



SE-0012

eSense II CO2 Transmitter

Wall-mount IAQ Transmitter

The eSense II is a cost-effective carbon dioxide transmitter designed to be installed in areas like office buildings or classrooms where carbon dioxide levels are monitored to determine occupancy levels for energy savings and indoor air quality.

The default eSense is normally maintenance-free thanks to the built-in self-correcting ABC algorithm (Automatic Baseline Correction). This algorithm constantly keeps track of the sensor's lowest reading over several days and corrects for long-term drift.

Features

- Wall-Mount IAQ Transmitter
- Self-Calibrating - Saves Money
- Industry Standard Design
- Measurement range: 0 - 2 000 ppm CO2
- Two analogue outputs (not model -I):
- Internal automatic self-diagnostics.
- Maintenance-free in normal applications
- Cost-optimized for connection to DDC's
- Prepared for complementary passive
- temperature element (model -Tr).

Applications

- Homes
- Classrooms
- Commercial Buildings
- Offices
- Gymnasiums

Accessories

SENSE™ is an extremely cost-optimized sensor solution for climate control of buildings and other processes.

By controlling the ventilation based on actual demand, it helps you decrease your energy consumption and yet have a healthy indoor climate!

The different housing options makes the **eSENSE™** available to almost any application or environment for example in greenhouses, residential and commercial buildings.

eSENSE™ -Tr is also prepared for quick mounting of a complementary passive temperature element, which can easily be done by the customer.

eSENSE™II has a new housing that fits directly on top of EU and US electrical junction box standards

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General Performance

Compliance with	EMC directive 89/336/EEC. RoHS directive 2002/95/EG
Operating Temperature Range	0 - 50 °C
Storage Temperature Range	-40 to +70 °C (display model -D: -20 to +70 °C)
Operating Humidity Range	0 to 95% RH (non-condensing)
Operating Environment	residential, commercial and industrial spaces 1
Warm-up Time	1 min. (@ full specs 15 minutes)
Sensor Life Expectancy	> 15 years
Maintenance Interval	no maintenance required 2
Self Diagnostics	complete function-check, LCD error indication (display model -D)
Display (model -D)	4 Digits, 7 segments LCD with ppm indicator

Electrical

Power Input	24 VAC/VDC \pm 20%, 50 Hz (half-wave rectifier input)
Power Consumption	< 1 Watt average
Connection screw terminal A	4 x 1,5 mm ² for power input (G+, G0) and voltage outputs (OUT1, OUT2)
Connection screw terminal B	2 x 1,5 mm ² for passive resistive output (Y, M) for option -Tr

CO2 Measurement

Sensing method	Gold-plated infrared (NDIR) waveguide technology with Automatic Background
Calibration (ABC) and passive gas diffusion (no moving parts)	
Response Time (T1/e)	< 10 sec. @ 30 cc/min. flow rate , < 3 min. diffusion time
Repeatability	\pm 20 ppm \pm 1 % of reading
Accuracy 2	\pm 30 ppm \pm 3 % of reading
Annual Zero Drift 2	< \pm 10 ppm
Pressure Dependence	+ 1.6 % reading per kPa
Measurement range	0 - 3 000 ppm



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