

# SG-02-CO2-xx ZigBee Indoor Carbon Dioxide(CO2) Detector



## Description:

Ventilation is very important in maintaining a comfortable, healthy, productive environment for people. Improper ventilation can affect occupant health and performance negatively, increase the risk from litigation, and/or waste energy. Demand-controlled ventilation with CO2 sensors prevents energy losses from over-ventilation while maintaining indoor air quality. The most energy savings potential is in buildings where occupancy fluctuates throughout a 24-hour period.

Most organizations with green mind now require and/or recommend CO2-based ventilation control in different commercial HVAC applications. Some utility companies also offer rebates to building owners for installing CO2 sensors. The SG-02-CO2 allows you connect detector wirelessly with your

centralized center. With unique ID, it can be traced and activate the right ventilation system as needed.

The Nietzsche's SG-02-CO2 series combines all the necessary elements, such as easy to install, and have a clean, stylish look that suits most indoor for effective climate control in commercial office buildings, hospitals, hotels, schools and other facilities.

## Features & Benefits

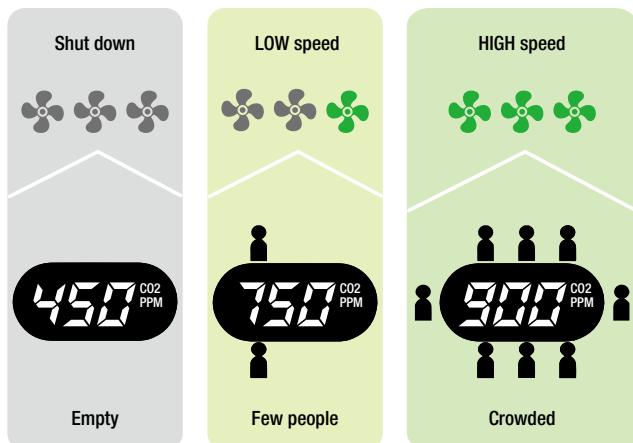
- State-of-the-art NDIR CO2 sensing technology for best reliability
- High energy-saving potential from on-demand ventilation
- Automatic, maintenance-free CO2 measurement
- Wirelessly Controls air-conditioning (ventilation, window opening, co-ordinated heating control etc.) via ZigBee technology
- Provides information on air quality and the need for fresh air (wirelessly, visually and acoustically)
- Also suitable for retrofitting in training, conference, classrooms, offices and the home
- Acoustic warning every continuously above 1500 ppm (can be deactivated/muted for 10 minutes with mute button)
- Indicator with 2 LED's (green for wireless, red for over 1500 ppm)

## Specifications

Detecting Technology	Non-dispersive infrared (NDIR)
Detection Gas	Carbon dioxide (CO2)
Measurement Range	0 ~ 10000 ppm
Sensitivity	± 0.02 % volume CO2 ± 3% of reading
Alert Indication	1000~1500 ppm: Beep; Over 1500 ppm: Beep and Voice alarm
Power Supply	12 VDC adapter
RF Communication	Wireless ZigBee
RF Protocol	ZigBee Standard Home Automation Profile
RF Band	2.40 ~ 2.48 GHz
RF Transmit Distance	Up to 100 meters
Operation Temp.	0 °C ~ +50 °C / +32 °F~ +122 °F
Storage Temperature	-20 °C~ +50 °C / -4 °F~ +122 °F
Operation Humidity	0 ~ 85 % Relative Humidity (Non-condensing)

Storage Humidity	15 %~90 %RH
Pressure range	+1.6% reading per kPa deviation from normal pressure
Material	UL 94_V0 fire protection material
Dimensions	(D)100 mm X (H) 40 mm (including fixture)
Weight	Detector : 174 g/ 6.14 oz (with adapter); Adapter : 92 g/ 3.25 oz
Color	Pearl-white
Light Indication	LED : Green for wireless link ; Red for event alarm
Siren Indication	80 dB human voice alarm
Compliance	Element
	Detector
	EN 61000-6-3:2007, EN 61000-6-4:2007 Immunity : EN 61000-6-1 : 2007 RoHS directive 2011/ 65/ EU
	CE, FCC, RoHS

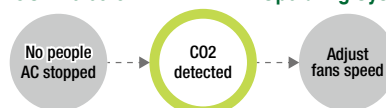
## Energy Saving Template via DCV using CO2 Detector in Meeting Room



**3518 kWh / year**  
(-27%)  
(Electricity savings)

Demand Control Ventilation using CO2 Detector

Automatic Air Conditioning Operating System

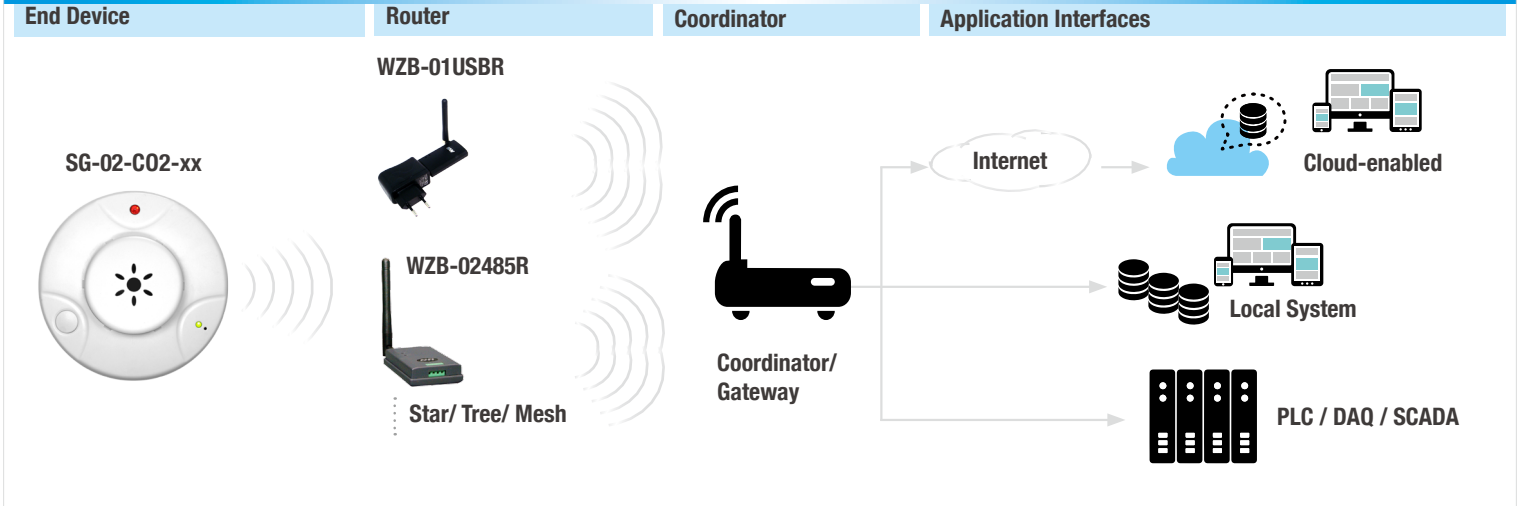


## CO2 and Air Quality Reference Table

CO2 [ppm]	Air Quality
2000	"BAD" Heavily contaminated indoor air <b>Ventilation Required</b>
1900	
1800	
1700	
1600	
1500	"MEDIocre" Contaminated indoor air <b>Ventilation recommended</b> [Detector alert default at 1500 ppm]
1400	
1300	
1200	
1100	"FAIR"
900 ~ 1000	
700 ~ 800	
400 ~ 600	"EXCELLENT"

# SG-02-C02-xx ZigBee Indoor Carbon Dioxide(CO2) Detector

## System Configuration



## Ordering rules and codes

SG-02-C02-xx

Power supply: 1 for US; 2 for EU; 3 for UK

Protocol: H for HA; M for ModBus; S for Stand-alone

Sensor: Carbon Dioxide (CO2)

### Ordering codes

Ordering codes	Description
SG-02-C02-H1	ZigBee Indoor Carbon Dioxide Detector with US adaptor with ZHA profile
SG-02-C02-H2	ZigBee Indoor Carbon Dioxide Detector with EU adaptor with ZHA profile
SG-02-C02-H3	ZigBee Indoor Carbon Dioxide Detector with UK adaptor with ZHA profile
WZB-01USBC	ZigBee USB dongle
WZB-05ET	ZigBee ethernet gateway (Supports DHCP)
G07	SentrolCloud controller gateway for ethernet/ 3G/ Wi-Fi
WZB-01USBR	ZigBee repeater/ router - AC Universal adaptor power supply
WZB-02485R	ZigBee repeater/ router - DC 9 - 24 power supply