workshop 7: CO^2 measurment

Normal : 400 PPm / 0,04 %

>400PPm -> fatigue -> loss of concentration

NDIR method to measure :



Needs 3 min. of preheating for optimal IR radiation.

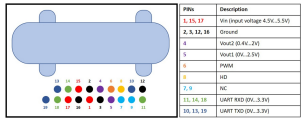
Filter prevents that other wavelengths than CO2 hit the IR detector.

REHVA : warning : 800 - 350 [PPm]

alarm : ≥ 1000 [PPm]

activate ABC. : Pin 8 - GND (7 sec. min.)

Vout : 0 - 2,5 V ; 0 - 5000PPm => most accurate => used for alarm



PINs	Description
1, 15, 17	Vin (input voltage 4.5V...5.5V)
2, 3, 12, 16	Ground
4	Vout2 (0.4V...2V)
5	Vout1 (0V...2.5V)
6	PWM
8	HD
7, 9	NC
11, 14, 18	UART RXD (0V...3.3V)
10, 13, 19	UART TXD (0V...3.3V)

After analysis of the analog, UART & PWM method, we find the first 2 to be unreliable bc of the drifts (and unpredictable) outputs that would work with the alarm. The PWM method is the most stable and hanges the most reliable and best option.

