Manual for Installation

eSENSE Programmable
CO_2 transmitter and alarm

eSENSE™ II

General

The alarm product *eSENSE* is designed to measure carbon dioxide (CO_2) in rooms. Option *-D* displays the measured CO_2 value in ppm (parts-per-million) on the LCD. LEDs are lit to give an overview of the CO_2 value.

An acoustic alarm sounds when the CO_2 value is above a user defined limit. 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.

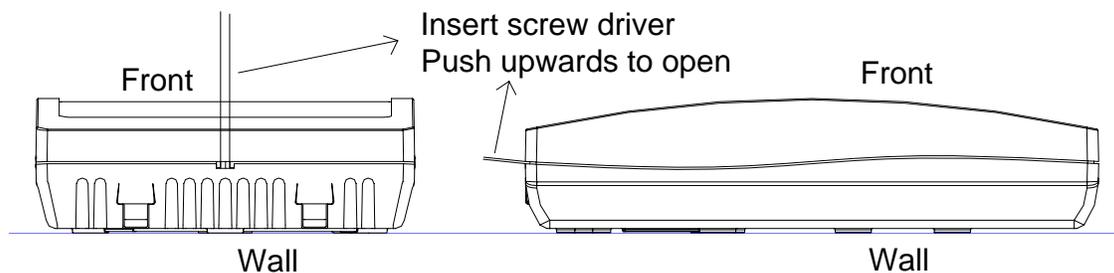### To open the wall mounted housing

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
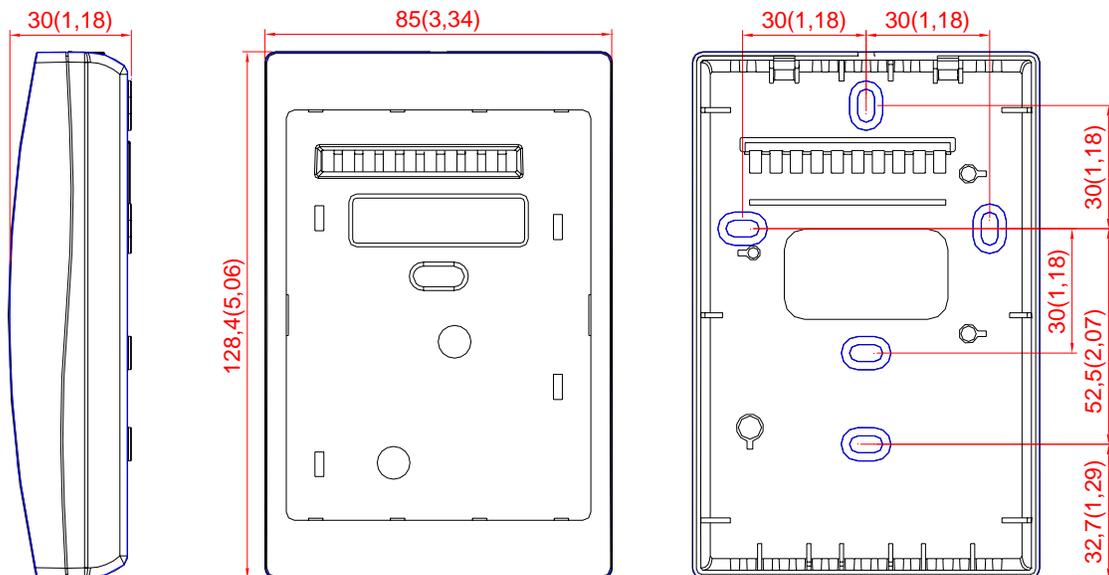
Dimensions

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

Electrical connections

The power supply has to be connected to **+~** and ⏚ . ⏚ is considered as system ground. *The same ground reference has to be used for the eSENSE unit and for the DDC/signal receiver.*

⚠ **PLEASE NOTE!**
The same ground reference has to be used for the eSENSE unit and for the control system!

Terminal	Function	Electrical data	Remarks
+~ ⏚	Power (+) Power ground (-)	24 VAC/DC+ (+- 20%), 2W 24 VAC/DC-	Use the right 2 screw connectors LOAD and NEWTRAL on transformer. Do not use the GROUND on Left. System voltage reference
OUT1 OUT2	Analogue output 1 (+) Silences the acoustic alarm	0-10 VDC	0-2000 ppm CO_2 A push on the push button silences the acoustic alarm for 30 minutes.

Table I. Connections of the main terminal of eSENSE

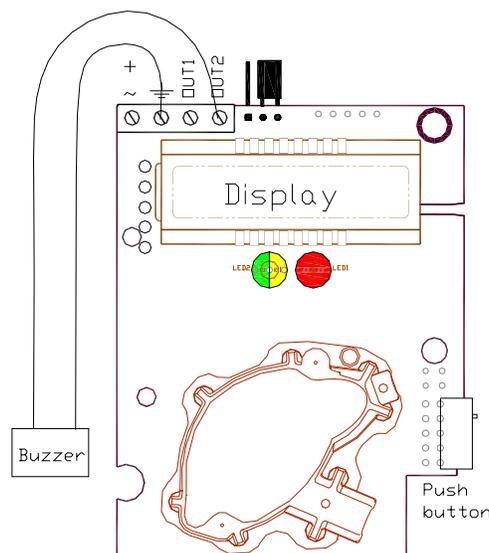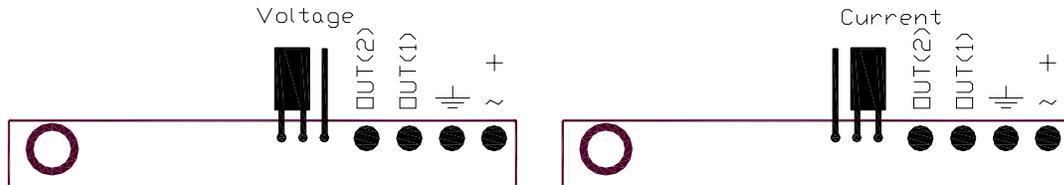| LED Colour	Electrical data	Remarks
Green	0VDC 10VDC	Must be less than yellow limit
Yellow	0VDC 10VDC	Must be between green and red limit
Red	0VDC 10VDC	Must be higher than yellow limit

Figure 3. The eSENSE PCB

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

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 K50** 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.

<u>PLEASE NOTE!</u>
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.

WARRANTY AND LIMITATION OF LIABILITY

1. SenseAir warrants that for a period of twentyfour (24) months following receipt by Buyer the Product supplied by SenseAir to Buyer will be, under normal use and care, free from defects in workmanship or material and to be in material conformity with SenseAir's specifications. Units returned to SenseAir for warranty repairs shall be shipped to SenseAir, at Buyer's expense, according to SenseAir's instruction. Within ninety (90) days of the receipt of product, SenseAir shall replace or repair such units and shall ship them to Buyer's designated return destination freight pre paid.

2. Warranty Limitations. This warranty does not extend to any unit that has been subject to misuse, neglect or accident; that has been damaged by causes external to the unit; that has been used in violation of SenseAir's instructions; that has been affixed to any non-standard Accessory attachment; or that has been modified, disassembled, or reassembled by anyone other than SenseAir.

3. The retailer is not responsible for any consequential loss or damages, which may occur by reason of purchase and use of this product. The warranty is, in any event, strictly limited to the replacement/repair of the product

This product is in accordance with the EMC 2004/108/EC, 92/31/EEG including amendments by the CE-marking Directive 93/68/EEC
The product fulfils the following demands: EN 61000-4-2 level 2,
EN 61000-4-3 level 2, EN 61000-4-4 level 4, EN 61000-4-6, EN 61000-4-8 level 4,
EN 55022 class B

CE