

CO2 Monitoring and Control in Fermentation and Carbonation Processes

In beverage production, carbonation, and tank storage processes, CO₂ plays a vital role in product quality and carbonation control. Accurate monitoring of this gas is essential for both product quality control and workplace safety. Excess CO₂ beyond safe limits in enclosed spaces can create a hazardous environment, while precise control of CO₂ for carbonation, gas collection, and process ventilation requirements leads to greater efficiency and cost savings.

Controlled tank environment ventilation



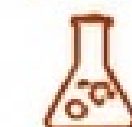
Detection of CO₂ gas accumulation



Assistance towards better process control



CO₂ supply in fermentation processes



Increased workplace safety in closed spaces



Suitable for beverage, carbonation, and soft drink industries





RC2-D; CO₂ Monitoring

Direct Ventilation Control for Classrooms and Educational Halls

In educational environments, CO₂ levels rise quickly, and this can negatively impact students' learning, attention, and performance. CO₂ reduces concentration, causes fatigue, and can lead to headaches. By continuously monitoring CO₂ levels, RC2-D provides an intelligent ventilation control solution to ensure a healthier environment and improve learning outcomes.

Monitors CO₂ levels in real time
in classrooms and educational halls



Adjusts ventilation based
on CO₂ levels



Supports healthier learning
environments for students and teachers



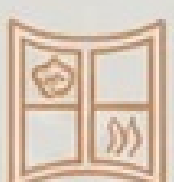
Works with smart and
building management systems



Easy installation and maintenance



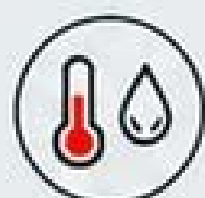
Helps reduce energy costs
by optimizing ventilation



RC2-D: CO₂ Monitoring and Control

Enhanced Freshness Preservation of Products in Cold Storage

In cold rooms, CO₂ levels are closely monitored and controlled to maintain the ideal environment for product freshness. By accurately measuring CO₂ concentration, the system regulates ventilation and gas levels, preventing the buildup of excessive CO₂. This helps extend the shelf life of products, reduces spoilage, and ensures optimal quality and freshness. It is especially important for perishable goods such as fruits, vegetables, and other sensitive products, and plays a vital role in maintaining safe and efficient cold storage conditions.



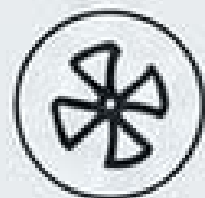
CO₂ and temperature sensors



Humidity and temperature control



Controlled Atmosphere (CA) capability



Supports multiple sensors and devices



Easy installation and maintenance



CO₂ display in real time in the cold room



RC2-D; Precise CO2 Monitoring for Shelf Life Preservation and Prevention of Spoilage of Stored Goods

In goods storage warehouses, controlling air quality is vital for preserving product quality and safety. In closed warehouses, increased CO2 levels are a sign of insufficient ventilation and accumulation of stale or contaminated air. The RC2-D CO2 sensor, in addition to accurate environmental monitoring, helps warehouse managers make optimal ventilation decisions and prevent spoilage and loss of stored goods.



Monitoring of temperature, humidity, and CO2



Alert on abnormal CO2 increase



Air quality control in closed warehouses



Ventilation of stale and contaminated air



Suitable for connection to central monitoring system



Assistance in preserving quality of stored goods



RC2-D Series: CO2 Transmitter

Smart Breathing Monitor for Healthier Spaces and Better Performance

In indoor spaces, CO2 levels directly impact physical performance, decision-making speed, and overall well-being. When CO2 rises, mental fatigue, reduced focus, and discomfort can increase. The RC2-D Series, with advanced Swiss CO2 sensor technology, provides accurate and reliable monitoring. It helps you activate ventilation systems at the right time, ensuring fresh, clean air and a better environment for everyone.



Energy Saving

Reduce energy consumption by operating ventilation systems only when needed.

Drift Compensation

Automatic drift correction ensures long-term measurement accuracy.

Modbus Protocol

Seamless integration with BMS systems for centralized monitoring and smart control.

4-Relay Outputs

Control ventilation, alarms, and more with fully configurable outputs.

Standalone Operation

Works independently without the need for a control system.

Modern & Easy Installation

Sleek design and simple setup for any indoor environment.



RC2-D; Monitoring and Control of Air Quality in Medical and Therapeutic Environments

In hospitals, clinics, and laboratories, indoor air quality is critically important. These environments must be protected from infection risks and safety hazards. Rising CO² levels may indicate insufficient ventilation and reduced air quality. Accurate environmental condition monitoring helps improve safety in sensitive areas such as operating rooms, isolation rooms, and the most critical wards.



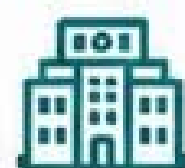
Monitoring of temperature, humidity, and CO²



Monitoring of air quality in medical environments



Increased safety for patients and staff



Connection to HVAC or BMS systems in hospitals



Suitable for clinics, laboratories, and high-occupancy wards



Air quality monitoring in parking garages

RC2-D: Smart HVAC Control for Energy Optimization

In HVAC systems, the CO₂ sensor is used for Demand-Controlled Ventilation (DCV). When occupancy increases in a space, CO₂ levels rise, enabling the ventilation system to automatically adjust fresh air intake accordingly. This approach enhances indoor air quality while significantly reducing energy consumption by conditioning and supplying air strictly based on actual demand.

Features



Modbus RTU Connection to BMS



Simultaneous Monitoring of CO₂, Temp, Humidity & Pressure



Smart Control of AHUs and Fan Coil Units



Ideal for Commercial, Office & Industrial Buildings



Improves Indoor Air Quality (IAQ)



Energy Savings via Demand-Controlled Ventilation (DCV)



RC2-D

Accurate CO₂ Control for Packaging Quality with Modified Atmosphere

PRECISION CO₂ MEASUREMENT
FOR MODIFIED ATMOSPHERE PACKAGING



Measurement Accuracy
±50 PPM ±3%



Fast Response
T90 < 30 s



Relay Outputs
Control of machines and process equipment



Wide Range
Accurate measurement in diverse ambient conditions



IP65 Protection
Resistant to dust and moisture



Easy Installation
Wall-mount or duct-mount design, low maintenance

The RC2-D CO₂ transmitter, built on non-dispersive infrared (NDIR) sensor technology and intelligent algorithms, delivers accurate and stable measurement of CO₂ gas concentrations in Modified Atmosphere Packaging (MAP) processes. With reliable performance and a user-friendly design, it helps you enhance product quality, safety, and shelf-life while keeping packaging costs under control.



RC2-D

Air Quality Monitoring in Multi-Level and Underground Parking Garages

In basement and underground parking garages, proper ventilation for personnel and exhaust gas control is essential. Gases such as CO and NO₂ are the primary air pollutants. Rising CO₂ levels can also indicate insufficient parking ventilation. Accurate monitoring of air quality, general ventilation control, and reduction of stale air consumption help select ventilation fan operating hours and reduce energy consumption.



1

Assistance in ventilation control



2

Monitoring of NO₂ and CO sensors



3

Warning of unsuitable ventilation conditions



4

Energy consumption reduction with air quality control



5

Suitable for underground and basement parking garages



6

Monitoring of stale air in closed parking areas



High Accuracy | Reliable Performance | Reasonable Price

RC2-D: Smart CO2 Control To Improve Quality and Reduce Mushroom Crop Loss

In mushroom growing rooms, CO2 levels are one of the key factors affecting product quality. In different growth stages, an imbalance in CO2 concentration can lead to reduced sensitivity and increased susceptibility to diseases in mushrooms, as well as smaller size, lower quality, and less yield. The CO2 sensor helps you achieve stable and optimal CO2 levels in the growing room.



Precise monitoring at different growth stages



CO2 control for adjusting crop shape



Reduces the likelihood of off-product



Helps produce higher quality mushrooms



Maintains optimal temperature and humidity
for better environmental control



Connects to fans, heaters, and automation systems



RC2-D

Increased Yield and Quality of Crops in Vertical Farms

In greenhouses, vertical farms, and plant growth chambers, CO₂ is one of the most important factors for increasing photosynthesis yield. In these environments, light, temperature, nutrition, and CO₂ must be accurately controlled in a fully integrated manner.



Continuous CO₂ control in the environment



Increased vertical farm productivity



Improved photosynthetic efficiency with precise control



Optimization of temperature, humidity, and CO₂



Suitable for vertical farms and urban agriculture



Connection to indoor farming automation systems



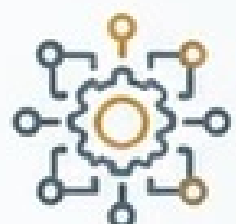


RC2-D; Managing Livestock and Poultry Halls Air Quality

In breeding halls and barns, air quality directly affects the health, growth, and welfare of the livestock. CO₂ accumulation in an enclosed and poorly ventilated space causes reduced feed efficiency, increased stress, and higher mortality. Continuous CO₂ monitoring alongside temperature and humidity control is a key tool for maintaining flock health and conditions.



Reduced respiratory stress in birds



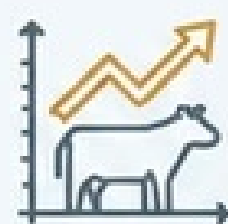
Suitable for automated ventilation systems



Continuous monitoring of air quality inside the hall and manure drying



CO₂ extraction based on permissible limits



Supports improved growth and reduced mortality



Prevention of inadequate ventilation in enclosed halls

RC2-D:

CO2 Sensor for Ensuring Safety and Enhancing Personnel Efficiency

The RC2-D CO2 sensor is designed for industrial environments, featuring high accuracy, fast response, and long-term stability. It continuously monitors CO2 levels in the environment and provides real-time data to help ensure worker safety, optimize operations, and enhance personnel efficiency. The sensor is suitable for various industrial settings, especially in harsh environments with high dust, humidity, and vibration, ensuring reliable performance and long-lasting durability.



Advanced PASens® Technology

High sensitivity and fast response for accurate CO2 detection.

1



Multiple Output Options

Supports analog, digital, and relay outputs for flexible integration.

2



Built-in Pressure Compensation

Minimizes the impact of pressure changes on measurement accuracy.

3



Rugged and Reliable Design

IP61 protection rating with resistance to dust and water splashes.

4



Flexible Installation & Integration

Supports Modbus RTU protocol and 4-20mA / 0-10V outputs for easy PLC integration.

5



Intelligent OLED Display

Provides clear readings and settings for easy monitoring and operation.

6





RC2-D; Precise Measurement of Environmental Indices to Ensure Operational Stability of Sensitive Equipment

In server rooms and data centers, temperature and humidity control is of primary importance, but CO2 monitoring is also vital for indoor air quality management and ventilation. In enclosed spaces or control rooms where staff are present, rising CO2 levels indicate insufficient ventilation. The CO2 sensor can connect to the BMS system and, alongside temperature and humidity, provide comprehensive environmental monitoring.

- Server room air quality monitoring
- Simultaneous monitoring of temperature, humidity, and CO2
- Environmental condition control in control rooms
- Assistance in data center fresh air management
- Connection to BMS and central monitoring system
- Increased stability of equipment working environment and personnel comfort



RC2-D Smart Controller

Equipped with internal relay for automatic ventilation and damper control

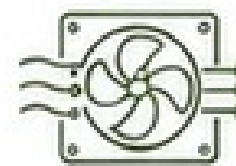
In greenhouses and indoor farms, accurate measurement of carbon dioxide (CO₂) concentration is essential for photosynthesis and crop growth. The RC2-D intelligent controller precisely monitors CO₂ levels in the air and automatically adjusts the ventilation and exhaust systems when necessary. This keeps the CO₂ concentration within the ideal range, ensuring stable CO₂ levels, optimal photosynthesis, and better plant growth. The result is healthier plants, higher yields, and more efficient, intelligent greenhouse management.



High reliability
and long lifespan
for your investment



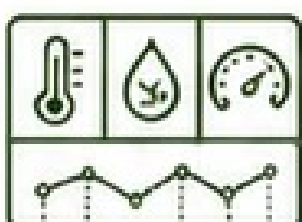
Accurate and fast
response to changes
in greenhouse conditions



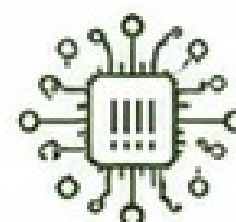
Ventilation and exhaust
systems, cooling and
heating control



CO₂ concentration
control for optimal
plant growth



Real-time display of
temperature, humidity,
and CO₂ levels



Connects to PLC and
BMS systems for
intelligent management



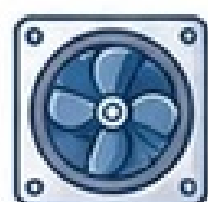
RC2-D; CO₂ Leakage Detection and Carbonation Control

Safe Carbonation Production Line

In beverage and carbonation production plants, CO₂ gas is widely used for the carbonation of products. However, CO₂ gas is heavier than air and hazardous, and a leak can quickly build a dangerous concentration in the workspace. Therefore, CO₂ sensors in these environments are used for leakage detection, alarm activation, controlled area ventilation, and safe environment monitoring.



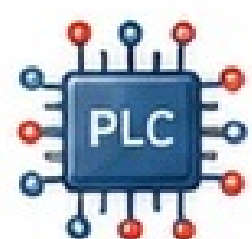
CO₂ Leakage
Detection



Controlled Area
Ventilation



Alarm Activation
(Visual & Audible)



PLC
Control



Safe Environment
Monitoring



Automatic
Ventilation

RC2-D: CO2 Monitoring and Ventilation Control in Tunnels and Underground Spaces

In tunnels, underground passageways, and enclosed spaces, the accumulation of exhaust gases and suspended dust particles poses a serious safety hazard. Rising CO2 levels can indicate poor air circulation and reduced air quality. In emergencies such as fires, monitoring plays a far more critical role, enabling safe evacuation and smoke and pollutant extraction through controlled ventilation.

Warning in abnormal conditions



Enhanced safety for personnel and drivers



Monitoring of air quality in enclosed underground spaces



Control of fresh air and tunnel ventilation system



Suitable for tunnels, underground passageways, and enclosed spaces



Central control system connectivity via Modbus



Tunnel Ventilation System