

Datasheet: CO2 Measuring device with wireless EnOcean CO2-W100

Description:

This sensor gives information concerning carbon dioxide (CO₂) concentration levels, essential element in air quality monitoring and control in occupied buildings. Changes in concentrations (typically <1000ppm), however prolonged exposure at moderate levels can lead to a range of health related problems such as sick building syndrome causing fatigue like symptoms, effects are most notable in children—kindergartens, schools— due to their higher metabolic activity.

Current and incoming legislation requires CO₂ gas monitoring within building environments for optional control of air quality. Moreover, such CO₂ gas monitoring is employed within demand control ventilation systems used for building heating ventilation and air condition.



CO2 Specification:

Type of Measurement	NDIR—non dispersive infrared technology
Sensor Type	Dual wavelenght
Measurement Range	400-2,550 ppm CO ₂ by volume
Resolution	<20 ppm CO ₂
Accuracy	+/- 5% of reading
Pressure Dependence	0.13% of reading per mm
Response Time	<3 minutes for a 90% step change
Warm up Time	<30 seconds operational <15 minutes full accuracy
Outputs	
Wireless version	EnOcean EEP profile A5-09 concentration increment (linear): 10 ppm
Radio Regulations	R&TTE EN 300 220 (TCM 310)

Thresholds:

- PPM1 Level1: green x < 500ppm
- PPM2 Level2: green flashing when 500ppm 700ppm
- PPM3 Level3: yellow when 700<ppm<1200ppm
- PPM4 Level4: yellow flashing when 1200<ppm<1800
- PPM5 Level5: red when 1800<ppm<2500
- PPM6 Level6: red flashing when ppm>2500ppm

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Technical Specifications	
Power supply SELV	24Vdc (7-28Vdc)
Power consumption	14-45mA
Operating Temperature	0~+40 °C
Storage Temperature	-20~+50 °C
Operating Humidity	0~95% non-condensing 0
Electrical connection	Screw terminals max. 1.5 mm ²
EMC	EN61000-6-3, EN 607301:2002
Regulatory Compliance	CE Mark:emc 2004/108/EC, LVD 2006/95/EC, RoHS 2011/65/EU, WEEE 2012/19/EU CFR47, Part15 Class A
Product safety	2001/95/EC
Material of housing	ABS
Protection Class	IP20
Colour housing	White-RAL 910
Dimensions	71x71x23.5mm 2.79x2.79x0.93
Weight	0.076

Learning process:



S3-LRN button

When the sensor is connected to the power, the 3 LED lights of the device are flashing . After a few seconds 5-10 sec. when all LEDs are lit, the sensor starts the measurements and just 1 LED is going ON according with the status of the Air Quality (*see Thresholds values*)

Housing Dimensions (mm)

