

Safety Alarm



Facts & figures:

Pigs are submitted to high levels of CO₂, which knocks them out, before being slaughtered.

Above 1% of CO₂ ones rate of breath increases very slightly but one will most probably not notice it!

1.5% is the normal Short Term Exposure Limit

Safety alarms in general

We experience many situations daily that can develop into potentially lethal scenarios. Carbon dioxide gas can be considered harmless for humans and only harmful to the environment. However in high concen-

trations CO₂ can be fatal and very difficult to detect because it is an odourless and colourless gas.

Why the need to measure CO₂?

Measurements of CO₂ concentration in the air can detect a fire quicker and more accurately than the discovery of smoke or flames. It can be vital to alarm at an early stage in order to prevent the damage to the human body that can occur when inhaling smoke. Normally, smoke consists of soot and asphyxiating gases.

For people to be able to work in a mine a lot of safety issues have to be addressed. One of these safety issues is to **ventilate the mine**, there are many potential toxic and explosive gases in mining. If ventilation is poor, this can lead to carbon dioxide poisoning as CO₂ is a heavy gas and mines usually have a limited space. Measuring CO₂ in all areas by attaching portable alarms to the workers can detect dangerously high concentrations of CO₂ in time.

For companies that use large tanks of CO₂, it is essential that there are detectors connected to these tanks to enhance safety and be able to respond quickly to a leak. Measuring CO₂ saves time and money for

the company and provides a safe working environment for its employees. By monitoring CO₂ the environment is also protected from potentially large leaks of CO₂ into the atmosphere from un-protected bottles or leaks.

The volume of air in a vehicle is limited and in some cases it can lead to build up of high levels of CO₂. High levels of CO₂ can cause drowsiness for the vehicles occupants, which can lead to potentially major traffic accidents. This can be avoided by measuring the CO₂ that is connected to the air conditioner of the car, which will lead to **healthy air for the driver**.

In order to feel good and to perform at work, it is essential to have good ventilation. **Good ventilation** can be achieved by measuring the CO₂ concentration. For example, in classrooms where activity can vary it is essential for the ventilation to accommodate for that. If the sensor detects too high a level of CO₂ it sends automatically an alarm signal or adjusts the air setting.

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What solution can Rotronic offer?

Rotronic offers a wide range of fix-mounted CO₂ only and CO₂ temperature transmitters. All of them are based on the principle of NDIR technology. They are pre-calibrated and have a life-

time of over 15 years under normal conditions. Multiple analogue outputs like current loop, voltage and relay contact allow for the easy adaptation to every application. A major advantage of the cur-

rent sensor is the stability of the measurement over the entire temperature range, whereas some sensors are temperature dependant, Rotronic remains stable.



CF3-W-US-Disp-FLI transmitter

Rotronic products:

Transmitter:

- **CF3 series**
0...2000ppm or 0...5000ppm,
±30ppm, ±3% of reading
Optional display,
Optional alarm
IP54
- **CF8 series**
0...2000ppm or 0...4000ppm,
±30ppm, ±3% of reading or
±300ppm, ±3% of reading
Optional display,
IP54,
Optional visual alarm,
Optional CO measurement,
Optional temperature measurement,

Hand held device:

- **CP11**
Measurement of CO₂, temperature and relative humidity,
-20...60°C,
±0.3K,
0.1...99.9%rh,
±2.5%rh,
0...5000ppm,
±30ppm, ±5% of measured value,
Data logging function (18000 values) with time stamp.

Display unit:

- **CO2-Display**
Measurement of CO₂, temperature and relative humidity, with air quality level
-20...60°C,
±0.3K,
0.1...99.9%rh,
±2.5%rh,
0...5000ppm,
±30ppm, ±5% of measured value,
Data logging function (18000 values) with time stamp,
Possibility to save the data to a USB stick.



CF8-W-Disp-GH transmitter

Customer benefits:

Accuracy and long term stability

Choosing Rotronic gives you the best accuracy on the market.

The Rotronic CO₂ sensors can easily be calibrated, to guarantee highest possible precision of the measured concentration.

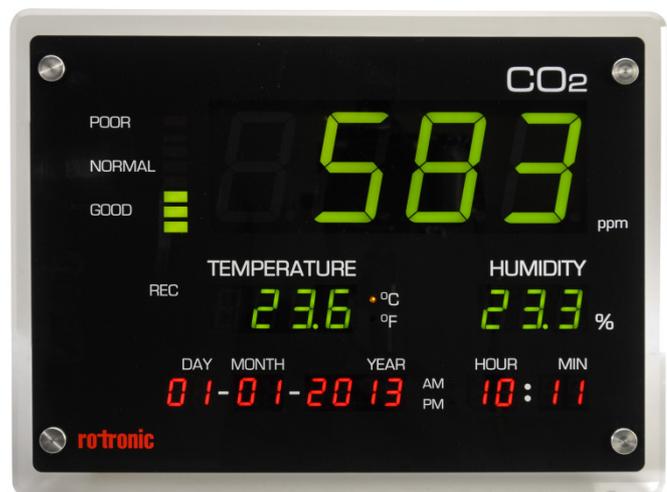
Calibration

The ABC function automatically avoids baseline drift. A calibration and adjustment is carried within a user defined time where the lowest value is automatically calibrated at 400ppm. Optionally

a 0ppm calibration unit is available from Rotronic.



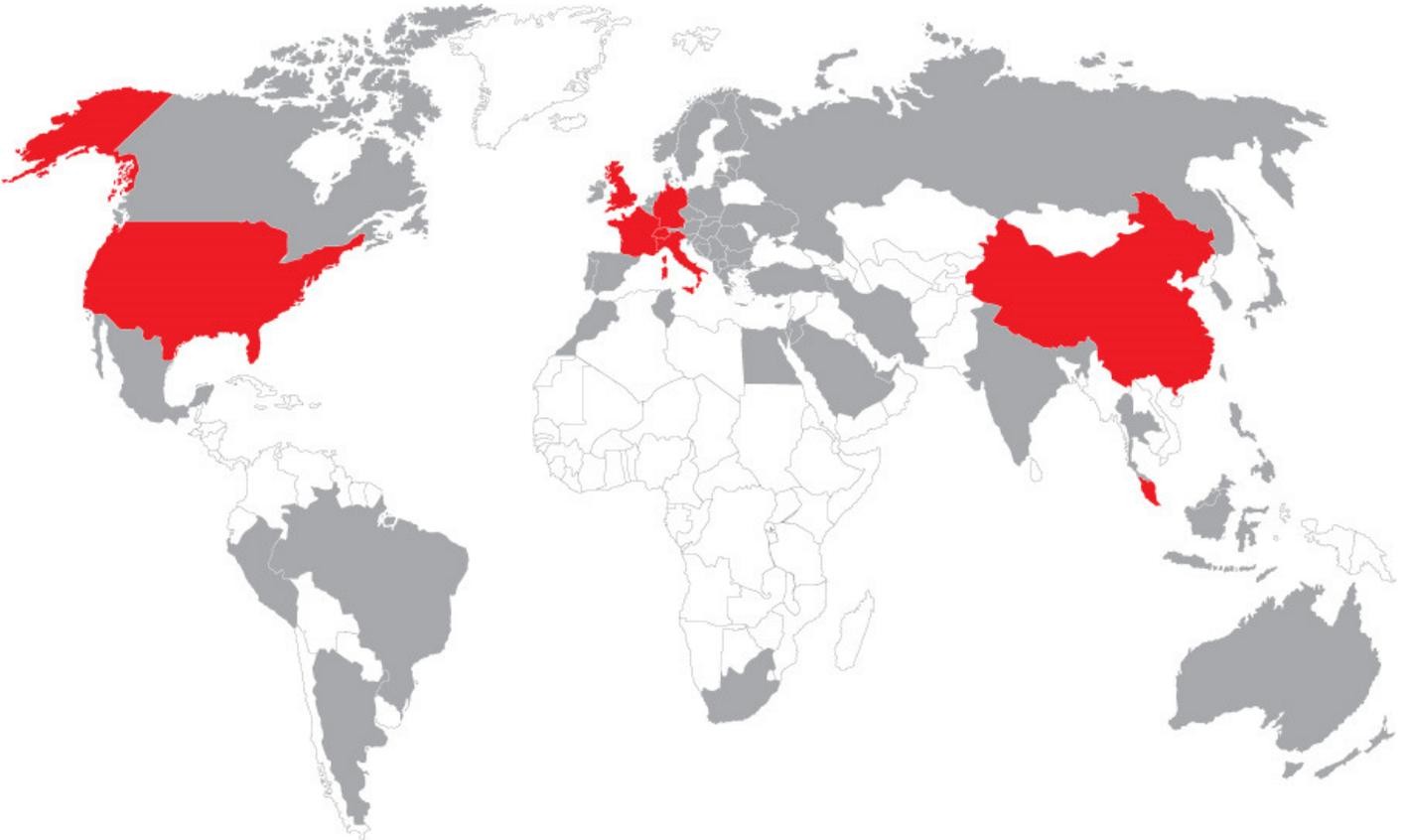
CP11 handheld device



CO2-Display

Contact us:

Rotronic is represented in more than 40 countries around the world. An up to date list of all our partners is available at www.rotronic.com



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