

A strong signal – WERMA introduces itself

2020



CO2-Traffic light

The corona situation determines the daily life of all of us. As a manufacturer of signaling technology, we can make our contribution for human health. With the WERMA CO2 Traffic Light the current carbon dioxide concentration in the ambient air can be measured and displayed using a traffic light display. There are four escalation levels: Green, yellow, red and flashing red. The corresponding recommended ventilation can be found on the next page.

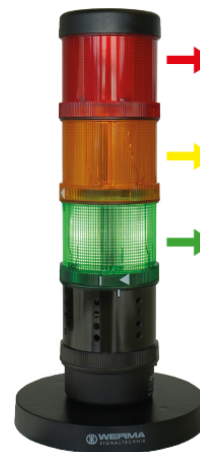


The Product

The product with the number 649.000.10 will be available from 14.12.2020. Included is the signal tower (green/yellow/red) with Co2 sensor, mounting material and power supply unit for 230V. The bracket for wall mounting (Order No. 975.883.01) can be ordered optional.

Part No.:	649.000.10
Series:	KombiSIGN 72
Diameter in mm:	70 mm
Voltage:	230V AC
Signal effect:	Blink Permanent
Light colour:	Green Red Yellow
Protection rating:	IP20
Fixing:	Base mounting

Note:
Europlug is compatible with most European countries. Adapters for e.g. UK or USA are not included in the package.



> 2,000 ppm*

If the traffic light is red, it is urgently necessary to ventilate the room until the traffic light turns green again.

At a concentration of > 3,000 ppm*, the traffic light flashes red to indicate that there is now a danger to health.

> 1,000 - 2,000 ppm*

If the traffic light is yellow, the room should be ventilated.

<= 1,000 ppm*

If the traffic light is green, there is no need to ventilate the room.

* ppm = parts per million, i.e. volume parts per million volume parts

Specifications

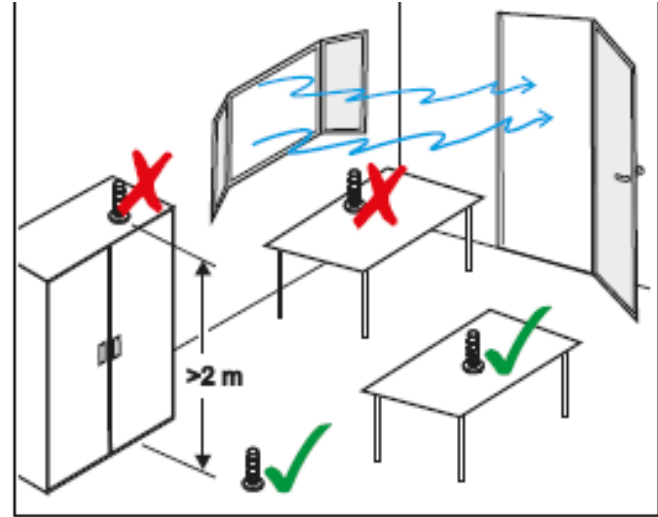
^ Mechanical data	
Height	287 mm
Diameter	70 mm
Materials	PA PC PC/ABS
Dome colour	Green Red Yellow
Housing colour	Black
Protection category	IP20
Connection	Plug-in connection
Cable length	1500 mm
Tension relief	Not present
Type of fixing	Base mounting
Working temperature minimum	+10°C
Working temperature maximum	+35°C
Weight with packaging	864 g
Product weight	599 g

^ Electrical data	
Operating voltage	230V
Operating voltage type	AC
Operating voltage frequency	50Hz
Operating voltage tolerance	+/- 20%
Rated operational voltage	230 VAC
Rated operational current	40 mA
Protection class	Protection class 2
Pollution degree	2
Isolation voltage	U _i = 250V; U _{imp} = 2.500V

^ Optical data	
Light source	LED
Light colour	Green Red Yellow
Optical signal image	Blink Permanent
Service life optical	50,000 h maximum

Installation

The CO2 traffic light should not be installed higher than 2 m above the floor and not directly next to the window. Furthermore, the CO2 traffic light should not be exposed to direct air draughts.



Start up & Calibration

Automatische Erstinbetriebnahme
(nach 24 h einsatzbereit)
Automatic initial start-up (ready after 24 h)

①

② blinkt
blinking t = 3 min

③ automatische Kalibrierung
(mind. 24 h eingesteckt!)
automatic calibration
(min. 24 h plugged in!)

④ fertig!
ready!

Manuelle Erstinbetriebnahme (Schnellstart)
Manual initial start-up (fast start-up)

→ siehe Manuelle Kalibrierung
see Manual calibration

Automatische Kalibrierung
Automatic calibration

①

② blinkt
blinking t = 3 min

min. 1x alle 24 h, CO₂ Konzentration < 400 PPM
⇒ Automatische Kalibrierung erfolgreich

min. 1x every 24 h, CO₂ concentration < 400 PPM
⇒ automatic calibration successful

⇒ Fenster öffnen für > 30 min alle 24 h
⇒ open windows for > 30 min every 24 h

Manuelle Kalibrierung (1-8)
Manual calibration (1-8)

① ⇒ Fenster öffnen für > 1 h
open windows for > 1 h

②

③

④

⑤

⑥

⑦

⑧

ROT RED
↑
GELB YELLOW
↑
GRÜN GREEN

⇒ t = 3 min

⑧ AUS OFF

Manuelle Kalibrierung (9-14)
Manual calibration (9-14)

⑨

⑩

⑪

⑫

⑬

⑭ blinkt
blinking t = 3 min

⇒ KALIBRIERT
⇒ CALIBRATED

FAQ

How should the CO2 traffic light be set up?

Plug & Play - The CO2 traffic light is ready to use and can be connected to a conventional 230 V socket using the power supply unit supplied.

After a three-minute warm-up phase (green LED light element flashes), the CO2 traffic light is ready for operation and measurement, green LED light element switches to a continuous green light.

How many square metres does a traffic light cover?

As CO2 is spread quite homogeneously throughout a room, one CO2 traffic light is generally sufficient for rooms such as a schoolroom. For rooms as large as a sports hall, two to four CO2 traffic lights should be installed. A further parameter is also the room layout, so that no general statement can be made regarding the number of CO2 traffic lights to be used. We are pleased to be available for advice.

Can the device remain on for 24 hours in continuous operation or can it be switched on again each time the room is used?

The CO2 traffic light is suitable for both applications. If it is only switched on when the room is used, a longer service life can be assumed. Nevertheless, the CO2 traffic light can also be disconnected from the power supply as required (e.g. in the evening). The warm-up phase (3 min, green LED light element flashes) is started when the system is put into operation again and the power supply is restored.

Why don't the lighting elements work or don't light up?

Reasons for this may be...

The CO2 sensor element is in calibration mode (switch position is set to "CAL") and calibration is complete.

The switch has not been moved back to "USE", however.

The device is not supplied with voltage (check the mains plug and the connection plug-socket of the CO2 traffic light).

Communication with the sensor has failed, the device is damaged.

Does the CO2 traffic light or CO2 sensor have to be calibrated manually and if so, how often?

The CO2 traffic light does not have to be calibrated manually, the CO2 sensor element calibrates itself automatically every 24h (switch position is set to "USE"). This is based on the assumption that the indoor air is sufficiently aired once every 24h that the CO2 concentration in the room air has fallen below 400 ppm (~ value of the outside air). The lowest measured value is used for calibration. Manual calibration can be used if the traffic light shows unclear results.

What to do if the CO2 traffic light shows unclear results?

Perform manual calibration in a very well aired room.

How often is the CO2 concentration in the room air measured?

The CO2 concentration is measured every 4 seconds.

Which measuring method is used?

The built-in CO2 sensor uses an optical measuring method with infrared light.

Why does the CO2 sensor need to be calibrated?

The infrared light source ages during operation, this ageing is compensated by the sensor calibration.

What should be done if the power supply is interrupted during calibration?

In this case, reconnect the power supply and start the calibration again.

What should be done if the CO2 traffic light repeatedly resets itself on contact?

Check the mains plug and the plug/socket connection of the CO2 traffic light.

