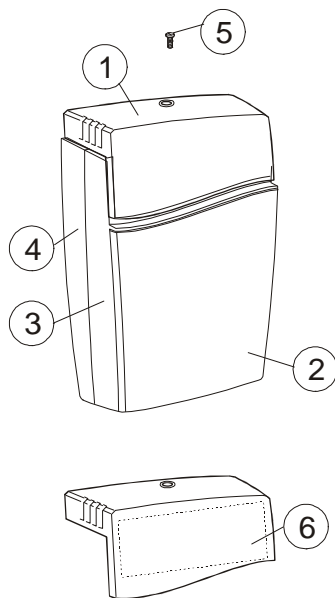


Installation Manual for All Housings

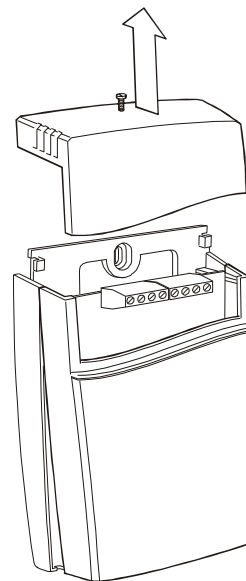
aSENSE™ VAV

CO₂ / temperature sensor with built-in
general purpose controller for wall mounting

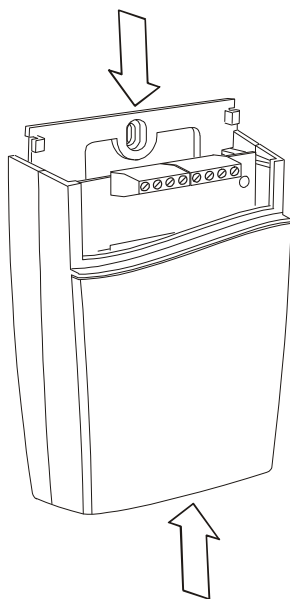
Dismounting of the sensor



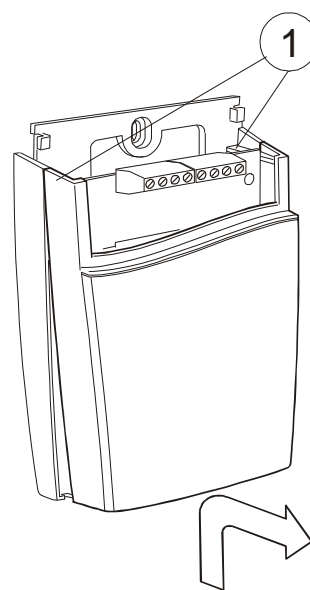
- | |
|---|
| <p>1 top part
2 lid
3 front part
4 wall plate
5 screw
6 label with settings
inside the top part</p> |
|---|



Pull the top part upwards

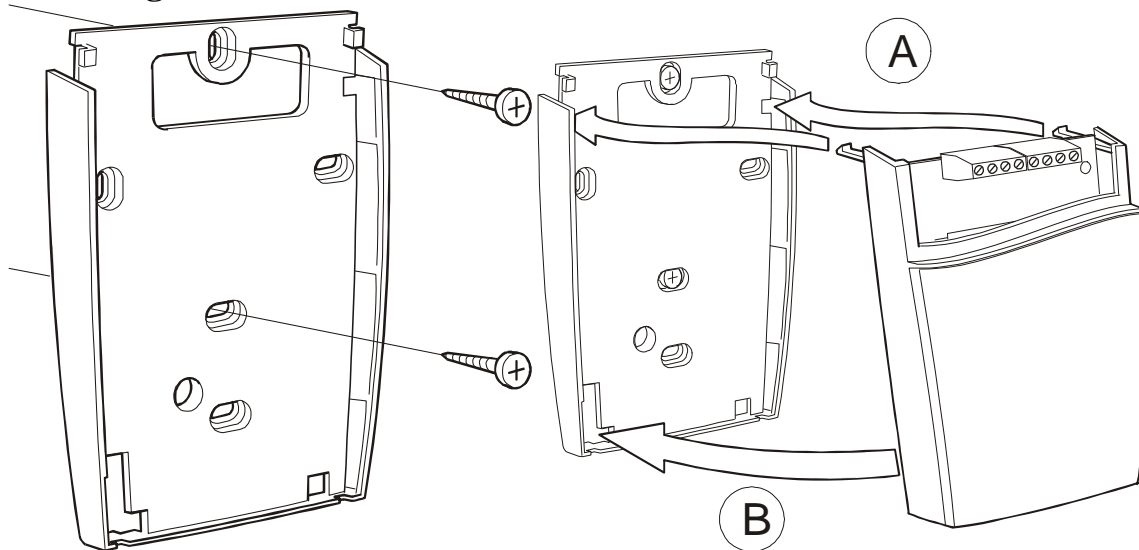


*Push the front part with the lid upwards
while keeping the wall plate steady*



*Fold the front part with the lid forwards
and loose it from the hooks (#1)*

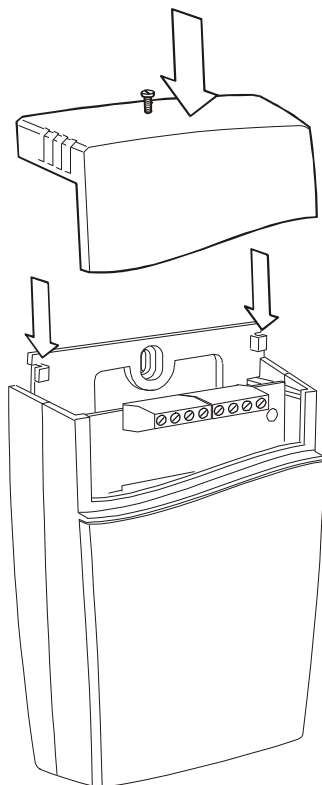
Mounting of the sensor



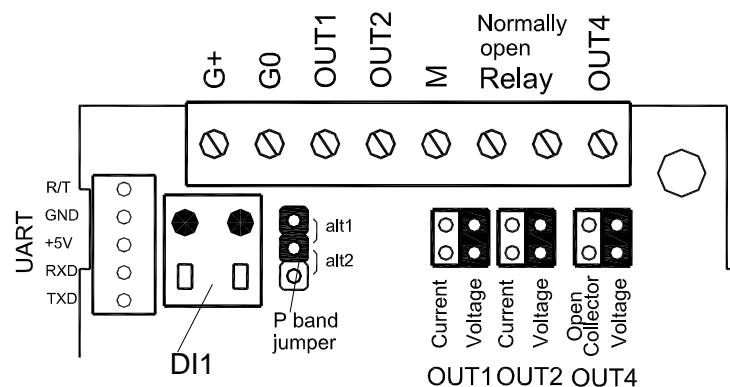
The wall plate is screwed onto the wall
The screw heads should be max 4 mm

A Put the top tabs of the front part into the top holes of the wall plate.

B Press the lower edge of the case onto the wall plate to latch



The top part is pushed under the locking hooks of the wall plate and is secured with a screw



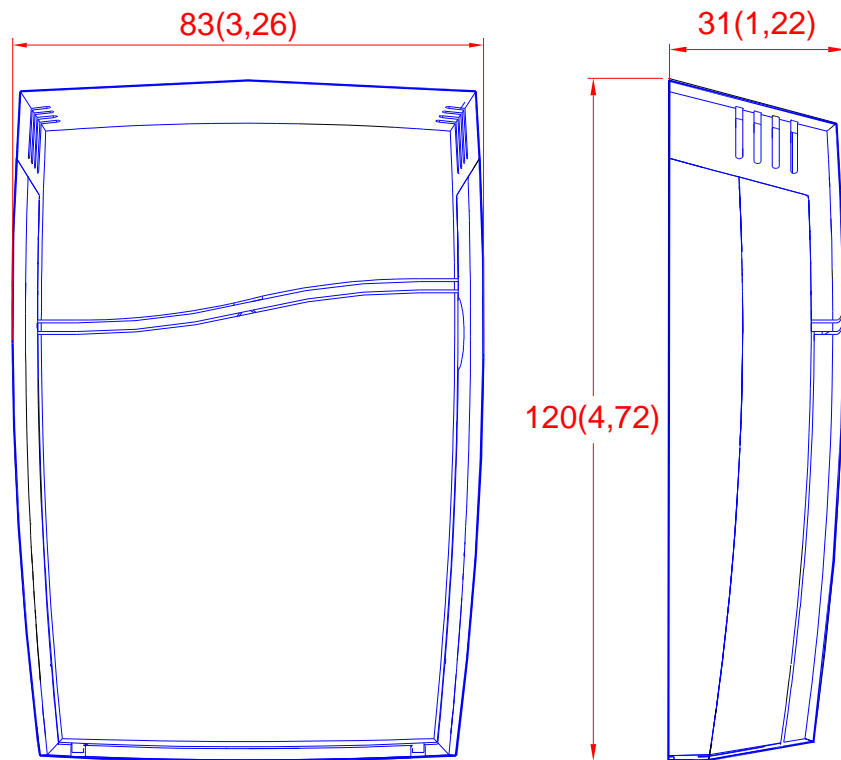
Terminals and jumpers on **aSENSE™ VAV** standard.
The darker positions are default settings.

Terminals and jumpers are located under the top part.

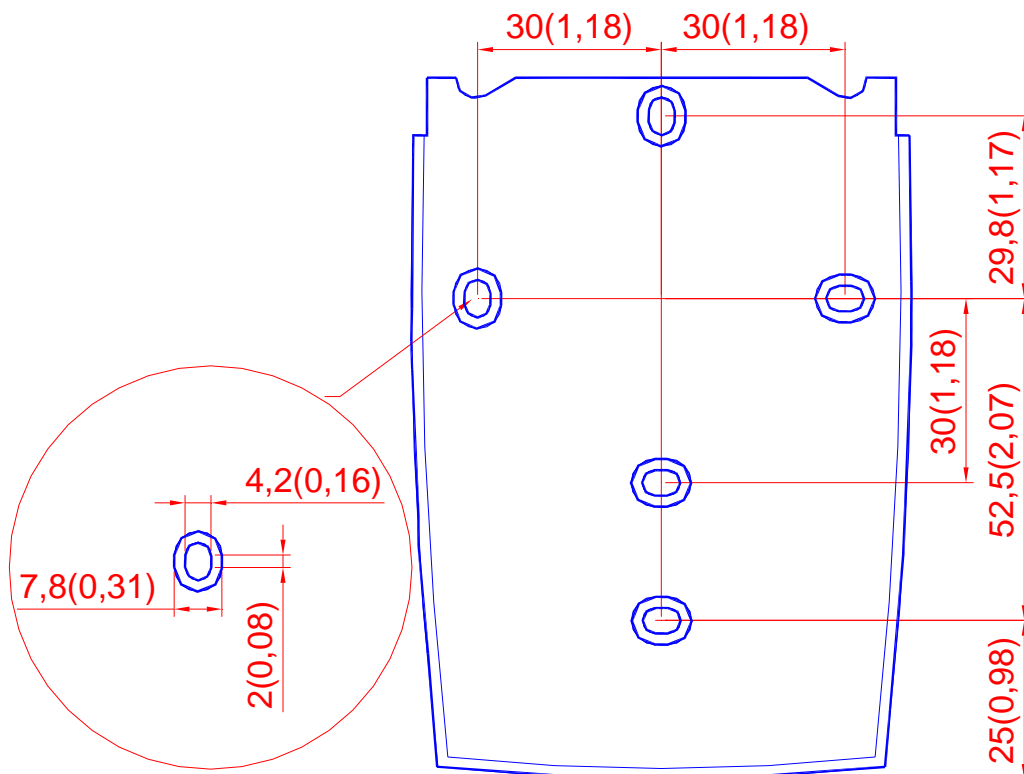


If for some reason the PCB must be removed it must be handled carefully and protected from electrostatic discharge! Normally, removing the PCB is not required.

Dimensions and holes



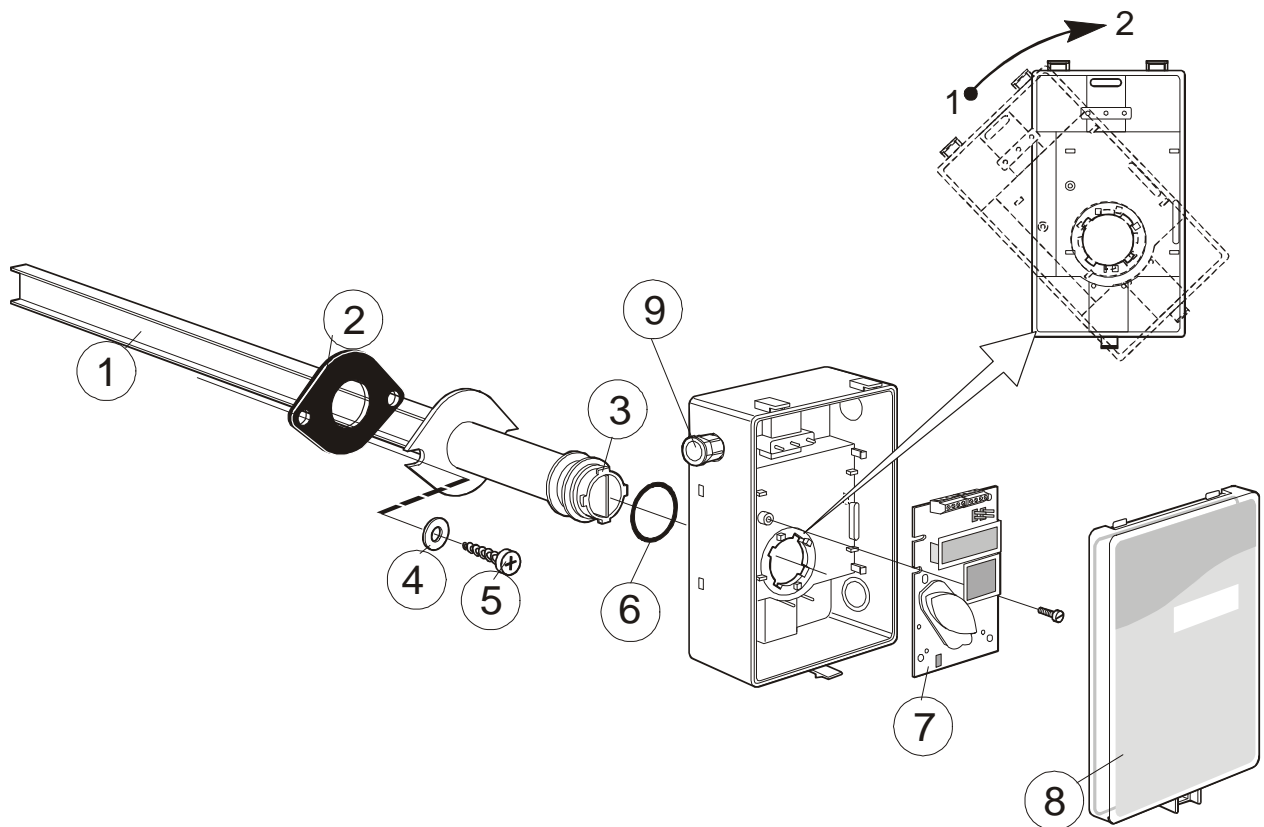
Dimensions of sensor in mm and (inches)



Dimensions of mounting plate in mm and (inches)

aSENSE™ VAV

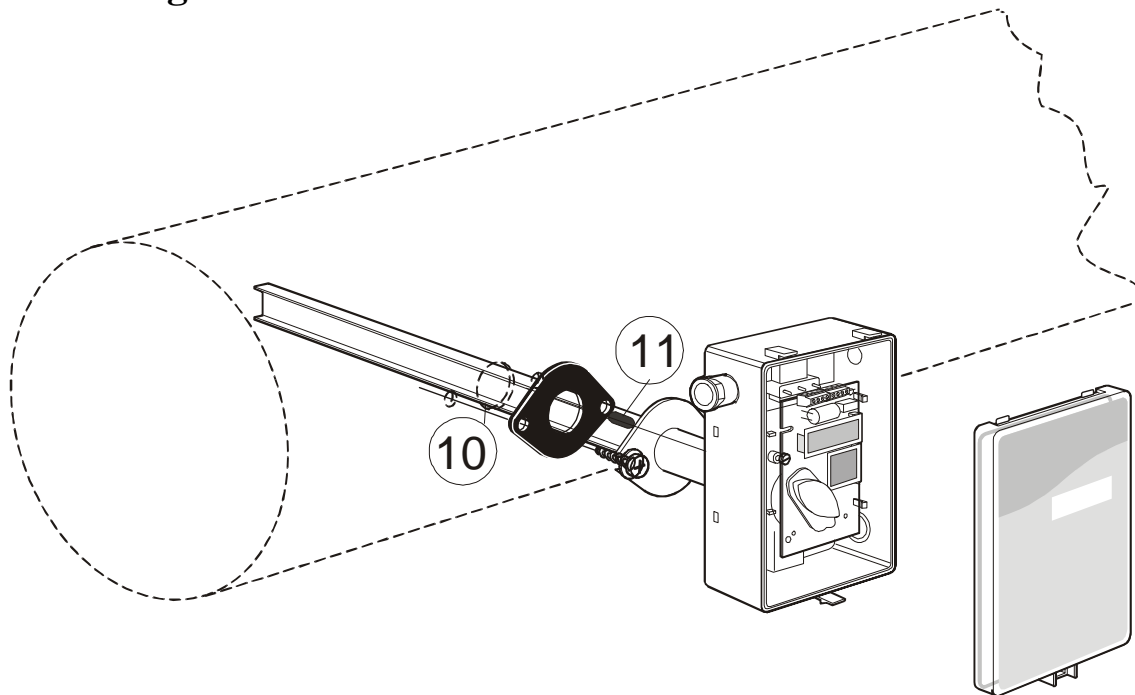
CO₂/ temperature sensor with built-in
general purpose controller for mounting in
ventilation ducts



- 1 Sampling probe
- 2 Sealing gasket
- 3 Largest locking nob
- 4 2 washers BRB 5,3x10x1
- 5 2 screws RXS 4,8x16

- 6 O-ring 29,2x3,53 (Factory supplied mounted in box)
- 7 PCB (Factory supplied mounted in box)
- 8 Snap-in lid
- 9 PG9 cable entry bushing

Mounting of *aSENSE™ VAV* on to the duct.



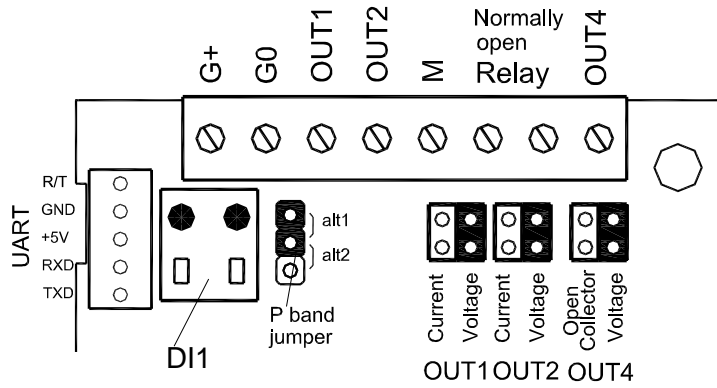
10 Hole with 25 mm diameter

11 Temperature sensor with 110 mm cable mounted in the sampling probe

Mounting Instruction

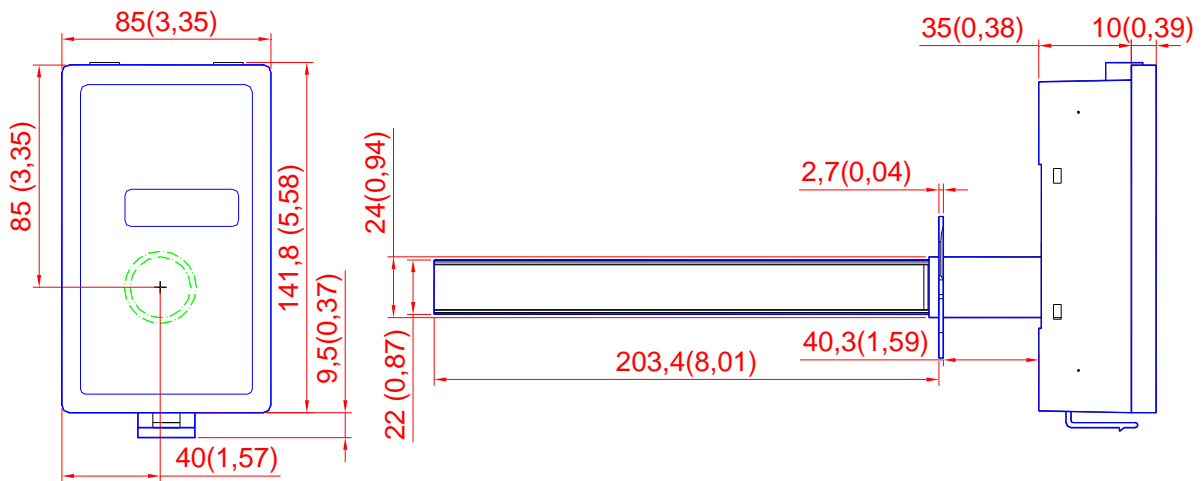
Since there might be a substantial pressure difference in duct mounting applications, it is essential to avoid ambient air from suction into the duct-mounting box. For correct function it is indispensable that the sealing of the box cover, the cable entry bushings, the cable feed through and the duct entrance are absolutely tight. The duct entrance may need extra sealing paste in order to prevent leakage. The PCB must be handled carefully and protected from electrostatic discharge.

- 1) **Electrical cable entry:** The box has a factory mounted cable entry bushing in dimension PG9. Never feed more than one cable through each cable entry bushing, or else gas might leak through!
- 2) **Mounting the tube:** Drill a hole (10) with 25 mm diameter (or 1 inch) for the sampling probe and two holes with 4 mm diameter for the screws (5) into the air duct and mount the tube (1) with the gasket (2). The sampling probe should be mounted with the largest locking knob on top. The unit can be mounted with the air coming from the left or right.
- 3) **Attaching the sensor box** is made to the sampling probe by a snap-in bayonet fitting. First, carefully stick the temperature probe (11) into the sampling probe. (1). Orient the box onto the sampling probe so that the box upside is on the same side as the largest locking knob (3). When the probe is fitted into the notches of the box, then turn the box clockwise until stop (see Figure 1). Position 1 indicates *open* where the box can be removed from the sampling probe. In position 2 the box is locked to the probe.

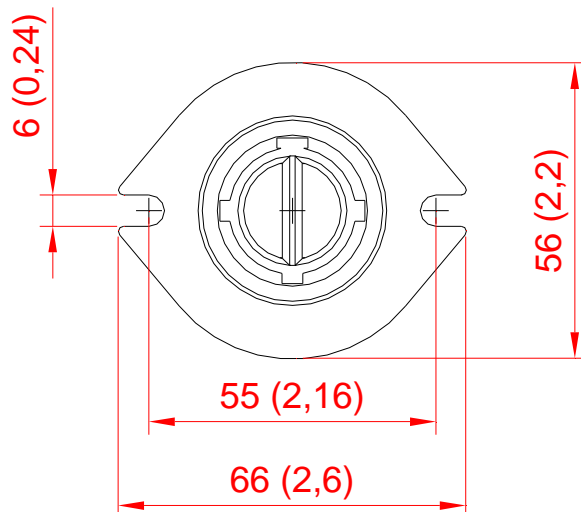


Terminals and jumpers on **aSENSE™ VAV** standard. The darker positions are default settings.

Dimensions



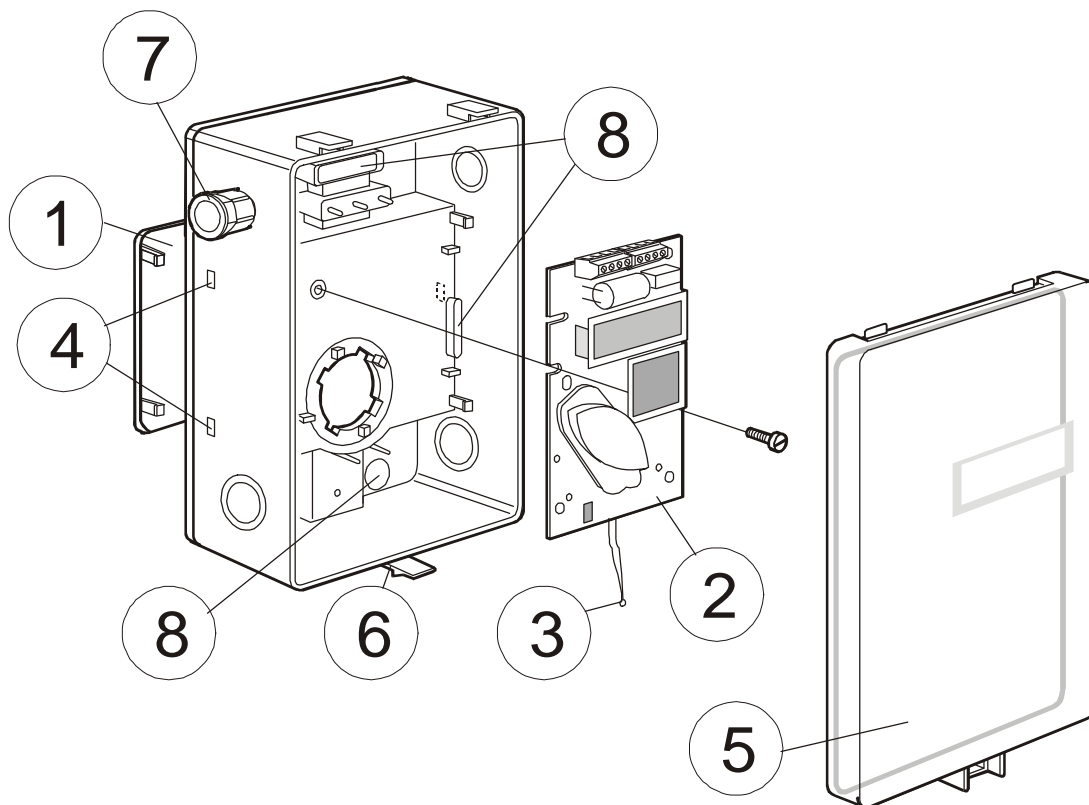
Dimensions of sensor in mm and (inches)



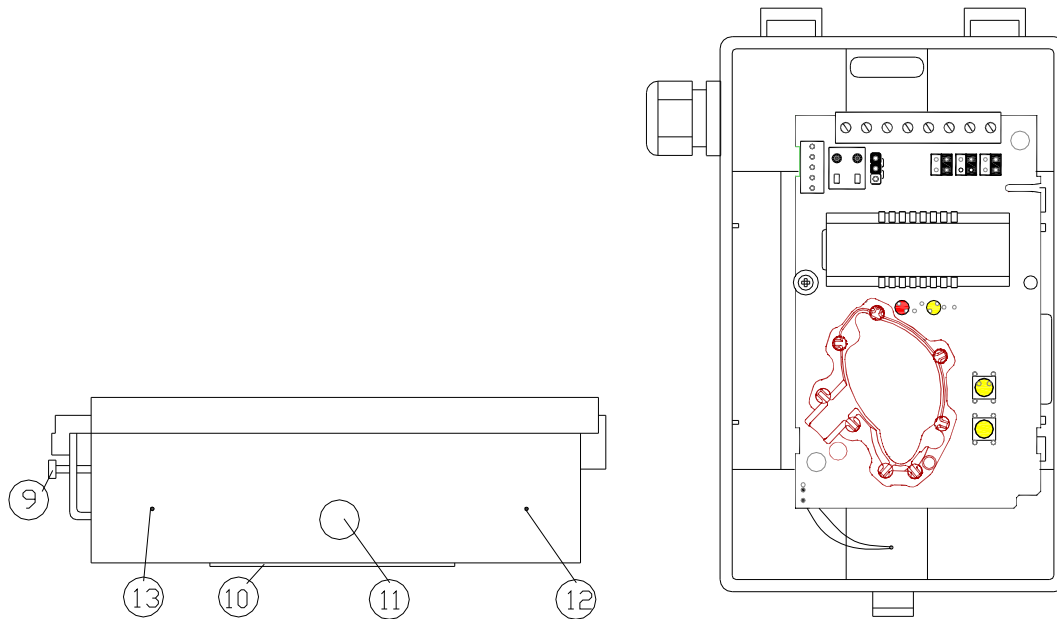
Dimensions of sampling probe in mm and (inches)

aSENSE™ VAV

CO₂ / temperature sensor with built-in
general purpose controller mounted in industrial
housing



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



- 9 Lid locking screw
- 10 Wall plate
- 11 Screw to hold the wall plate
- 12 Drill mark for cable entry bushing
- 13 Drill mark for cable entry bushing

Dismounting 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.

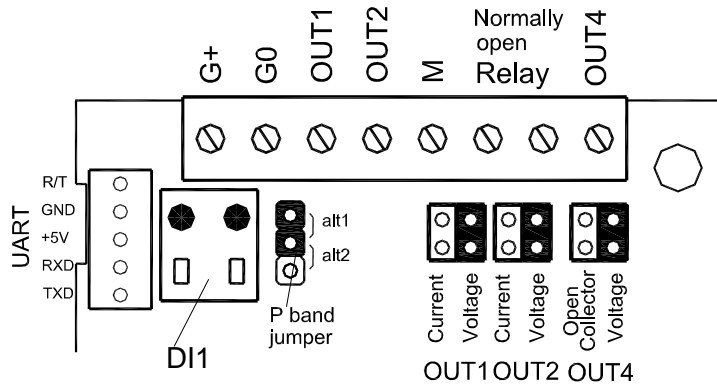
Wall Mounting Instruction

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.

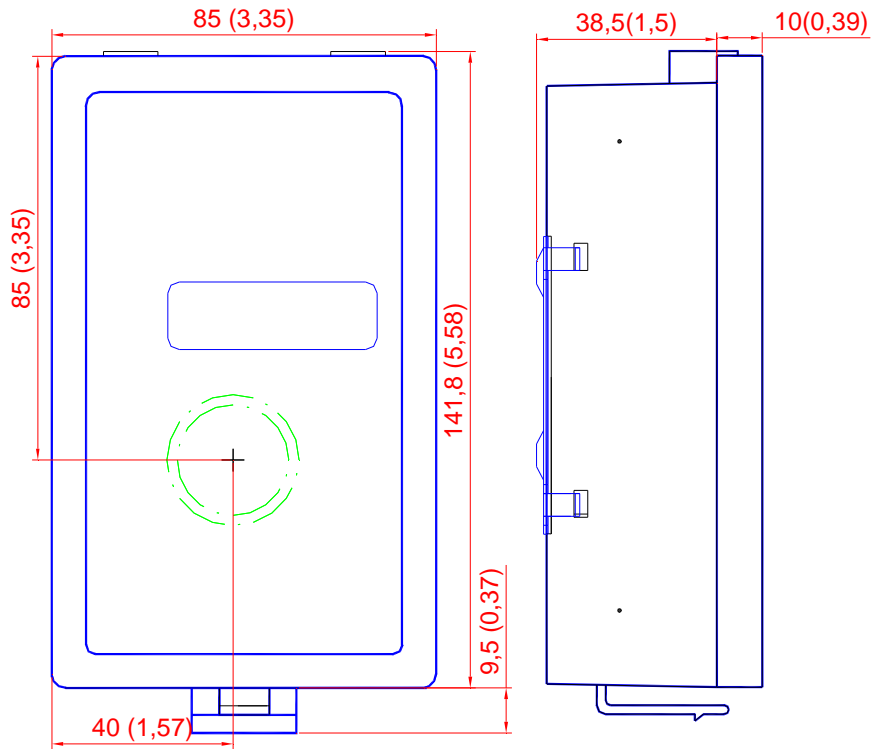
- 1) **Electrical cable entry:** The box has a factory mounted cable entry bushing in dimension PG9. Never feed more than one cable through each cable entry bushing, or else gas might leak through!
- 2) **Screw the wall plate onto the wall:** The wall plate has holes for three screws. Drill holes for 3,5mm screws and put dowel into them. Dowels and screws 3,5 x 25mm are included in a plastic bag
- 3) **Attaching the sensor box** to the wall plate 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.
- 4) **The lid can be locked** with the screw at the bottom of the sensor box.



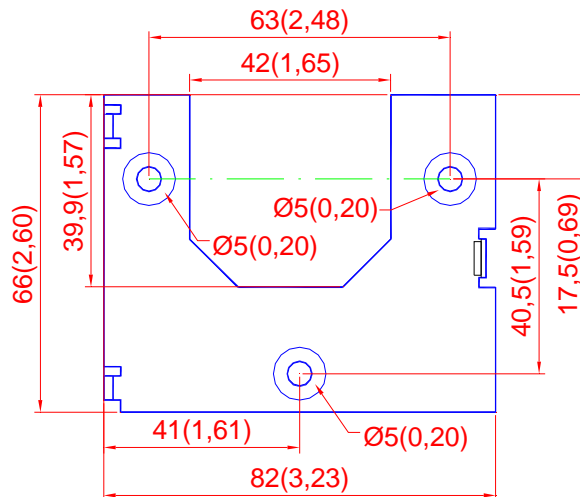
If for some reason the PCB must be removed it must be handled carefully and protected from electrostatic discharge! Normally, removing the PCB is not required.



Terminals and jumpers on **aSENSE™ VAV** standard. The darker positions are default settings.



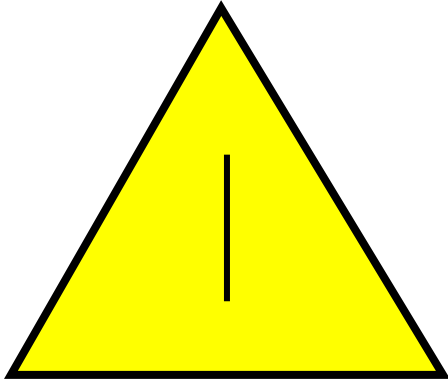
Dimensions of sensor in mm and (inches)



Dimensions of wall plate in mm and (inches)

Electrical connections

The power supply has to be connected to G+ and G0. G0 is considered as system ground. *The same ground reference has to be used for the aSENSE™ VAV unit and for any connected device!* Unless different transformers are used, special precautions need to be taken.



PLEASE NOTE!

The signal ground *is not* galvanically separated from the aSENSE™ VAV power supply!

NOTE!

The same ground reference has to be used for the aSENSE™ VAV unit and for any connected device!

If possible keep the sensor powered up after mounting. Connect the analogue output before measuring.

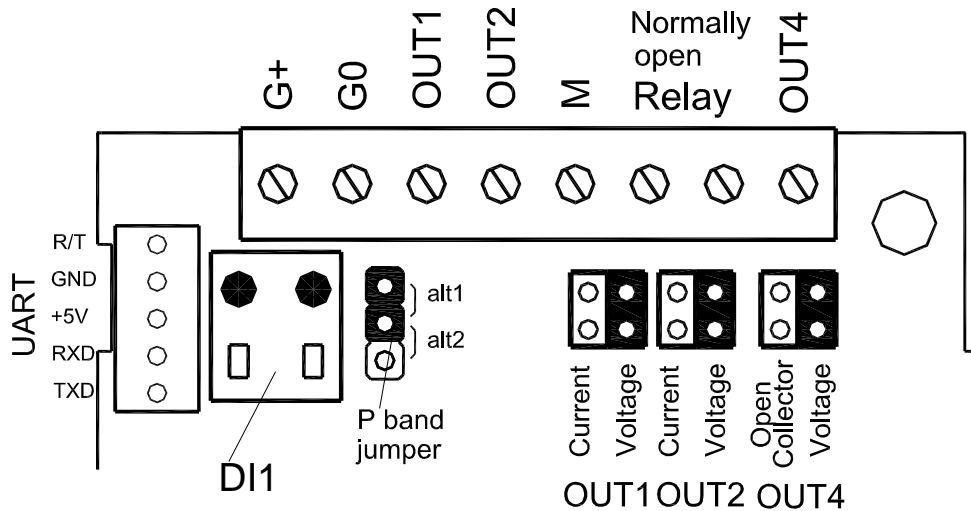
Connection Terminal	Function	Electrical Data	Remarks
G+	Power (+)	24 VAC/DC+ (+-20%), 3W	2W without output load See note 1!
G0	Power ground (-)	24 VAC/DC-	
OUT 1	Analogue Output 1 (+)	0-10 VDC or 0-20 mA, 2-10 VDC or 4-20 mA,	According to positions of OUT1 jumper and start point selection. See note 2!
OUT 2	Analogue Output 2 (+)	Same as Output 1	According to positions of OUT2 jumper and start point selection. See note 2!
M	Signal Ground (-)	Connected to G0 via PTC fuse	See note 1!
Relay Relay	Normally open	Contact free relay minimum load 1mA/5V rated load 0,5A/125VAC; 1A/24VDC	Triggered by register OUT3
OUT4	Analogue Output 4 (+) or Open Collector	0-10 VDC Max 0,5A, 55VDC / 40VAC (half-wave rectifier protection)	According to positions of OUT4. See note 2 & 3!
DI1 DI1	Digital Input 1	Closed contact current 1mA Open contact voltage max 5V	Do not apply any voltage on this input!

Table I. Electrical terminal connections for aSENSE™ VAV

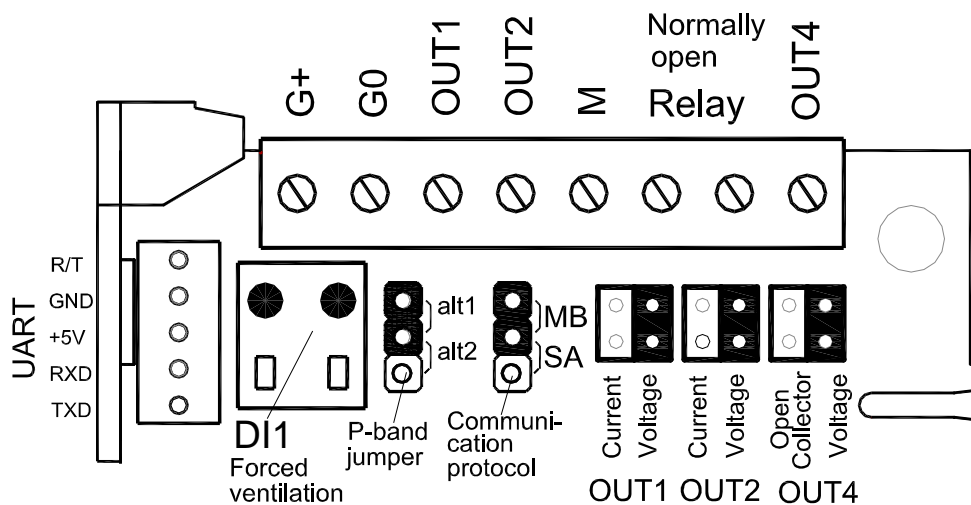
Note 1: The ground terminal is used as negative power supply DC input or AC phase ground G0 (halfwave rectifier). The signal ground M, protected by a PTC resistor, is the same as power ground G0 (permitting a "3-wire" configuration). A single transformer may be used for the entire system.

Note 2: *aSENSE™ VAV* can deliver both a voltage or a current loop for OUT1/OUT2. For OUT4 a voltage output or an open collector output is selected with jumper OUT4. To change between voltage and current output mode the hardware jumpers are used. There is one jumper for OUT1 and one for OUT2, 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 0-20mA) or 20% (2-10 VDC or 4-20mA) selected from PC software.

Note 3: *Current of Open Collector is internally returned to G0 terminal.*



Terminals and jumpers on *aSENSE™ VAV* standard.



Terminals and jumpers on *aSENSE™ VAV* with communication jumper