

E-SENSE

CO₂ sensor for wall installation



TECHNICAL DATA

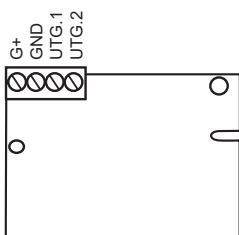
Power supply	24 V AC/DC±20%, 50 Hz (half wave rectified input)
Power consumption	< 1 Watt average
Termination, screw terminal A	4 x 1.5 mm ² for power supply (G+,G0) and outputs (UTG.1, UTG.2)
Termination, screw terminal B	2 x 1.5 mm ² for passive resistive output (Y,M), only on model-Tr
Measurement principle:	Non-dispersive infra red (NDIR) with Automatic Baseline Correction (ABC)
Response time (T_{1/e})	< 10 sec. @ 30 cc/min. flow < 3 min. diffusion time
Repeatability	± 20 ppm ± 1 % of value
Accuracy²	± 30 ppm ± 2 % of value
Annual zero drift²	< ± 10 ppm
Output OUT1	0-10 V DC for 0-2000 ppm _{vol}
Output OUT2	2-10 V DC for 0-2 000 ppm _{vol} with 1 V DC output signal as fault indication
Electrical parameters	R _{OUT} < 100 Ohm, R _{LOAD} >5 kOhm
Resistive connection³	One thermistor output pin is connected to earth
Complies with standard	EMC Directive 89/336/EEC
Operating temperature	0 to +50 °C
Operating humidity	0 to 95% humidity (non-condensing)
Operating environment	residential, shops or industrial premises ¹
Starting time	1 min. (@ full spec 15 minutes)
Expected sensor life	>15 year
Maintenance requirement	No maintenance needed ²

Note 1: Must not be used in environments with high SO₂ content (SO₂ concentration < 0.02 ppm)

Note 2: In normal indoor environment (@ NTP). Accuracy is defined at constant operation (minimum 3 weeks after installation).

Note 3: The resistive temperature sensor is installed by the user. Can be pre-installed at the factory by prior agreement.

WIRING DIAGRAM



Note!
Power supply must be connected to G+ and GND. GND is system earth. If the analogue output is connected to a control unit / DUC, the same earth reference must be used for the eSENSE and the control unit.

CHARACTERISTICS

- Gold-plated infra-red (NDIR)
- Measurement range: 0 - 2000 ppm
- Two analogue outputs
- Internal automatic self-diagnosis
- Maintenance-free in normal applications / environments
- Model -TR is prepared for temperature measurement via the user's separately installed temperature sensor.
- RS485 / ModBus network communication (optional)

FUNCTION

The E-SENSE is a cost effective and maintenance free CO₂ transmitter based on modern infra-red technology (NDIR).

A choice of encapsulations make it available for both wall mounting and duct mounting.

The E-SENSE measures the CO₂ content of ambient air up to 2,000 ppm and converts the measurement data to analogue 0/2-10 V output signals.

APPLICATION

The E-SENSE is a cost optimised sensor / transmitter package for climate control of buildings and other processes where the measured CO₂ values are wanted in the form of voltages. By controlling the ventilation on the basis of true facts, you can reduce energy consumption and still maintain a healthy indoor climate.

A choice of encapsulations make the E-SENSE usable in a large number of applications and environments.

The E-SENSE TR is prepared for easy connection of a passive temperature sensor (option). This can easily be installed by the customer.

The E-SENSE-485 and E-SENSE-MB offer integrated RS485 communication with optional ModBus protocol (please contact Calectro for further information).

The E-SENSE helps you to save money by reducing your energy consumption at the same time as you maintain a healthy indoor climate.

INSTALLATION

Please refer to the enclosed installation manual.

MAINTENANCE

No maintenance is needed in a normal indoor environment.

ORDERING EXAMPLE

E-SENSE CO₂ sensor for wall mounting, without display

E-SENSE-D CO₂ sensor for wall mounting, with display