



## Wireless ambient sensor of indirect CO<sub>2</sub> and volatile organic compounds

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

### KET-AIR-200

#### Applications

Building management system

#### Versius

KET-AIR-210

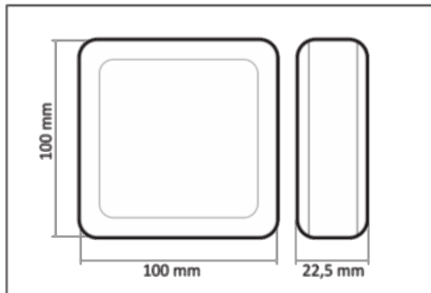
KET-THL-305

KET-TLP-105

#### Accessories

KET-PSA-230.012.005.C

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 (CO<sub>2</sub>)** 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 **CO<sub>2</sub>** 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



#### Technical Features

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

#### Technical Features

Humidity sensor	<b>Measure Range:</b> 0 ÷ 100%RH <b>Precision:</b> ±3%RH from 20 to 80%RH <b>Repeatability:</b> ±0.1%RH <b>Resolution:</b> ±0.03%RH <b>Hysteresis:</b> ±1%RH <b>Long Period Stability:</b> <0.5%RH/year
Light sensor	<b>Number of sensors:</b> 2, on front and on top <b>Measure Range:</b> 10 ÷ 1000 Lux <b>Response Curve:</b> Similar to that of the human eye
Volatile organics compounds sensor	<b>Measure Range:</b> 0 ÷ 60000 ppb <b>Accuracy:</b> ±15% ppb <b>Resolution:</b> ±0.2% ppb
Co2 sensor	<b>Principle of Operation:</b> Indirect <b>Measure Range:</b> 400 ÷ 60000 ppm <b>Accuracy:</b> ±10% ppm <b>Resolution:</b> ±0.2% ppm
Display	<b>Display Type:</b> zero consumption e-ink (only .DY and .TS versions) <b>Resolution:</b> 122 x 250 pixel <b>Contrast Ratio:</b> High contrast, high reflectance <b>Viewing Angle:</b> 160°