

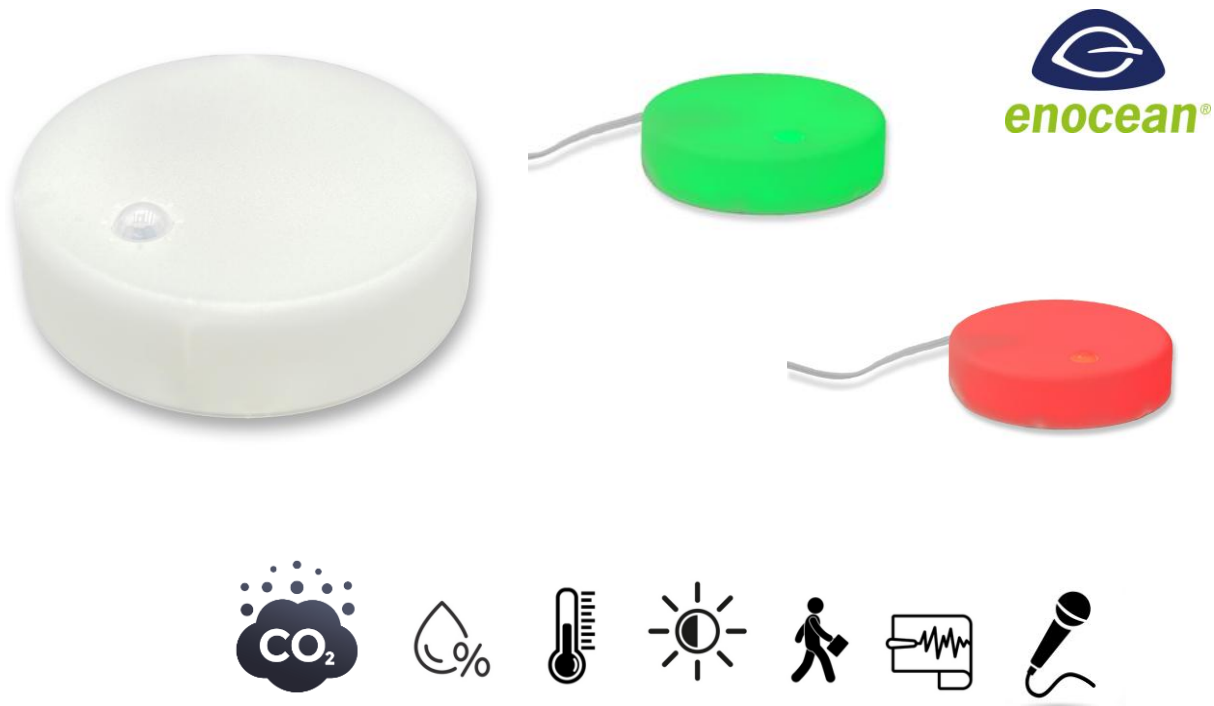
AL-602-02-868 EnoPuck CO2 NOISE / CE

CO₂ "traffic light" / sound pressure level / multi-sensor, RGB LED, EnOcean, +12 V DC

Item no. 12330

Interfaces:

Sensors for CO₂, sound pressure level, temperature, rel. humidity, acceleration / vibration, motion / PIR, 1x EnOcean bidirectional (internal antenna), supply: +12 V DC, 100 mm x 28 mm



The CO₂ traffic light type **AL-602-02-868 EnoPuck® CO2 NOISE / CE** can be used both as a stand-alone solution and in conjunction with building automation as a multi-sensor and LED light indicator.

In addition to the functions of the EnoPuck® CO₂, it also measures the sound pressure level in dBSPL.

The device measures the CO₂ value and displays it as a traffic light (green / yellow / red); the limit values, colors and brightness of the LEDs can be configured at any time via the BL-PC-FLEX-2 software (factory default limit values = yellow from 1000 / red from 2000 ppm, others on request).

The technical data of the sensors are as follows:

- CO₂: 0 - 2,550 ppm

In addition to use as a pure CO₂ traffic light, further sensors are integrated:

- Sound pressure level 35.0 - 80.3 dB SPL
- Temperature: 0 - 50 °C
- Humidity: 0 - 95%
- PIR sensor: 100 degree opening angle, range 3 to 5 meters
- Vibration: sensitivity 0.061 g
- Brightness: 0 - 64,000 lux

All measured values are transmitted via EnOcean. The EnoPuck CO₂ NOISE is configured wirelessly using the BL-PC-FLEX-2 software. The only connection of the EnoPuck CO₂ NOISE is the +12 V DC power supply.

Technical data

: interfaces

Type	EnOcean
Quantity	1
Transmit/receive center frequency	868.3 MHz / ASK
Frequency range used	868.0 – 868.6 MHz
Maximum transmit power	Typ. 6 dBm @ 868.300 MHz
Receiver category according to EN	2

Sensors: rel. humidity

Measuring range	0 - 95 %
Accuracy	± 2 %
Repeatability	0,1 %
Response time	Typ. 8 s

Sensors: temperature

Measuring range	- 40 – 120 °C
Accuracy	± 0.5 °C
Repeatability	0.1 °C
Response time	Typ. 2 s

Sensors: CO₂

Measuring range	0 - 2,550 ppm
Accuracy	± 30 ppm abs., ± 3 % of reading (@ 25 °C, range 400 - 10,000 ppm)
Repeatability	10 ppm
Temperature stab.	2.5 ppm / °C
Response time	Typ. 25 s

Sensors: accelerometer

Measuring range	± 8 g
Sensitivity	0.061 mg

Sensors: motion / PIR

Detection angle	Radial, 100 degrees
Detection range	3 - 5 m

Sensors: brightness

Measuring range	0 - 64,000 lux
Accuracy	± 10 %

Sensors: sound pressure level

Measuring range	35.0 - 80.3 dBSPL
Accuracy	± 10 %

User interfaces

Service button	Yes
Service LED	-
Buzzer	Yes

Housing / connection technology

Connection technology	Round socket for connecting the power supply unit (low-voltage barrel connector)
Housing	Plastic, PC, translucent, white

Power supply

Supply voltage	12 V DC
Power consumption	Typ. 1.5 W, max. 5 W

Environmental conditions

Operating temperature	0..50 °C
Storage temperature	-20..+70 °C
Humidity	0..99% relative humidity, non-condensing
Protection class	IP20

Dimensions and weight

Weight	150 g
Dimensions	Diameter: 100 mm, height: 28 mm

Tests / approvals

CE	RED Directive 2014/53/EU
	RoHS 3 Directive, 2011/65/EU + Annex 2015/863/EU

Supported EEPs (EnOcean Equipment Profiles)**Transmit / TX**

No.	EEP	Description	Tx-ID
1	A5-09-04	CO2 sensor (humidity, CO2, temperature)	Base-ID + 100 (dec.)
2	A5-07-01	Occupancy sensor with supply voltage monitor (PIR, Vibration)	+ 101 (dec.)
3	A5-08-01	Brightness	+ 102 (dec.)
4	D2-14-52	Sound pressure level (+temp., brightness, presence)	+ 103 (dec.)

Note:

The EnoPuck CO2 NOISE transmits with the EnOcean Base-ID + 100 / EEP A5-09-04, with the Base-ID + 101 / EEP A5-07-01 and with the Base-ID +102 / A5-08-01. It is therefore not necessary to configure or select the EEP.

Receive / RX

No.	EEP	Description
1	F6-02-01	Light and Blind Control - Application Style 1
2	F6-02-02	Light and Blind Control - Application Style 2
3	F6-02-03	Light Control - Application Style 1
4	A5-07-01	Occupancy with Supply voltage monitor
5	A5-07-02	Occupancy with Supply voltage monitor
6	A5-07-03	Occupancy with supply voltage monitor and 10-bit illumination measurement
7	A5-06-01	Brightness sensor, range 300lx to 60,000lx
8	A5-09-04	CO2 sensor (humidity, CO2, temperature)

Device description**Power supply**

The EnoPuck CO2 NOISE is supplied with a voltage of 12 V DC via the included plug-in power supply. The power consumption is typically 1.5 W.

EnOcean

The integrated EnOcean transceiver enables bidirectional communication with sensors, a higher-level controller, the BL-PC-FLEX-2 configuration software and the EnOcean USB stick.

LED, RGB

Illumination is provided by RGB LEDs that shine into the housing from below.

How the EnoPuck CO2 NOISE works

Measurement of the CO2 concentration and color display (RGB)

The EnoPuck CO2 NOISE continuously measures the CO2 concentration of the ambient air and switches the LEDs to green, yellow or red (or any user-configured color value) when the configured limit values are exceeded.

The transmission interval of the CO2 measured value (like that of every other measured value) via EnOcean can be configured using BL-PC-FLEX-2.

Recalibration of the CO2 measured value

If the EnoPuck CO2 NOISE has been exposed to mechanical stress such as impacts, strong vibration or a fall, the CO2 measurement may no longer be correct. In this case, a manual calibration of the CO2 sensor in the EnoPuck CO2 is required.

Please proceed as follows:

1. Find a suitable location where the EnoPuck CO2 can measure outside air (no drafts). Make sure that the device is never exposed to moisture or rain.
2. Power the EnoPuck CO2 via the plug-in power supply. Do not disconnect the power supply until the end of the process.
3. Press and hold the service button for at least 8 seconds:

- After 2 seconds, the EnoPuck CO2 flashes red. This signals that the calibration will be carried out if you press the button again. If you release it now, the process is canceled.

- After 6 seconds, the EnoPuck CO2 starts to flash blue. The calibration process takes 10 minutes. You can now release the button.
- 4. Wait until the process is complete. The purpose of the waiting time is to establish the same CO2 concentration inside the EnoPuck CO2 as in the outside air. At the end of this time, the value then measured is used as the reference value of 400 ppm. This is the typical CO2 concentration in outside air.
- 5. As soon as the calibration has been completed successfully, the EnoPuck CO2 NOISE lights up green continuously.
- 6. Disconnect the EnoPuck CO2 NOISE from the plug-in power supply. After the restart, the EnoPuck CO2 NOISE is ready for operation again.
- 7. In the event of an error, it lights up red continuously. In this case, please disconnect the EnoPuck CO2 NOISE from the power supply and repeat the calibration process.

Measurement of rel. humidity and temperature

The EnoPuck CO2 NOISE continuously measures rel. humidity and temperature. The measured values are transmitted together with the CO2 value.

Detection of motion and vibration

The EnoPuck CO2 NOISE uses an integrated acceleration sensor and a PIR sensor integrated in the top to continuously monitor its surroundings for motion or vibration, e.g. of the tabletop at the installation site. As soon as one of the two events (vibration and / or PIR detection) occurs, a "motion detected" message is sent immediately.

Measurement of the ambient brightness

The EnoPuck CO2 NOISE continuously measures the ambient brightness. Brightness measurement is made possible by the EnoPuck CO2 NOISE automatically switching the LEDs off and briefly back on when the measured value is to be transmitted.

Measurement of the sound pressure level

The EnoPuck CO2 NOISE measures the noise level at a configurable time interval.

Receiving EnOcean radio telegrams

The EnoPuck CO2 NOISE is configured wirelessly using the BL-PC-FLEX-2 configuration software. The device is recognized as such by the software and displayed in the project explorer.

If the three color channels of an EnoPuck CO2 NOISE are controlled by a higher-level controller, all functions of the software are available.

Sending EnOcean radio telegrams

The measured values for humidity, CO₂, temperature and sound pressure level are transmitted for each sensor at intervals that can be configured separately via the BL-PV-FLEX-2 software.

A motion detection message (vibration and motion detector) is also sent immediately.

Sending the teach-in telegrams

The EnoPuck CO₂ NOISE has a service button inside the device. It is located on the side, approx. 3 cm to the right of the socket for the plug-in power supply, and can be pressed with a paper clip, for example:

If the button is pressed briefly 1x within 2 seconds, a teach-in telegram for EEP A5-09-04 is sent after the 2 seconds have elapsed.

If the button is pressed briefly 2x within 2 seconds, a teach-in telegram for EEP A5-07-01 is sent after the 2 seconds have elapsed.

If the button is pressed briefly 3x within 2 seconds, a teach-in telegram for EEP A5-08-01 is sent after the 2 seconds have elapsed.



Dimensions:

Diameter: 100 mm; height: approx. 28 mm



Ordering information

Item name	Item no.	Item description
AL-602-02-868 EnoPuck CO2 NOISE / CE	12330	CO2 traffic light, EnoPuck CO2 NOISE, RGB LED, EnOcean 868 MHz, multi-sensors for CO2, humidity, temperature, vibration, PIR, sound pressure level, Supply voltage 12 V DC (+/-%), dimensions 100 x 18 mm, Housing: PC white diffuse; incl. 12 V DC plug-in power supply;
AL-490-00-868 EnOcean USB stick 868 MHz CE	11227	EnOcean USB stick, 868 MHz, CE, for PC, for use with the BL-PC-FLEX-2 software or with VL-7xx HMI / operator panel, Operating temperature: 0 ..+40 °C; rel. hum. 0..93% r.h.; internal antenna;

Note:

This device is approved for operation within the member states of the European Union only.

EU declaration of conformity

DEUTA Controls GmbH hereby declares that the radio equipment type **AL-602-02-868 EnoPuck CO2 NOISE / CE** is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.deuta-controls.de under Service/Downloads (Doc. EUDC2023_120).

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