# BUS temperature, humidity and $CO_2$ sensor with thermostat function

Code: JB-112TH

A display-free alternative to the enhanced thermostat with $CO_2$ measurement, functionally identical. Ideal for places where a local user interface is not needed, such as guest houses, offices or technical rooms.

## Product description:

### Main specifications

82 x 82 x 11/22 mm

From the system bus

5.5 mA nominal consumption

22 mA peak consumption

JA-103K, JA-107K

White or Black / anthracite

For surface mounting, a backplate must be ordered separately.

## Low costs, easy and worry-free

The unique combination of thermostat and alarm functions offers several advantages, making it easy to achieve savings in both purchase and operating costs.

The sensor uses a secure and reliable alarm infrastructure for its internal and external communication. This allows remote access to control and settings from MyJABLOTRON 2, even without costly additional control units or separate cabling, even in the event of a local Internet outage or insufficient Wi-Fi signal coverage.

The thermostat's response to system events offers automatic temperature reduction when leaving the building, opening a window, and other situations where full heating is not necessary. Without user intervention, the thermostat automatically saves operating costs whenever possible.

**Installation and setup of thermostats**

## Shop, restaurant or hotel? No problem without a local user interface

The sensor only indicates locally whether it is heating/cooling or in standby mode. It does not display the temperature or allow it to be adjusted. This makes it ideal for public spaces where unauthorised access to temperature controls is undesirable.

All controls and settings are clearly and conveniently available from MyJABLOTRON 2. From the temperature schedule to humidity control, only authorised personnel have full control over the

environment in the building, from anywhere.

## One sensor, up to three controlled appliances

Thanks to seasonal heating and cooling modes as well as a parallel ventilation mode, the thermostat function can independently control up to 3 different PG outputs of the system. You can link it not only with underfloor heating, a heated towel rail or radiators, but also with air conditioning or extraction.

The thermostat monitors the $CO_2$ level and adjusts the ventilation function accordingly. $CO_2$ measurement also has an additional informational and safety function. The current value is shown on the display, and the history in the MyJABLOTRON 2 app in a clear graph. At a high concentration the system can send a notification or trigger an alarm.

At the same time, the sensor does not require a direct wired connection to the appliances. Control commands are sent to the system digitally and the actual switching of the appliance is handled by any output module. The range includes products designed for connection to a heating system as well as universal relays, offering endless application possibilities.

**Read more about construction preparation and connecting JABLOTRON 100+ to the heating system**

## The temperature adapts perfectly to the daily routine of the building

The programme mode, controlled according to an individual time schedule, is designed for normal operation. During this mode, the thermostat switches between a comfortable temperature, for example during working hours, and an economical temperature when no one is in the building.

Outside the standard heating schedule, the temperature can be adjusted manually at any time according to current needs. The thermostat resynchronises itself with the programme at the next scheduled temperature change.

If you leave the building, the thermostat automatically shortens the comfort period to save costs. Before your return, regardless of the security status, it will start heating again according to the plan to a comfortable temperature so that your return to the building is completely comfortable. Conversely, an open window or other set condition blocks heating for its entire duration. Even during a continuous block, however, the thermostat function checks to ensure that the space does not cool below the minimum temperature set for the off mode.

## Convenient installation on a box or bare wall

When mounted on an installation box, the sensor can be partially recessed (11 mm) to blend in even better with the interior. If the required installation setup is missing, the PLV-JB11xTx surface-mounting backplate can be purchased separately.

A screwless terminal block facilitates the connection of bus cabling or the optional JB-TS-NTC10K floor sensor.

## Additional safety and comfort features

- Limiting the floor temperature based on floor sensor measurements.

- Fault or alarm notification and report to the control centre when high or low emergency temperatures are reached
- Manual mode for continuous maintenance of a static temperature.
- Off mode with automatic maintenance of a safe temperature.
- User notifications in MyJABLOTRON 2 when the temperature exceeds or falls below the set temperature.
- Temperature and humidity history graphs in MyJABLOTRON 2.
- Bulk control commands and saving settings to all thermostats in MyJABLOTRON 2.

## What to pay attention to when designing the system

Access to the advanced thermostat settings in MyJABLOTRON 2 requires an administrator code due to the nature of the system configuration changes involved.

As a non-alarm element, the sensor is not equipped with a tamper sensor. For installations requiring security grade 2 compliance according to EN 50131, the thermostats must be connected to a dedicated bus output of the control panel or behind a JA-110T bus separator to protect the bus.

When choosing the location of the sensor, avoid places where the measurement of the room temperature may be affected by external influences, such as draughts or the sensor being heated by the sun.

The bus version of the product is supplied with a backplate for partially recessed mounting in an installation box. The PLV-JB11xTx surface-mounting backplate for bus thermostats is sold separately. In contrast, the wireless version is supplied with a surface-mounting backplate as standard, as the battery compartment does not allow for recessed installation.

The number of thermostats and sensors in the system is limited only by the number of unoccupied positions for peripherals. However, the number of PG outputs for switching appliances that can be controlled wirelessly is limited by the wireless range of PG 1 to 32.

One PG output can only be controlled by one thermostat/sensor. If you install multiple thermostats/sensors that jointly control one heat source (e.g. a boiler), a separate PG output must be created for the boiler, which will use OR logic to copy all PGs controlled by individual thermostats.

When using floor cooling with reverse heat pump operation, the entire floor system must be protected against condensation. Consult the heating system supplier about the purpose of this application; protection against condensation must be provided on the heat pump side.

## JABLOTRON Thermostat Portfolio

## Where to next?

Are you a JABLOTRON installation partner? Don’t hesitate to order the new thermostats from your chosen distributor. Would you like to add thermostats to your portfolio, but aren't a partner yet? Just sign up for training.

**Order sensor** **I want to become a partner**

## Technical information:

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| **Temperature measuring range with external sensor** | -40 to +125 °C (± 0.2 °C) |
| **Operating temperature range** | -10 to +40 °C |

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|---|---|
| **Humidity measurement range** | 0 to 100 % RH (±1.8) |
| **$CO_2$ measurement range** | 400–5,000 ppm |
| **$CO_2$ measurement accuracy** | 400–1,000 ppm: ±50.0 ppm ±2.5 % m.v.<br>1,001–2,000 ppm: ±50.0 ppm ±3.0 %w.b.<br>2,001–5,000 ppm: ±40.0 ppm ±5.0 %w.b. |
| **$CO_2$ measurement resolution** | 1 ppm |
| ***Temperature controller class** | I. (according to Regulation (EU) No. 813/2013) |
| ***Contribution of regulators to seasonal efficiency** | $\eta_S$ = 1 % (according to Regulation (EU) No 813/2013)<br>*for both parameters in configuration with control unit |
| **Power** | from the JA-100+ control panel bus 12 V DC (8–15 V)<br>from the Futura unit bus 24 V DC (18–30 V) |
| **Quiescent current consumption** | 5.2 mA |
| **Maximum current consumption** | 22 mA |
| **IP resistance** | IP 31 |
| **Dimensions** | 82 x 82 x 22 mm |
| **Weight** | 82.9 g |
| **Operating humidity** | 75 % RH (non-condensation) |
| **Environment** | Indoor general |
| **Also complies with** | EN 50130-4, EN 55032, EN IEC 63000 |
| **Recommended screws** | 2x ø 3.5 mm (half-round head) |