: -101 dBm Antenna Type: 1 internal Max Distance (Free Air): Over 600 m
FUNCTIONALITY	Radio Signal Indicator: Integrated (LinkQuality) Output Power Adjustment: From local keyboard and remotely Firmware Upgrade: Over The Air and via USB C connector User menu: Thermostat function with temperature summer / winter mode, comfort / saving / off mode, air speed setting, (only .TS version) Support for public environment: Anti-removal support, keyboard lock and active function limitation
TEMPERATURE SENSOR	Sensor Type: Digital Measure Range: -40 ÷ +123.8 °C Precision: ±0.4 ÷ 25 °C Repeatability: ±0.1 °C Resolution: ±0.01 °C
HUMIDITY SENSOR	Version: Measure Range: 0 ÷ 100%RH Precision: ±3%RH from 20 to 80%RH Repeatability: ±0.1%RH Resolution: ±0.03%RH Hysteresis: ±1%RH Long Period Stability: <0.5%RH/year
LIGHT SENSOR	Number of sensors: 2, on front and on top Measure Range: 10 ÷ 1000 Lux Response Curve: Similar to that of the human eye
VOLATILE ORGANICS COMPOUNDS SENSOR	Measure Range: 0 ÷ 60000 ppb Accuracy: ±15% ppb Resolution: ±0.2% ppb
CO2 SENSOR	Principle of Operation: Indirect Measure Range: 400 ÷ 60000 ppm Accuracy: ±10% ppm Nominal Pressure: Resolution: ±0.2% ppm
DISPLAY	Display Type: zero consumption e-ink (only .DY and .TS versions) Resolution: 122 x 250 pixel Brightness: Contrast Ratio: High contrast, high reflectance Viewing Angle: 160° Video Compression: Transmission Rate:

