

# SOLID AIR ROOM SENSORS, -CONTROL UNITS AND -CONTROLLERS

Solid Air supplies a complete range of room sensors, control units and controllers suitable for CO<sub>2</sub> and/or temperature control. For the technical documentation and selection tables, please refer to our [technical documentation](#).

The Belimo program consists of room sensors/control units type 22RTM. In addition to these room control units that are all equipped with a CO<sub>2</sub> sensor, we also have the well-known CR24 room temperature sensors/controllers available.

The ATAL program consists of room sensors/controllers type VLC and VLX. The units are available with or without display.

All units are suitable for analogous (0-10 Volts) feedback of measured values to the GBS. The communicative versions can be integrated into a bus communicative system where all data about the bus is transmitted.

The Belimo room sensors/control units can be configured for the desired use via an NFC chip and the Belimo Assistant App.

The ATAL units are equipped with push buttons and jumpers to achieve the desired configuration.

## The Belimo program

Belimo room sensors/control units type 22RTM are intended to transmit measured values (such as temperature, CO<sub>2</sub> and relative humidity) to the GBS. The version with 'E-paper like' display or virtual display can be configured/operated via the NFC chip and Belimo Assistant App \*1 or Virtual Display App \*2. A completely blind version is also available.

The integrated room control functions in versions with 'E-paper like' display or 'virtual display' allow you to specify desired values and pass them on to the GBS. For example, it is possible to pass on the desired temperature to the GBS, or the desired ventilation level. The room unit does not regulate itself to this value but communicates it to the GBS. The GBS executes the rule functions. The bus communicative version can be used to send all available measurement data and desired values over the bus to the GBS.

For new construction projects with GBS and possibly also a bus architecture, this is the most obvious version.

## 'Stand alone' application

The Belimo room sensor/control unit can also be used as a 'stand alone' unit. It is possible to limit the linear output for the CO<sub>2</sub> measurement via the Belimo Assistant App \*1 between a lower and upper value (e.g. between 600 and 1200 PPM).

The analog output will then output 0 Volts at 600 PPM and 10 Volts at 1200 PPM. In this way, a simplified CO<sub>2</sub> control can be realized, see Figure 1 below.

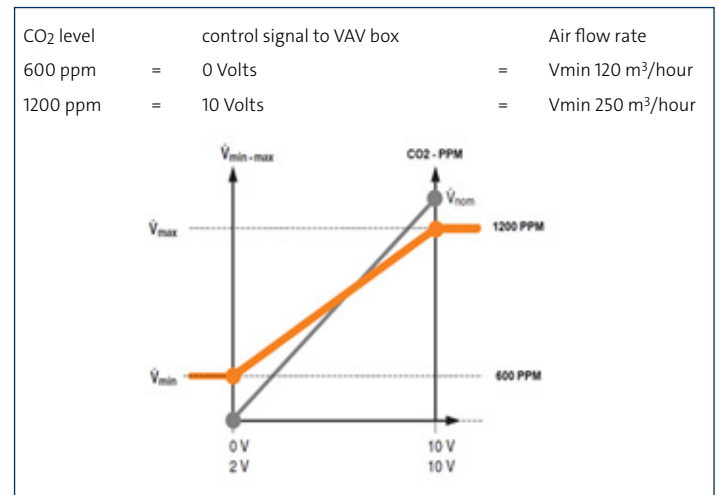


Figure 1: Analog output between lower and upper PPM value.

## Combined output CO<sub>2</sub> and ventilation

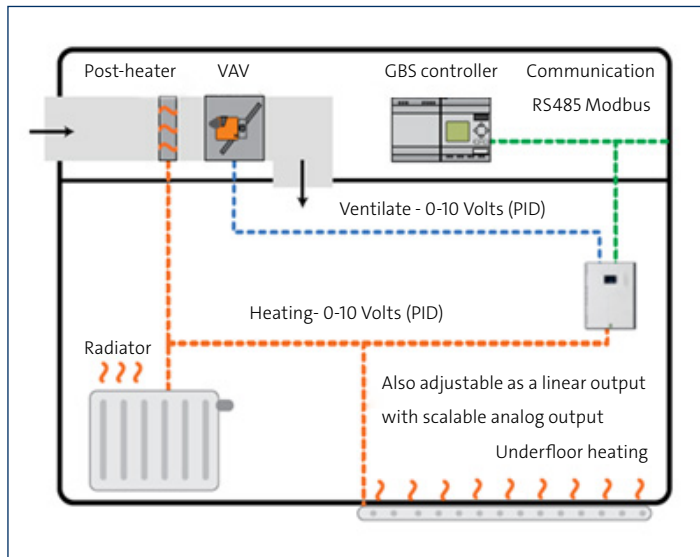
Via the Belimo Assistant App \*1, you can also choose a combined output of CO<sub>2</sub> and five ventilation levels for control of a VAV unit on CO<sub>2</sub> and 5 stage ventilation function.

The highest value of the respective analog signal is transmitted (in this case directly to the VAV).

For more information about the Belimo room sensors/control units click on the [brochure Belimo room sensors/control units](#).

## The Atal program

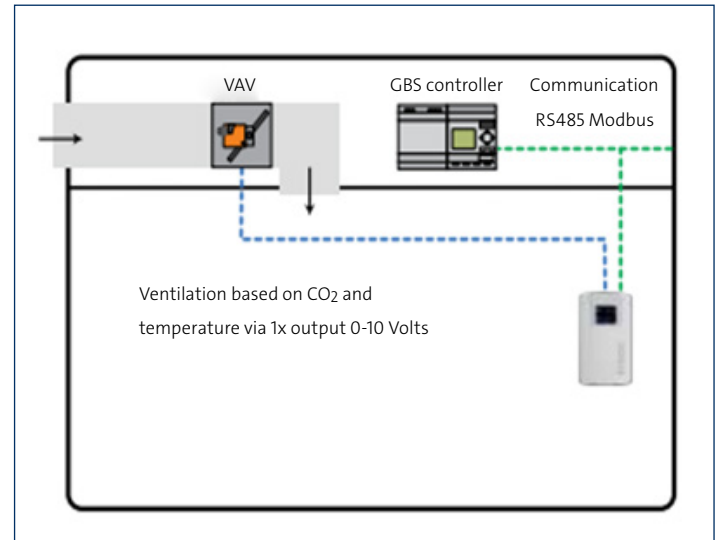
The Atal sensor/controllers type VLC and VLX are intended to transmit measured values (such as temperature, CO<sub>2</sub> and relative humidity) to the GBS, but also have a built-in PID controller. These units can be used completely 'stand alone'. With the VLC series it is possible to make a 'stand alone' control for airside control of a VAV on CO<sub>2</sub> and separate water-side control of after-heater on temperature, see figure 2 below.



**Figure 2:** Control of air valve and separate heat exchanger.

## Combined output CO<sub>2</sub> and temperature

The VLX series also features a combined output where the highest value of CO<sub>2</sub> or temperature is transmitted to the VAV unit, see figure 3 below.

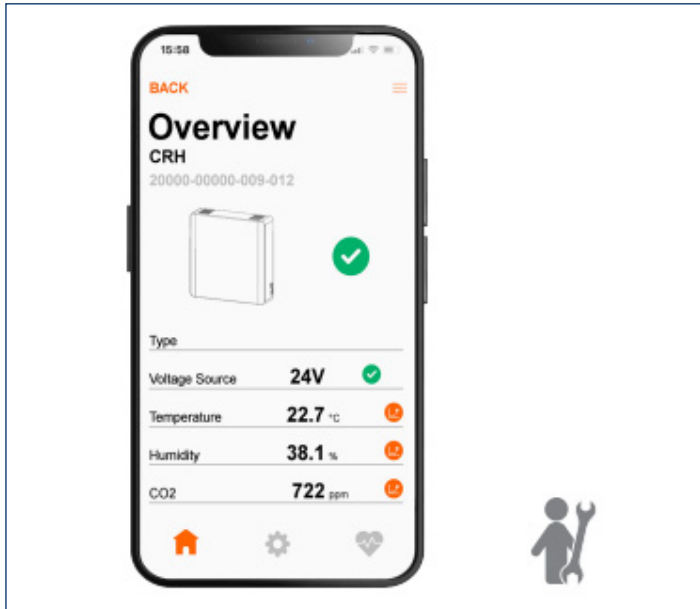


**Figure 3:** VAV control based on CO<sub>2</sub> and temperature (1 output). Both the CO<sub>2</sub> and the temperature PID control function can be set separately. The highest value of the CO<sub>2</sub> or temperature controller is leading for the control of the VAV valve. Summer/winter temperature control switching (air heating/cooling) via a Modbus command required.

When installing the unit, the mode of the analog outputs must be set as linear or as PID. If the unit is used as a sensor, you can set the analog output to linear. The measured values are then transmitted to the GBS as a 0-10 Volts analog signal. If you want to use the unit as a 'stand alone' controller, you need to set the mode to PID. In this case, the output on the analog output is determined by the PID controller. Specifying a CO<sub>2</sub> or temperature setpoint is then required and the controller will regulate to the specified value.

### \*1 Belimo Assistant App:

Belimo app for configuring/reading Belimo products that have an NFC chip.



#### App for the installer

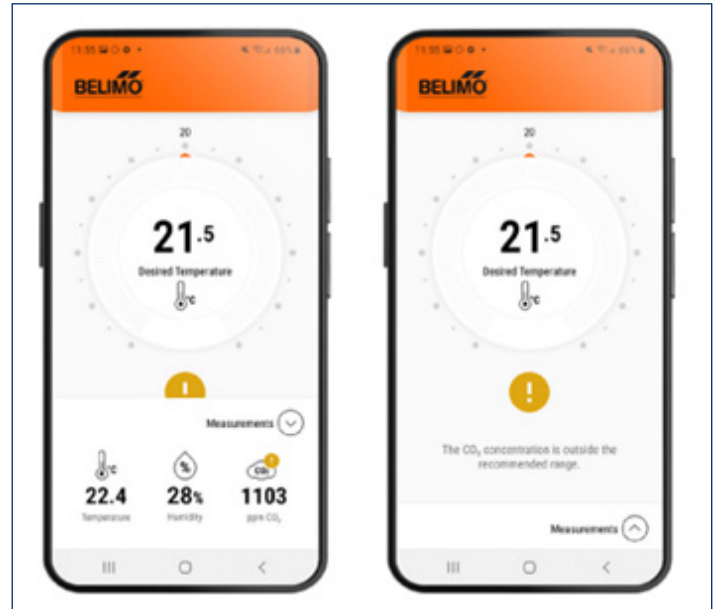
With the Belimo Assistant App, active room sensors can be easily commissioned and diagnosed with a smartphone.

Accessories if NFC does not work directly via the phone: ZIP-BT-NFC Bluetooth to NFC converter.



### \*2 Belimo Display App:

Innovative end-user app for displaying current room values and adjusting setpoints.



Current indoor air quality (CO<sub>2</sub> content) is displayed in an easy-to-understand way.

For NFC-enabled Android and iOS smartphones. Compatible devices: 22RT... and P-22RT. For more information [click on the brochure for the Belimo Display App](#).