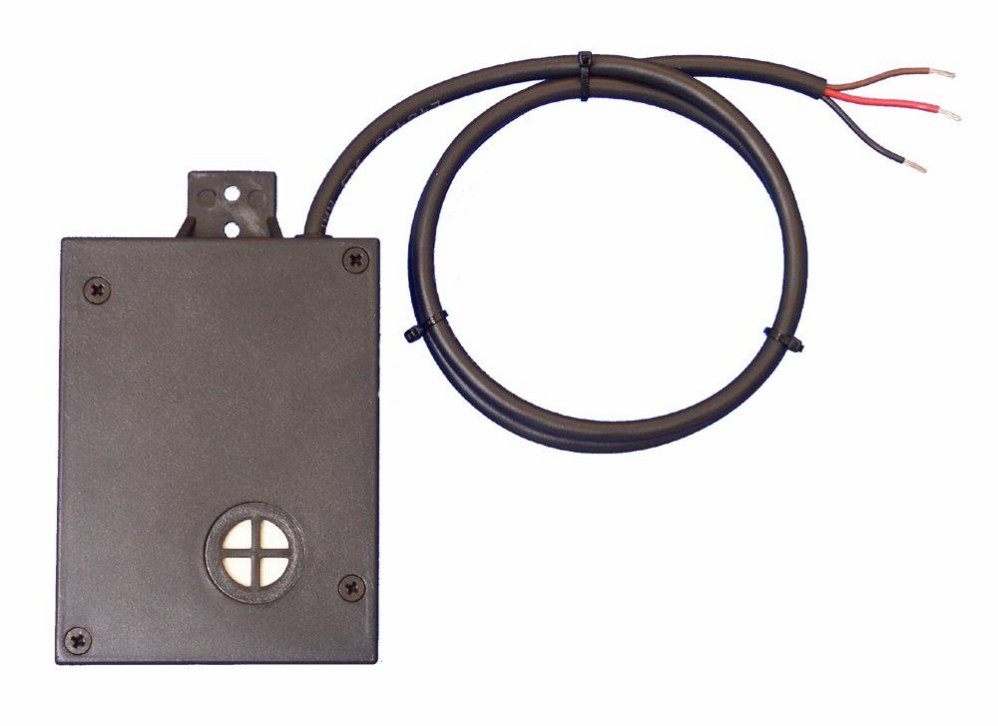
Installation Manual

eSENSE Slim

CO_2 sensor



General

The IAQ-sensor products eSENSE Slim (sensor in industrial housing) are used to measure indoor air carbon dioxide concentration. The 300 mm long cable connected to the PCB makes it possible to place the sensor where the mounting is difficult.

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

If the 4-20 mA output is connected instead of the default output the sensor indicates the *status* by setting the output voltage to 1V or the output current to 2 mA when the sensor self-diagnostics detects any error.

The eSENSE Slim has a permanently connected cable to the PCB.

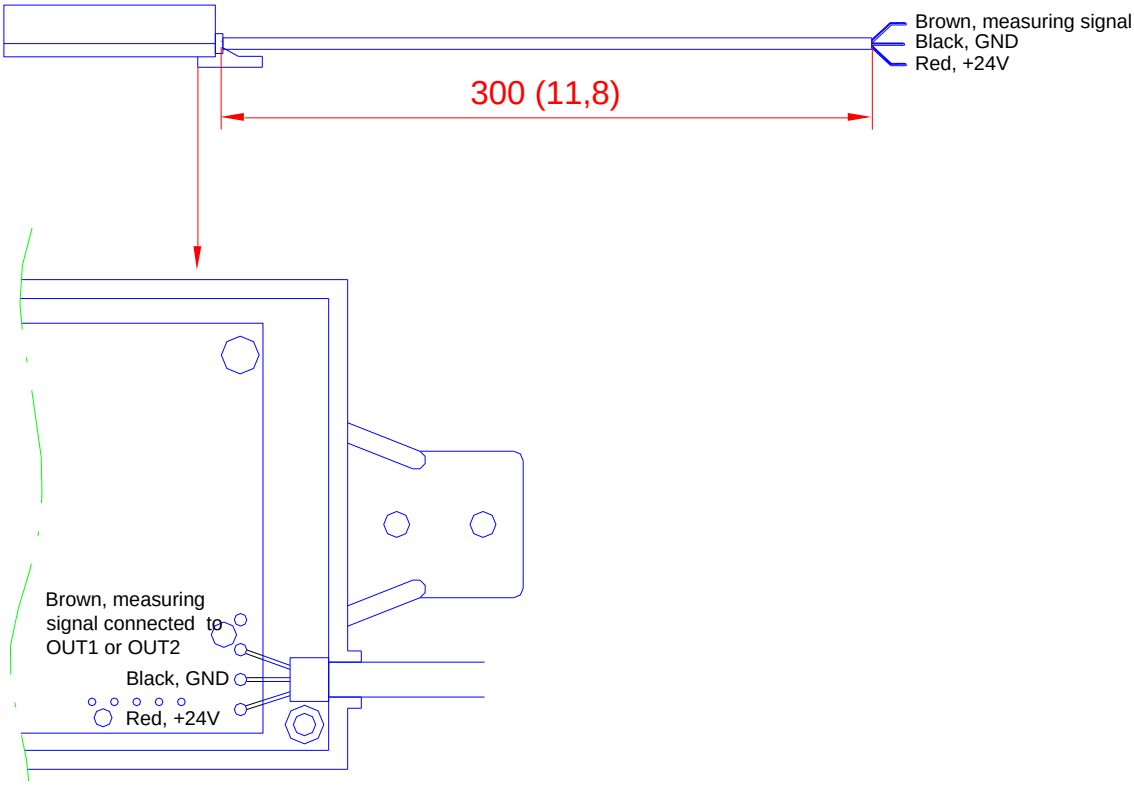


Figure 1. The eSENSE Slim with the cable.

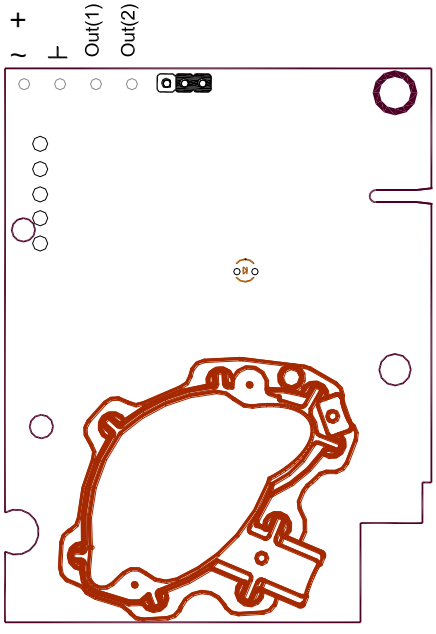


Figure 2. PCB with jumper to configure OUT2 normally
For current output 4-20mA or
voltage output 2-10VDC

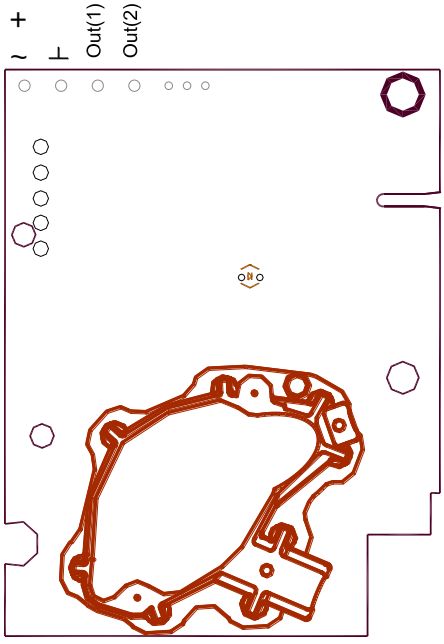


Figure 3.PCB without jumper The brown cable is connected to OUT1 0-10VDC

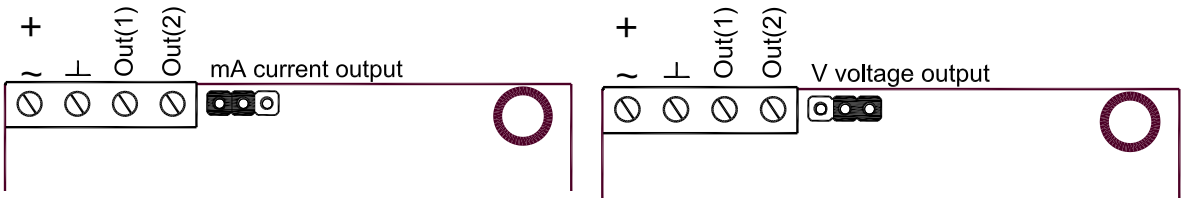


Figure 4. Picture of the PCB with the jumper for setting current output (left position) or voltage output (right position)

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.

NOTE:
The same ground reference has to be used for the eSENSE unit and for the control system.

Connection Terminal	Function	Electrical Data	Remarks	
~ +	Power (+)	24 VAC/DC+ (+-20%), 2W	Red	
⊥	Power ground (-)	24 VAC/DC-	Black	
Out(1)	Analogue Output 1 (+)	0-10 VDC	Brown 0-2000 ppm CO_2	
Out(2)	Analogue Output 2 (+)	2,0-10,0 VDC or 4,0-20,0 mA	Not connected	
		0,9-1,6 VDC or 1,5-2,5 mA	Status = ERROR	
		0 VDC or 0mA	Status = NOT READY	

Table I. Electrical terminal connections for eSENSE

Output Configurations

The sensors/controllers are supplied from the factory (unless otherwise ordered) with a 0...10VDC linear output for Out(1) (see Table I).

Self-diagnostics

The system contains complete self-diagnostic procedures. A full system test is executed automatically every time the power is turned on. In addition, constantly during operation, the sensor probe is checked against failure.

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

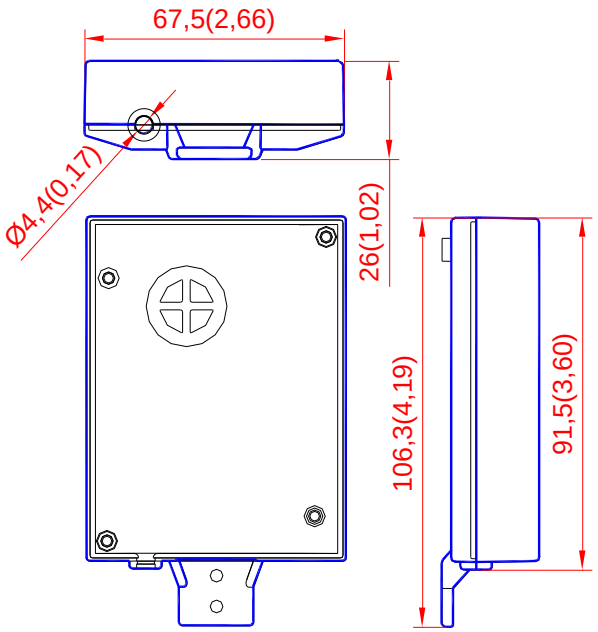


Figure 4. The dimensions of the sensor in mm and (inches)

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