

Installation Manual

eSENSE™ II FAI Disp

CO₂ sensor with acoustic alarm



General

The alarm product eSENSE II FAI is designed to measure carbon dioxide (CO₂) in rooms. Option - Disp displays the measured CO₂ value in ppm (parts-per-million) on the LCD. LEDs are lit to give an overview of the CO₂ value.

An acoustic alarm sounds when the CO₂ value is above 1400ppm. The acoustic alarm can be silenced with a push button on the side of the instrument.

The units are designed for connecting to Direct Digital Control (DDC) with 0-10V signal inputs.

To open the wall mounted housing

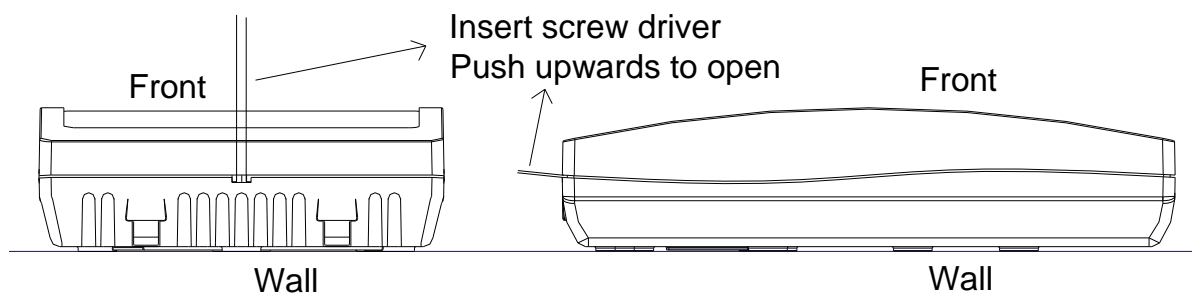


Figure 1. Closed housing seen from the top and the side. The housing is opened by inserting a screw driver and pushing to the front side of the housing. The locking hooks will then be released.



Figure 2. Closed housing seen from the side. The housing is opened by inserting a screw driver and pushing left (to the front side). The locking hooks will then be released.



Figure 3. Closed housing seen from the side. Never push to the right. The locking hooks may break and the housing is damaged

Dimensions

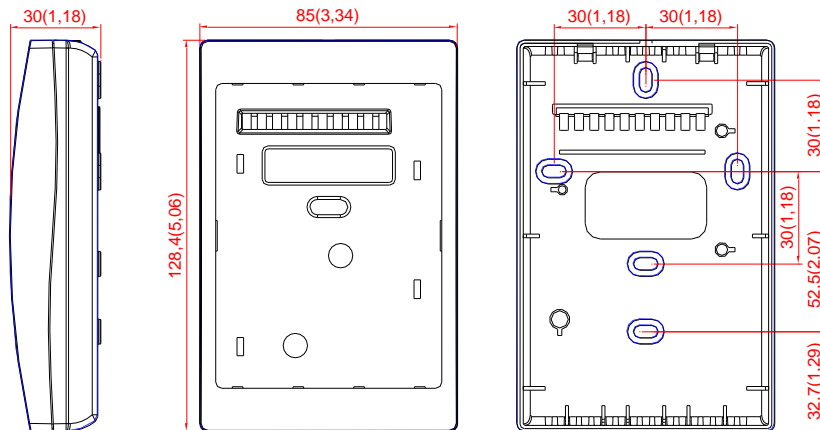


Figure 3. The dimensions of the sensor in mm and (inches)

Electrical connections

The **power supply** has to be connected to $+~$ and $\underline{\underline{\quad}}$. $\underline{\underline{\quad}}$ is considered as system ground. The same ground reference has to be used for the eSENSE II FAI unit and for the DDC/signal receiver.



NOTE:

An external fuse shall be used with this sensor. A separate fuse must be used for each sensor.

NOTE:

The same ground reference has to be used for the eSENSE II FAI unit and for the control system!

Terminal	Function	Electrical data	Remarks
+~	Power (+)	24 VAC/DC+ (+-20%), 2W	
$\underline{\underline{\quad}}$	Power ground (-)	24 VAC/DC-	System voltage reference
OUT1	Analogue output 1 (+)	0-10 VDC	0-2000 ppm CO ₂
OUT2	Silences the acoustic alarm		A push on the push button silences the acoustic alarm for 30 minutes.

Table I. Connections of the main terminal of eSENSE II FAI

Important

1. All low voltage connections to this device must be 24 V AC/DC Class 2 (or equivalent to your local regulations).
2. All wiring must comply with applicable local codes, ordinances and regulations.

LED Colour	Electrical data	Remarks
Green	0 VDC	
	10 VDC	Lit between 0-800 ppm CO ₂
Yellow	0 VDC	
	10 VDC	Lit between 800-1400 ppm CO ₂
Red	0 VDC	
	10 VDC	Lit above 1400 ppm CO ₂ . Buzzer sounds.

Table II. The LEDs

Self-diagnostics

The system contains complete self-diagnostic procedures that are executed automatically when the sensor is in operation. Sensors with display show a *wrench* if an error is found. The wrench is shown during the first seconds after power up and if the measuring range is exceeded.

Maintenance

The eSENSE II FAI is basically maintenance free in normal environments thanks to the built-in self-correcting ABC algorithm. Discuss your application with your distributor in order to get advice for a proper calibration strategy.

NOTE:

The sensor accuracy is defined at continuous operation (at least 3 weeks after installation)

Electronic products should be disposed of via a suitable recycling centre.

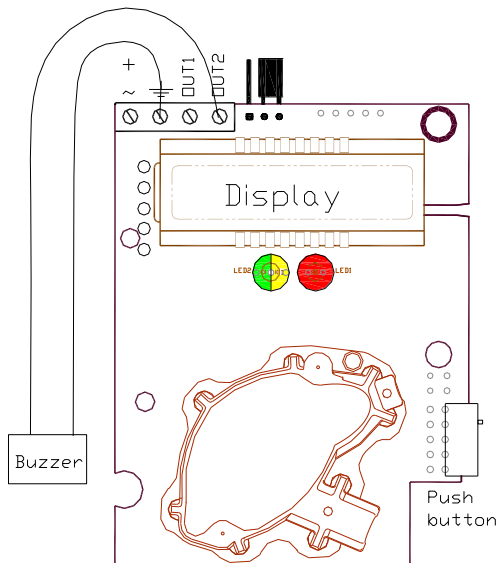


Figure 3. The eSENSE II PCB

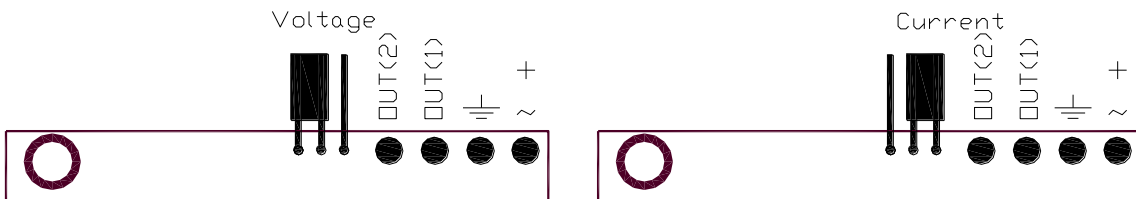


Figure 4. The upper part of the eSENSE II PCB seen from the back with the jumper in voltage (default) and current position

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