AIRFLOW

ADS-CO2-24 | Room carbon dioxide sensor 24V

The sensor is used to measure the amount of CO_2 in the room. It suits for air quality control systems, ventilation and heat recovery systems used in the restaurants, shops, offices, households, flats and so on.

〉 works on the optical NDIR principle

〉 adjustable sensitivity

〉 0 – 10V analog output

〉 doesn't need maintenance during operation

〉 long service life and stability

Part no: 90000166

Description:

It is a carbon dioxide (CO_2) room sensor with an 0-10V analog output. The output voltage is proportional to the concentration of CO_2. The measuring of CO_2 works on the principle of infrared radiation attenuation dependence on the CO_2 concentration in the air. Built-in electronics converts the infrared radiation attenuation changes in the measuring cell to the 0-10V analog output. The sensor is capable to measure the CO_2 in the air concentration in the range of 370 up to 2000 ppm.

It is equipped with an output relay, which can switch on the ventilation if the adjustable CO_2 level is reached. This allows an effective ventilation control in the dependence on the air contamination to minimize the energy consumption.

CO_2 in the air level is meaningful information about the quality of indoor air in rooms where a greater number of people is located. The sensor is convenient to manage ventilation in offices, cinemas, hotels, hospitals, gyms, schools, kindergarten, fitness and more.

Table of parameters:

Parameter	Value	Unit
Power supply	24	VAC/VDC
Input	2,5	VA
Switching current	16	A
Switching hysteresis	1,5 (300)	V (ppm)
Voltage output	0 – 10	VDC
Current output 1	0 – 20	mA
Current output 2	4 – 20	mA
Measuring range	370 – 2000	ppm
Resolution	1	ppm
Accuracy	±30	ppm
Working temperature	0 to +40	°C
Working humidity	5 to 95%	RH
Storage temperature	-20 to +60	°C
Expected lifetime	min. 10	years
Dimensions	125x83x37	mm

- Warm-up: stable after 1 minute since power on.
- Calibration during operation is not necessary.

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Output voltage dependence graph:
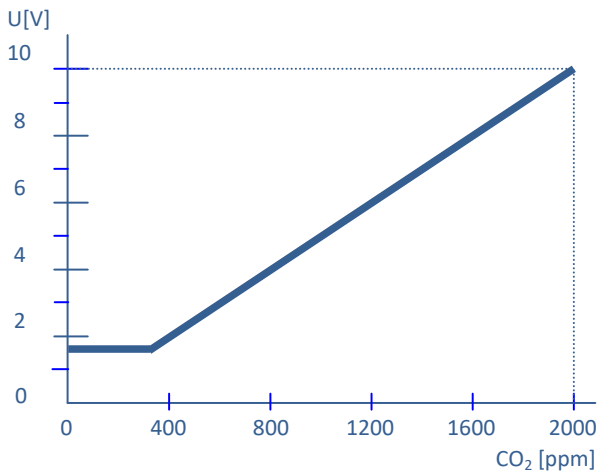
Front view:
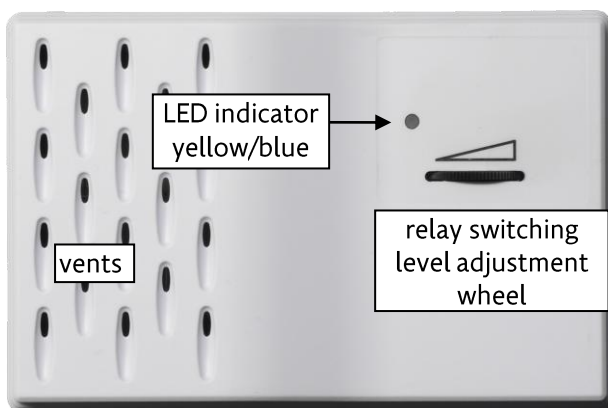
Relay switching level adjustment wheel:

- turn to the left to decrease the relay switching level of CO_2, the relay will switch at lower concentration

- turn to the right to increase the relay switching level of CO_2, the relay will switch at higher concentration

To avoid fast relay switching around the adjusted level the hysteresis of 1,5 VDC - related to the 0-10VDC output - is automatically added and the minimal duration of one state (contacts open/closed) is 1 minute.
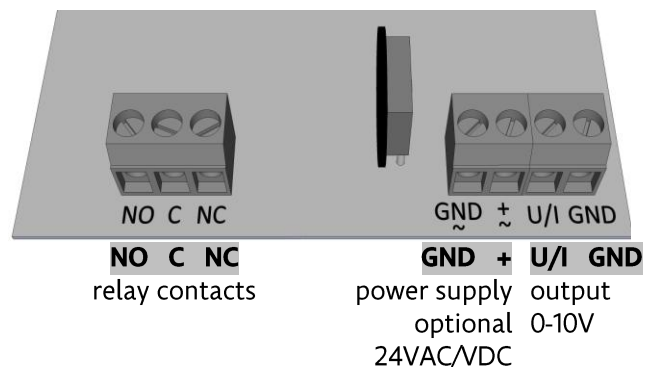
LED indicator:

Blue
- continuous light = relay contacts closed
- blinking = relay contacts opened

Yellow
- Indicates only when you turn the adjustment wheel. After finishing the adjustment it indicates further 10s, after that the indication turns off.
- Slow blinking - if you turn the wheel to left = more frequent relay switching.
- Fast blinking - if you turn the wheel around the middle = to set the standard air quality.
- Continuous light - if you turn the wheel to right = less frequent relay switching.

Terminals:

NO C NC	GND + U/I GND
relay contacts	power supply output optional 0-10V 24VAC/VDC

Connection example:
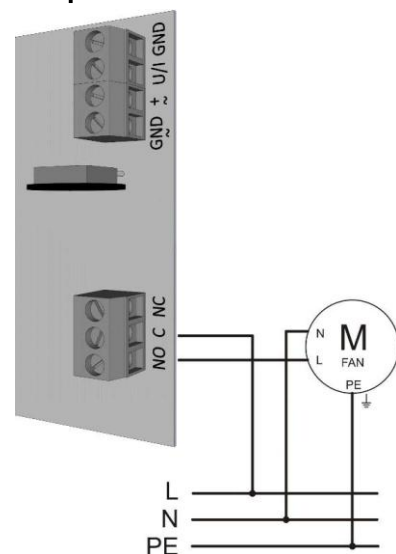
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Jumper JP8 settings:

LED enable - if fitted, the blue LED indication is enabled.

Positions no. 1, 3 and 4 aren´t intended for user settings - don´t change settings on these positions!
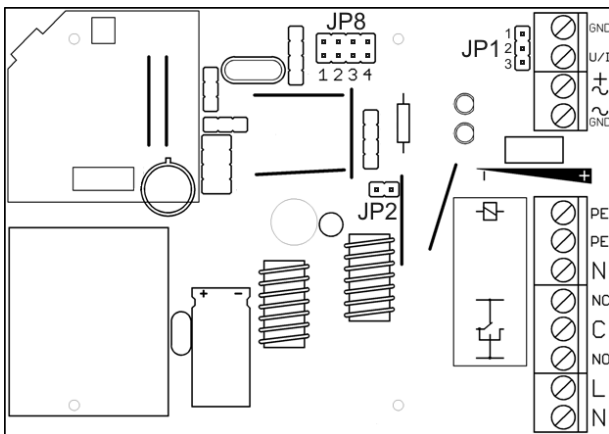
Jumper JP1 voltage/current output setting:

Jumper in position 1-2 = voltage output.
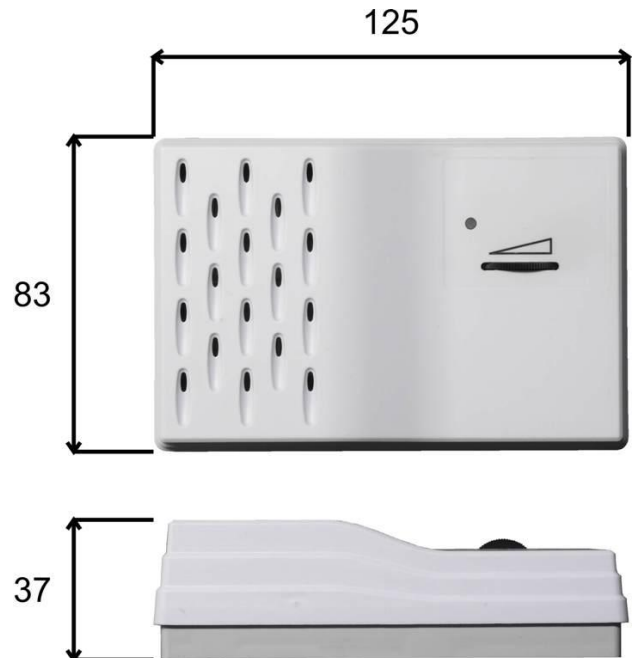Jumper in position 2-3 = current output.

Jumper JP2 current output setting:

JP2 fitted = output current range 4-20mA.
JP2 not fitted = output current range 0-20mA.

On the PCB jumpers location:

Dimensions:

The producer reserves the right of technical changes in order to product improvements its properties and functions without previous notice.

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