

## ADS-CO2-D | Duct mounted carbon dioxide sensor

The sensor is used to measure the amount of CO<sub>2</sub> in an air duct. It suits for air quality control systems, ventilation and heat recovery systems.

- › works on the optical NDIR principle
- › doesn't need maintenance during operation
- › 0 – 10V analog output + output relay
- › easy air duct mounting
- › long service life and stability



### Description:

It is equipped with an 0-10V analog output. The output voltage is proportional to the concentration of CO<sub>2</sub>. The measuring of CO<sub>2</sub> works on the principle of infrared radiation attenuation dependence on the CO<sub>2</sub> concentration in the air. Built-in electronics converts the infrared radiation attenuation changes in the measuring chamber to the 0-10V analog output. The sensor is capable to measure the CO<sub>2</sub> in the air concentration in the range of 400ppm up to 2000ppm.

It is equipped with an output relay, which can switch on the ventilation if the adjustable CO<sub>2</sub> level is reached. This allows an effective ventilation control in the dependence on the air contamination to minimize the energy consumption.

CO<sub>2</sub> 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.

Explanation of abbreviations and technical terms can be found on our website in the [Glossary](#) section.

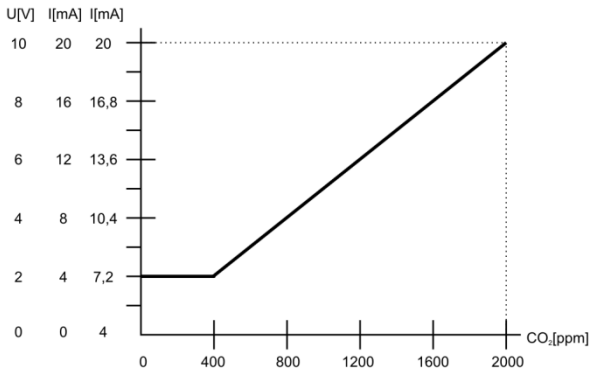
### Table of parameters:

Parameter	Value	Unit
Supply voltage range	14 – 40	V DC
	18 – 30	V AC
Power consumption	50	mA
Voltage output	0 – 10	V DC
Current output 1	0 – 20	mA
Current output 2	4 – 20	mA
Switched voltage	max 250	V AC
Switched current	max 3	A
Measuring range	400 – 2000	ppm
Resolution	1	ppm
Accuracy	± 45 ppm ± 5 % ppm	
Working temperature	0 to +40	°C
Working humidity	5 to 95 %	RH
Storage temperature	-30 to +70	°C
Estimated service life	min. 10	years
Dimensions	257x100x60	mm
- Minimum achievable output value corresponds to minimum value of the measuring range. - Warm-up: stable after 1 minute from power on. - The declared accuracy is reached after 4 days of continuous power supply. - Calibration during operation is not necessary.		

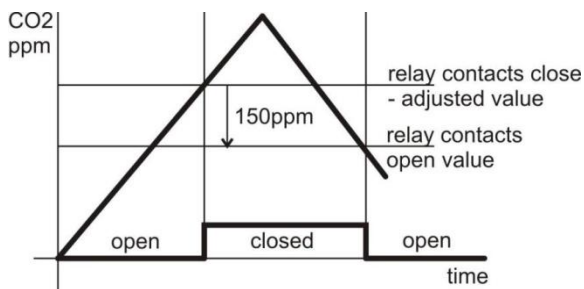


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### Output voltage/current dependence graph:



### Description of the output relay function:



- Relay contacts close when the adjusted value is reached.
- Relay contacts open after the CO<sub>2</sub> concentration drops 150ppm under the adjusted value.

### Relay switching level adjustment trimmer:

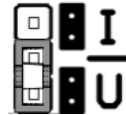
- turn it to the left to increase the concentration level, on that the relay contacts close (the ventilation will turn on) = the sensitivity will be lower
- turn it to the right to decrease the concentration level, on that the relay contacts open = the sensitivity will be higher

To avoid fast relay switching around the adjusted level the hysteresis of 150ppm is automatically added and the minimal duration of one state (contacts open/closed) is 1 minute.

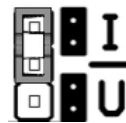
### Jumpers:

Jumper „U/I“: voltage / current output.

- position „U“ = voltage output



- position „I“ = current output

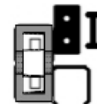


Jumper „I“: current output offset.

- not fitted = 0-20mA

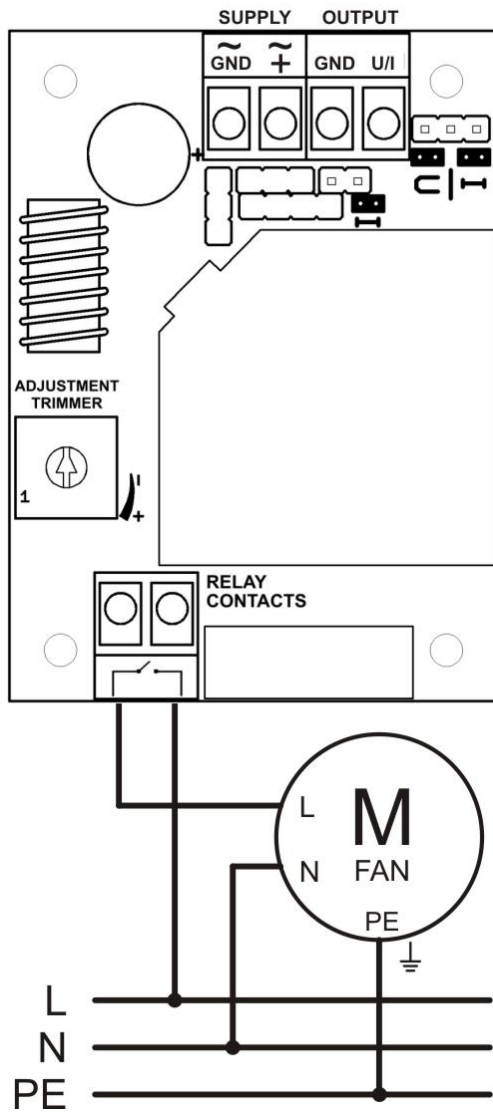


- fitted = 4-20mA

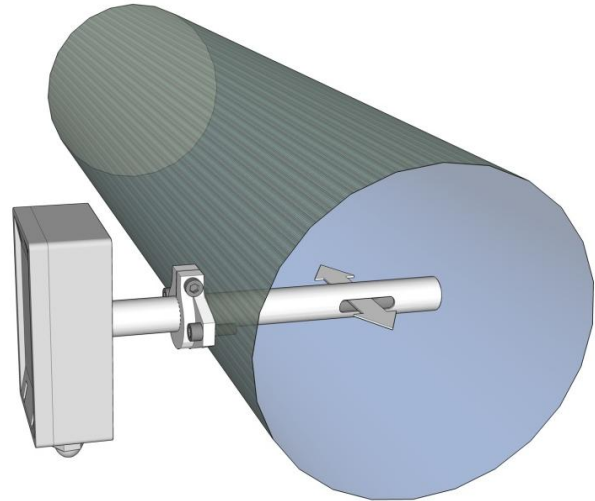


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Connection example:

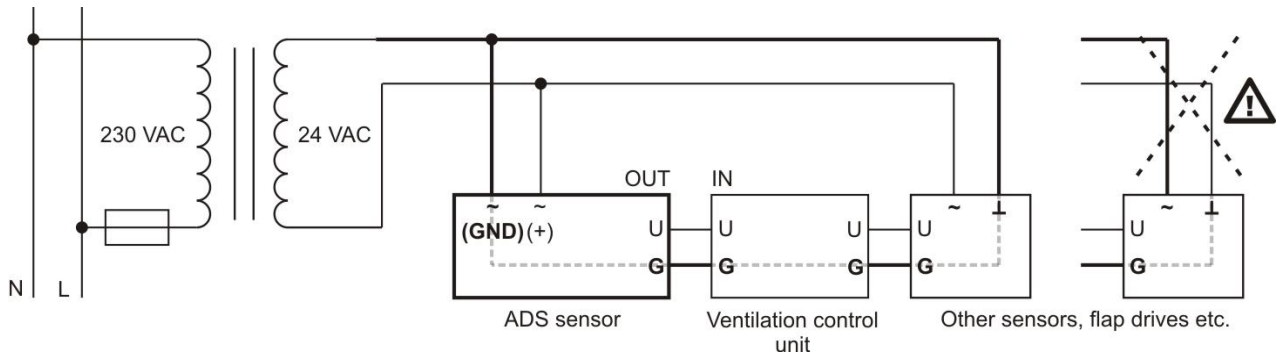


Installation

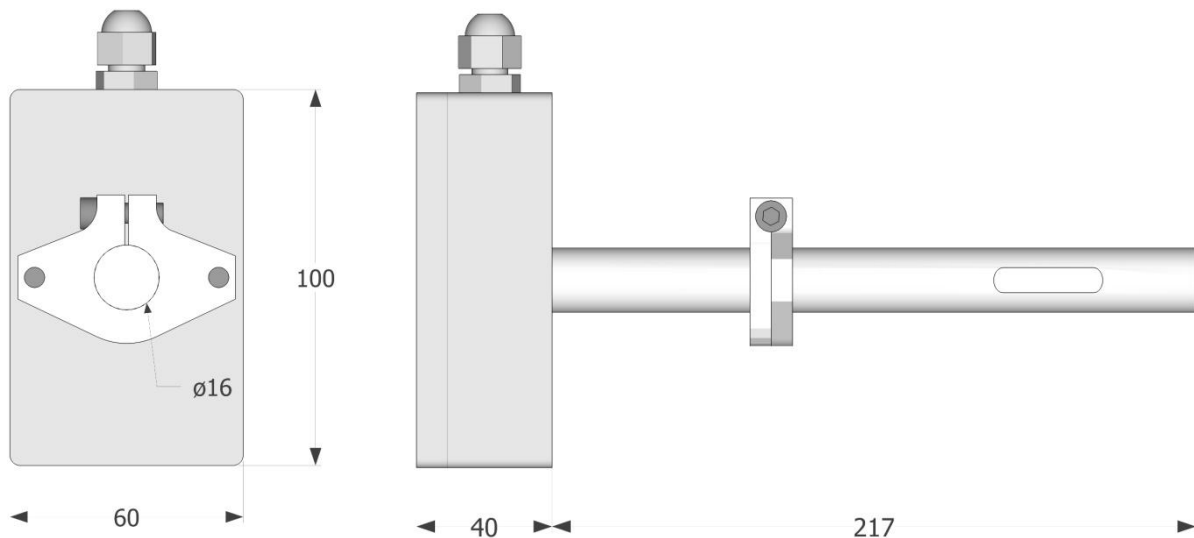


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If you connect other devices to the same AC power source as the ADS sensor, it is necessary to meet GND wiring of all analog inputs and outputs, as well as power wires.



**Dimensions (mm):**



### Autocalibration

[Autocalibration](#) ensures a good long-term stability of the sensor. For the proper function of the sensor it is required at least one intensive venting by a fresh air once in a month.

### Way to use

The product is intended for indoor use only.

### What to do at the end of lifetime of this product

Discard the product in according to the electronic waste law and the EU directives.

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

