Installation Manual

aSENSE mIII
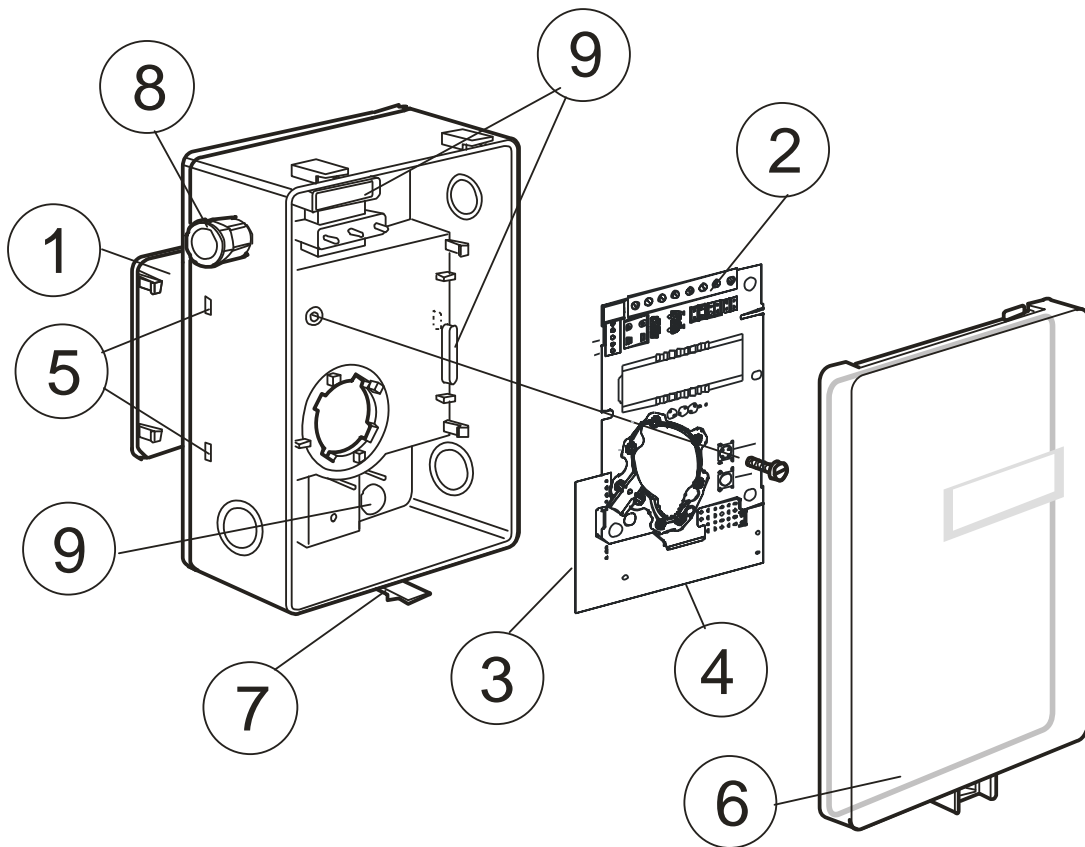

Fig. 1

1	Wall plate	5	Hole for wall plate hooks
2	PCB (Factory supplied mounted in box)	6	Snap in lid
3	Temperature sensor for internal compensation (not shown)	7	Locking screw of the lid (not shown)
4	Carbon monoxide sensor (not shown)	8	PG9 cable entry bushing
		9	Air holes

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85 (3,35)

142 (3,58)

9,5 (0,37)

10 (0,39)

38,5 (1,5)

11 · 15 · 12 · 13 · 14
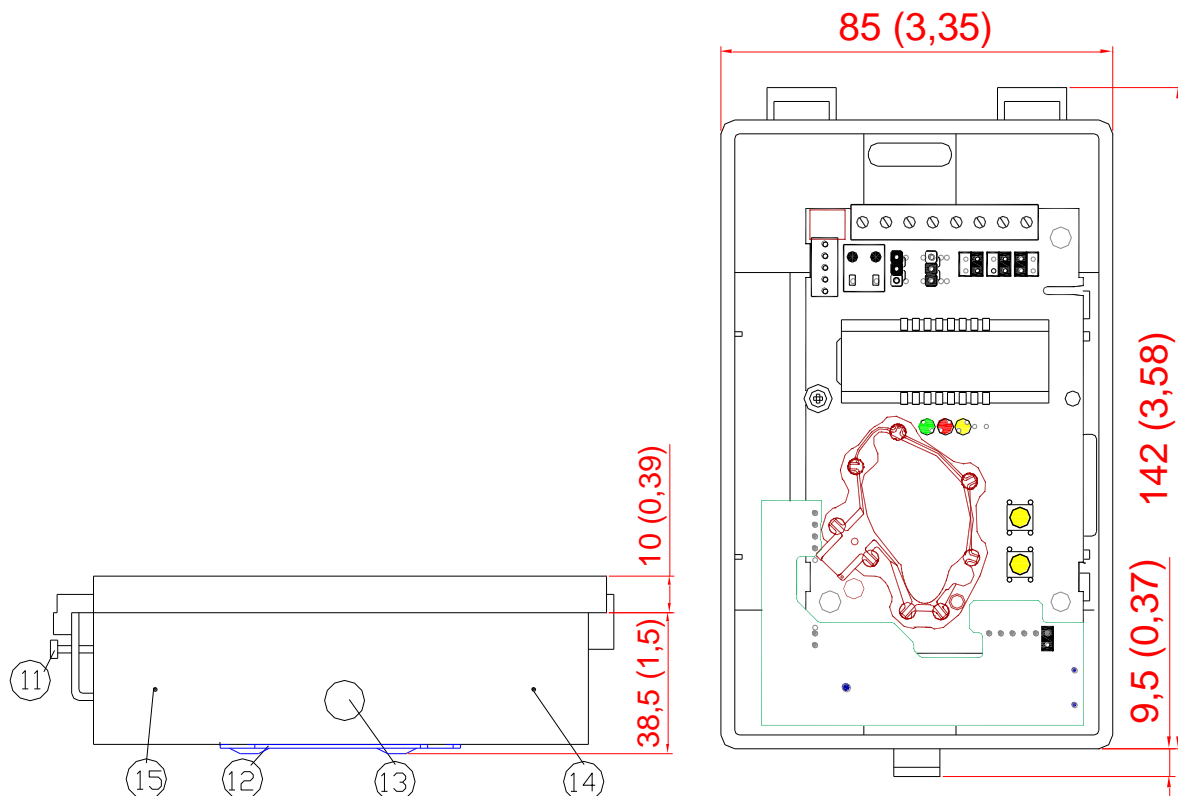
Fig. 2 Dimensions in mm (inch)

11 Lidlocking screw
12 Wall plate
13 Screw to hold the wall plate
14 Marking to drill hole for PG7
15 Marking to drill hole for PG9

Wall Mounting Instruction

1. **Electrical cable entry.** Mount the cable entry bushing in dimension PG9. Never feed more than one cable through each cable entry bushing, or else gas might leak through!
2. **Dismount the wall plate.** The sensor is delivered with the wall plate mounted. The wall plate has to be removed before the sensor is mounted onto the wall. Unscrew the screw on the side of the box. See figure 3.
3. **Screw the wall plate onto the wall.** The sensor should be mounted 1 to 1,8 m above the floor. The wall plate has holes for three screws. Drill holes for 3,5mm screws and put dowel into them. Dowels and screws 3,5 x 25mm are included in a plastic bag
4. **Attach the sensor box** to the wall plate. It is done by a snap-in fitting. The wall plate has three hooks that fit in holes in the sensor box. Fasten the screw on the side of the box.

The lid can be locked with the screw (11) at the bottom of the sensor box.

NOTE Normally the PCB should not be removed from the housing. If for some reason the PCB must be removed it must be handled carefully and protected from electrostatic discharge.

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Electrical connections

The power supply has to be connected to $\widetilde{+}$ and $\perp$. $\perp$ is considered as system ground. Unless different transformers are used, special precautions need to be taken.

NOTE:
The signal ground is not galvanically separated from the aSENSE mIII power supply!

The same ground reference has to be used for the aSENSE mIII unit and for the control system!

Connection Terminal	Function	Electrical Data	Remarks
$\widetilde{+}$ $\perp$	Power (+) Power ground (-)	24 V AC/DC+ (+-20%), 3 W 24 V AC/DC-	2W without output load See note 1!
Out(1)	Analogue Output 1 (+)	0 – 10 VDC or 0 – 20 mA, 2 – 10 VDC or 4 – 20 mA,	According to positions of Out(1) jumper and start point selection. See note 2
Out(2)	Analogue Output 2 (+)	Same as Output 1	See note 2
5	Signal Ground (-)	Connected to $\perp$ via PTC fuse	See note 1
6 7	Normally closed relay Open at alarm situations and power loss	Contact free relay minimum load 1 mA/5 V rated load 0.5 A/125 VAC; 1 A/24 VDC	Triggered by register Out(3)
8 Out(4)	Analogue Output 4 (+) OR Open Collector	0 – 10 VDC Max 0.5 A, 55 VDC / 40 VAC (half-wave rectifier protection)	According to positions of Out(4). See note 2 and 3
DI1	Digital Input 1	Closed contact current 1 mA Open contact voltage max 5 V	Do not apply any voltage on this input!

Table I. Electrical terminal connections for aSENSE mIII

Note 1: The ground terminal is used as negative power supply DC input or AC phase ground $\perp$ (halfwave rectifier). The signal ground M, protected by a PTC resistor, is the same as power ground G0 (permitting a "3-wire" configuration). A single transformer may be used for the entire system.
Note 2: aSENSE mIII can deliver both a voltage or a current loop for Out(1)/Out(2). For Out(4) a voltage output or an open collector output is selected with jumper Out(4). To change between voltage and current output mode the hardware jumpers are used. There is one jumper for Out(1) and one for Out(2), so that one output can be a voltage output and the other a current output. Both, voltage output and current output, can have start points 0 % (0 – 10 VDC or 0 – 20 mA) or 20% (2 – 10 VDC or 4 – 20 mA) selected from PC software. See the user manual.

Note 3: Current of Open Collector is internally returned to $\perp$ terminal.

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| | | | Relay | | | |
| ~ | | Out(1) | Out(2) | 5 | 6 | 7 | 8 |
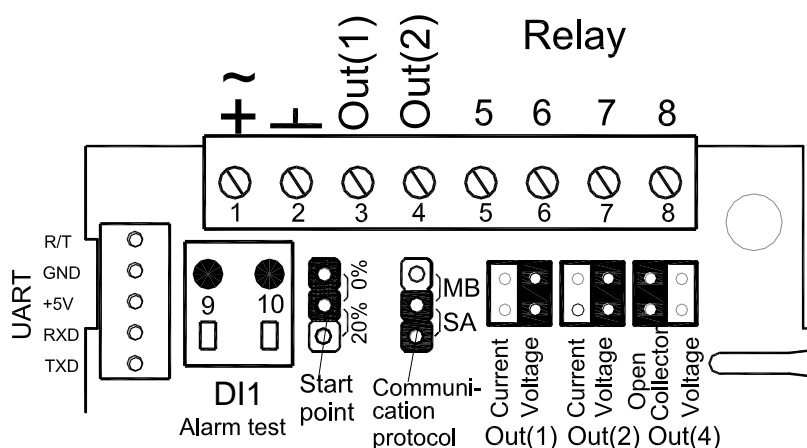
DI1 Switch for alarm test

Jumper for configuring the linear output start point to 0% or 20% start point

Jumper to choose communication protocol

Jumpers to choose between voltage or current outputs

Jumper to choose between open collector or 0 – 10 V linear signal

Fig. 3.Terminals and jumpers on aSENSE mIII. The darker positions are default settings.

Numbers in figure 3	Label or marking	Function
3	Out(1)	CO-sensor 0 – 100 ppm CO
4	Out(2)	CO_2-sensor 0 – 100 ppm CO_2
6, 7	Out(3)	Gas alarm CO >35 ppm or CO_2 >1500 ppm
8	Out(4)	Error detected or gas alarm
9, 10	DI 1	Extra terminal. Alarm test function (N.O.)

If more holes are needed the box has several drill markings for holes in two dimensions, PG7 and PG9. Then fasten the cable entry bushing and seal properly. Never feed more than one cable through each cable entry bushing, or else gas might leak through!

The PCB can be removed during the making of holes.
NOTE:The PCB must be handled carefully and protected from electrostatic discharge!

Start-up of the aSENSE mIII

Connect the power directly after mounting. The unit works best if the sensor is continuously powered. The analogue outputs do not need to be connected before use. An internal delay function prevents the alarm functions of the relay and OUT4 output during 2 minutes after power up. After short power failures the CO measurements need this power up time to stabilise. The alarm outputs may be tested after the 2 minutes delay by shorting the switch DI1. After long power failures the sensor may need several days to restore the measuring functions.

NOTE: The CO probe gives incorrect readings near some chemicals, e g silicone. This makes certain environments unsuitable for the sensor.

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