

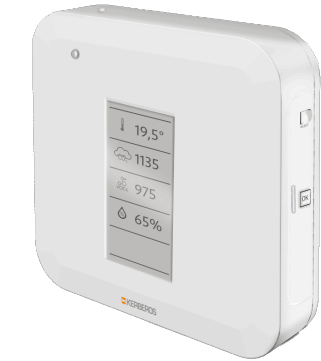
# KET-AIR-210



## ModBUS sensor for indirect CO2 and air quality measurement

- 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-210** 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-210 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-210** also integrates high-precision sensors for measuring **Temperature**, **Relative Humidity**, and **Ambient Light**, and is equipped with an **RS485 ModBUS RTU Slave** interface, facilitating integration with control and data acquisition systems. The **KET-AIR-210.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-210.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 user interface**, facilitating the monitoring and control of air quality and environmental parameters. Suitable for use 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-200 |
| KET-TLP-110 |



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| TECHNICAL FEATURES                 |   |
|------------------------------------|---|
| GENERAL SPECIFICATIONS             | <b>Protection Range:</b> IP40<br><b>Operative Temperature:</b> -10 ÷ +60 °C<br><b>Storage Temperature:</b> -15 ÷ +60 °C<br><b>Relative Humidity:</b> MAX 80% not condensing   |
| CASE                               | <b>Dimensions:</b> 100 x 100 x 22.5 mm (W x H x D)<br><b>Mounting:</b> Panel mounting with supplied supports<br><b>Material:</b> ABS, self extinguishing: UL 94 V-O   |
| POWER SUPPLY                       | <b>Supply Voltage:</b> 5 ÷ 12 VDC<br><b>Consumption:</b><br><b>Connectors types:</b> Removable spring clamps  |
| DATALOGGER FUNCTION                | <b>Memory Type:</b> Internal Flash (only for .DL version)<br><b>Data Storage Capacity:</b> Retention of more than 60,000 data with date and hour even if there is no connection   |
| RS485 INTERFACE                    | <b>Channels:</b><br><b>Supported Protocols:</b> ModBUS RTU Slave<br><b>Communication Rate:</b> 9.6, 19.2, 38.4 o 57.6 Kpbs<br><b>Isolation:</b><br><b>Connectors types:</b> Removable spring clamps   |
| FUNCTIONALITY                      | <b>Radio Signal Indicator:</b><br><b>Output Power Adjustment:</b><br><b>Firmware Upgrade:</b><br><b>User menu:</b> Thermostat function with temperature summer / winter mode, comfort / saving / off mode, air speed setting, (only .TS version)<br><b>Support for public environment:</b> Anti-removal support, keyboard lock and active function limitation |
| TEMPERATURE SENSOR                 | <b>Sensor Type:</b> Digital<br><b>Measure Range:</b> -40 ÷ +123.8 °C<br><b>Precision:</b> ±0.4 ÷ 25 °C<br><b>Repeatability:</b> ±0.1 °C<br><b>Resolution:</b> ±0.01 °C  |
| HUMIDITY SENSOR                    | <b>Version:</b><br><b>Measure Range:</b> 0 ÷ 100%RH<br><b>Precision:</b> ±3%RH from 20 to 80%RH<br><b>Repeatability:</b> ±0.1%RH<br><b>Resolution:</b> ±0.03%RH<br><b>Hysteresis:</b> ±1%RH<br><b>Long Period Stability:</b> <0.5%RH/year   |
| LIGHT SENSOR                       | <b>Number of sensors:</b> 2, on front and on top<br><b>Measure Range:</b> 10 ÷ 1000 Lux<br><b>Response Curve:</b> Similar to that of the human eye  |
| VOLATILE ORGANICS COMPOUNDS SENSOR | <b>Measure Range:</b> 0 ÷ 60000 ppb<br><b>Accuracy:</b> ±15% ppb<br><b>Resolution:</b> ±0.2% ppb  |
| CO2 SENSOR                         | <b>Principle of Operation:</b> Indirect<br><b>Measure Range:</b> 400 ÷ 60000 ppm<br><b>Accuracy:</b> ±10% ppm<br><b>Nominal Pressure:</b><br><b>Resolution:</b> ±0.2% ppm   |

