CO_2 Guard 10

CO_2 Monitor with Traffic Light Indication

The CO_2 Guard 10 reliably shows the carbon dioxide (CO_2) concentration in the ambient air as a measure for indoor air quality (IAQ). The CO_2 level indicated by the LEDs helps deciding on the need for ventilation, for example by opening the windows.

Adequate ventilation and IAQ is paramount for healthy living and working conditions. In spaces with high occupancy, good IAQ diminishes the risk of contamination with aerosol-borne diseases. Additionally, air exchange based on the actual CO_2 level can significantly reduce energy costs compared to random ventilation.

Measurement performance

The CO_2 Guard 10 employs the dual wavelength NDIR measurement principle with auto-calibration, which stands for outstanding long term performance even in harsh and polluted environment. Pressure and temperature compensation with on-board sensors lead to best accuracy irrespective of the location (altitude), weather and environmental conditions.

Flexibility

The CO_2 Guard 10 can be deployed as wall mount or as portable tabletop device. The tabletop stand adapter is included in the scope of supply.

Comfortable use

The CO_2 Guard 10 is maintenance free. Battery supply allows for portable use independently of any external electrical supply availability. All LEDs flashing indicate the need for replacing the batteries.

Visual and acoustic indication

Green, yellow and red LEDs indicate the actual CO_2 range. Additionally, short acoustic signals indicate CO_2 rising to the next higher range.

Wide CO_2 monitoring range

The six CO_2 ranges indicated by the LEDs are suitable for all common indoor situations from low to high CO_2 levels. Low CO_2 levels are typical for residential and commercial purposes according to EN 13779. High CO_2 levels typically occur in spaces with very high occupancy such as school classes.

Long battery life time

A set of 4 commercially available batteries lasts for typically 6 months at room temperature. The snap-on enclosure concept allows for easy battery replacement without any specific tools.

Wall mount

Tabletop

EE895 inside

Significance of the LEDs

The LEDs show the actual CO_2 range in a traffic light style which indicates an IAQ rating as shown in the table:

LED flashes	CO_2 range [ppm]	Indoor air quality (IAQ)
● (red)	Higher than 3000	Very bad
● (red)	2000...3000	Bad
● (yellow)	1400...2000	Acceptable
● (yellow)	1000...1400	Average
● (green)	800...1000	Good
● (green)	Lower than 800	Very good

Note: The CO_2 concentration in outdoor air is approx. 400 ppm

Technical Data

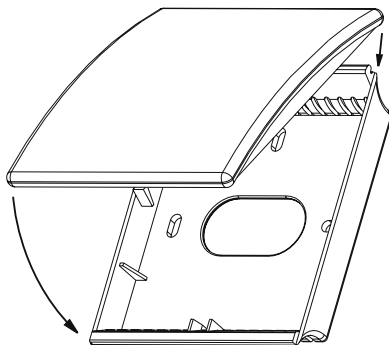|	
CO_2 sensing module[1]	EE895-M16HV2
Measurement principle	Dual Wavelength Non-Dispersive Infrared Technology (NDIR)
Working range	0...5000 ppm
Supply	4 alkaline batteries AAA 1.5 V (in the scope of supply) or
	4 rechargeable batteries[2] 1.2 V (not in the scope of supply)
Battery life time at 23°C (73 °F), typ.	
Alkaline batteries	6 months (1.5 V, 1 200 mAh)
Rechargeable batteries	4 months (1.2 V, 1 100 mAh)
Enclosure	Polycarbonate (PC)
Protection rating	IP30 (wall mount)
	IP20 (tabletop)
Electromagnetic compatibility	EN 61326-1 EN 61326-2-3
	FCC Part 15 ICES-003 Class B
Working conditions	0…50 °C (32...122 °F), 0...95 %RH (non-condensing)
Storage conditions	
CO_2 Guard 10	-40...60 °C (-40...140 °F), 0...95 %RH (non-condensing)
Batteries (in the scope of supply)	-20...50 °C[3]

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1) For detailed measurement performance without measured data averaging (short-time operation) see data sheet EE895 at www.epluse.com/ee895.
2) For charging, it is obligatory to remove the rechargeable batteries from the CO_2 Guard 10 and use an appropriate battery charger (not in the scope of supply).
3) Long storage at negative temperature reduces battery lifetime.

Enclosure

Dimensions:

W x H x D = 85 x 100 x 27 mm (3.3 x 3.9 x 1.1")

Colours:

Front cover: signal white RAL9003
Back cover: light grey RAL7035

Order Code

CO2 Guard 10