

BCT4100-CO2

Carbon Dioxide Transmitter & Detector DATASHEET

With Temperature & Humidity Detection and Transmitting Optional



□ Features

- ◆ Real-time detecting CO₂ level. Temperature and humidity detection is optional.
- ◆ NDIR infrared CO₂ module inside with four CO₂ detection range selectable.
- ◆ CO₂ sensor has Self-Calibration Algorithm and 15 years lifetime
- ◆ Mounted type and duct type selectable
- ◆ Special kind "L" series with 6 lights Indicates CO₂ level and makes CO₂ level clear show.
- ◆ Special model with a touch button to operate a fan control.
- ◆ Design for HVAC, ventilation systems, offices, classrooms or other application places.
- ◆ Providing up to three analog outputs for CO₂/temperature/humidity.
- ◆ Easy choice of voltage or current via jumpers: 0~5VDC/0~10VDC/4~20mA/0~20mA.
- ◆ One relay output is available
- ◆ RS-485 communication interface is optional: 15KV antistatic protection, independent address setting
- ◆ 24VAC/VDC power supply can be connected with the wire terminals, also a power adaptor's plug connected into the socket available.
- ◆ CE-Approval



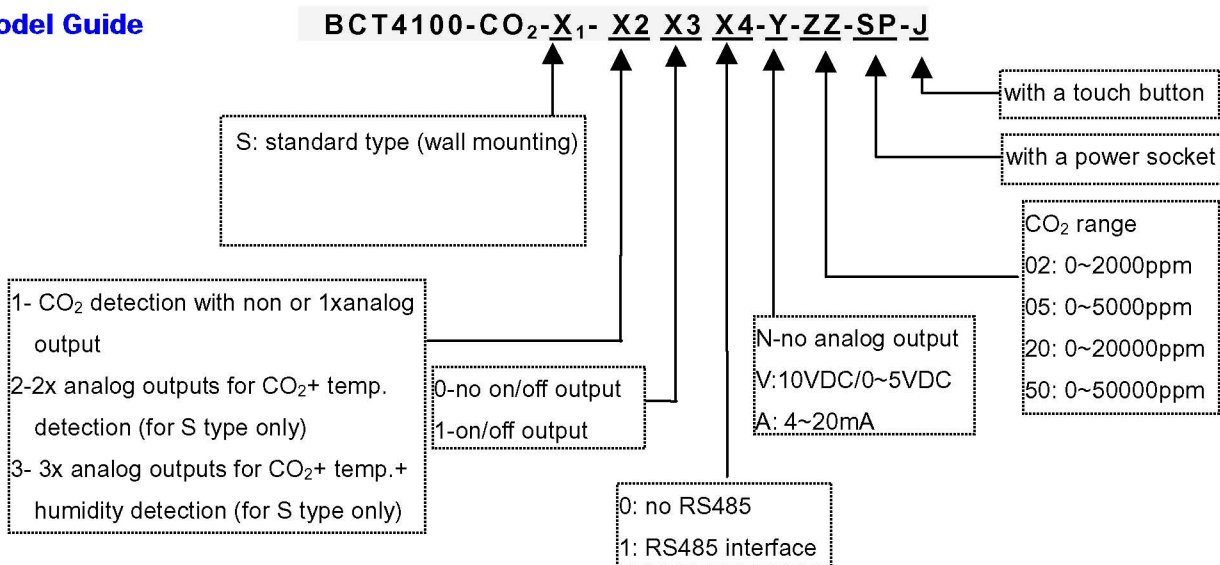
Transmitter type-S series

□ Specifications

Gas detected	Carbon Dioxide (CO ₂)
Sensing element	Non-Dispersive Infrared Detector (NDIR)
Temperature sensor	NTC with linear output
Humidity sensor	HS series capacitive sensor with linear output
Temperature dependence	0.2% FS/°C
Temperature correction	Self compensation
Power supply	24VAC/24VDC
Consumption	1.5 W max. ; 0.8 W avg.
Accuracy@25°C	±30ppm, reading ±2%
Stability	<2% of FS over life of sensor (15 yr typical)
Calibration interval	ABC Logic Self Calibration System
Response time	<2 minutes for 90% step change
Warm up time	24 hours (first time) 10 minutes (operation)
CO ₂ measuring range	0 ~ 2,000ppm / 0 ~ 5,000ppm / 0 ~ 20,000ppm / 0 ~ 50,000ppm selectable in orders
Temperature measuring range	0~50°C
Temperature measurement accuracy	±0.5°C

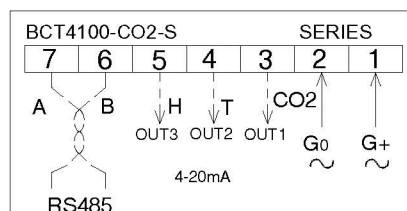
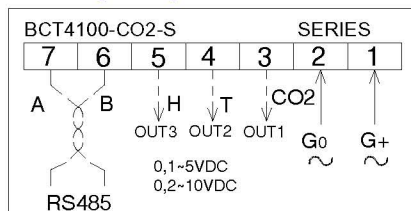
Humidity measuring range	5 ~ 95%RH
Humidity measurement accuracy	±3%RH (40%RH~60%RH,25°C)
Analog outputs	Up to 3 X analog outputs 0~10VAC or 4~20mA selectable in the order or by jumpers
On/Off output	1x relay on/off output with 2A switch currency optional
Touch button	Easily select fan on/fan auto/turn off
Communication interface	RS-485, 9600/14400/19200(default)/28800 or 38400bps (programmable selection), 15KV antistatic protection.
Flow rates	Diffusion version 80 ~ 120 cc/min (for wall mounting type)
Operation conditions	0~50°C;0~95%RH,non condensing
Storage conditions	-40~70°C -40~158°C
NDIR life	15 years
Net weight	180g
Transmitter dimensions	100mm×80mm×28mm
Installment standard	65mm×65mm or 2"×4"wire box
Wiring Connection	Wiring terminals or the power plug(optional)
Standard Approval	CE(EN61000-4-2, EN61000-4-3),EMC Directive 89/336/EEC

Model Guide

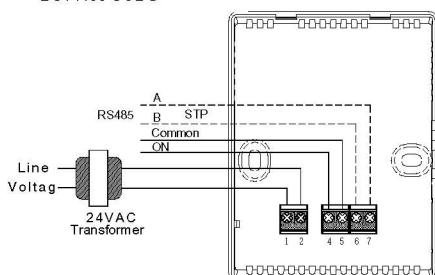


Pay attention: If X3 is 1, X2 is only 1 too. If X3 is 0, X2 can be selected 1or 2 or 3.

Wiring Diagram



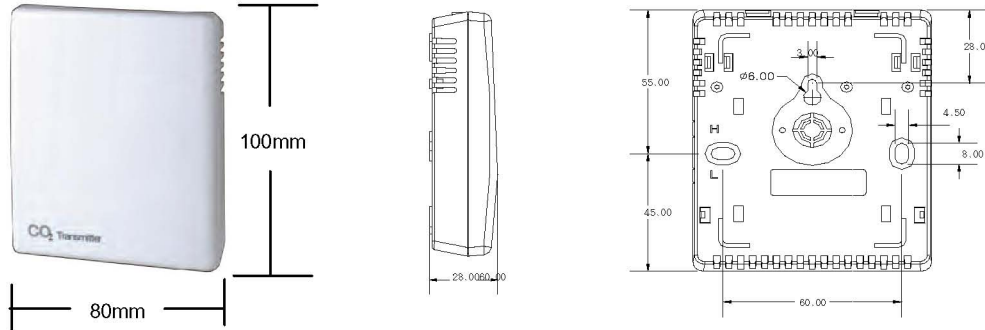
BCT4100-CO2-S



□ **Mounting**

Wall mounted type

Wall mounted type



□ **Shipping Information**

Indiv. Ctn. Dim	115mm×95mm×45mm
Master Ctn. Qty	80
Master Ctn. Dim	44cm(L)×32cm(W)×32cm(H)
Master Ctn. Wt.	16KG

BCT4200-CO2

Carbon Dioxide Monitor and Alarm

Temperature and Humidity Detection and Monitoring



□ Features

- ◆ Design for real time monitoring ambience carbon monoxide
- ◆ LCD display detecting CO₂ level, as well as temperature and relative humidity
- ◆ NDIR infrared CO₂ module inside with special ABC_Logic Self Calibration System. It makes the CO₂ measurement more accurate and more reliable in use.
- ◆ 15 years lifetime of CO₂ sensor
- ◆ Gentlest shape and convenient installation structure
- ◆ Particular LCD display with three color (Green/Yellow/Red) backlights
- ◆ Two alarm ways: buzzer alarm and backlight colours switch
- ◆ Provide optional 1xrelay output to control a ventilator
- ◆ Easy touch button for operation
- ◆ Provide four CO₂ values to be preset to control the relay.
- ◆ Optional RS-485 communication interface, 15 KV antistatic protection, individual IP address
- ◆ Trusty quality with lower prices

□ Application

New CO₂ monitor/alarm is used to monitoring room CO₂ level, as well as room temperature and humidity. It provides one on/off output to control a ventilator with four CO₂ levels presetting. Especially it provides both buzzer alarm and three colors backlit switching alarm. RS485 communication interface optional to a remote PC or other control systems.

- ◆ Hotel, exhibition hall, hospital, shop, restaurant, air port, train station, theater and other public places
- ◆ House, villa, office, meeting room, classroom and other places
- ◆ All ventilation systems

□ Housing and LCD

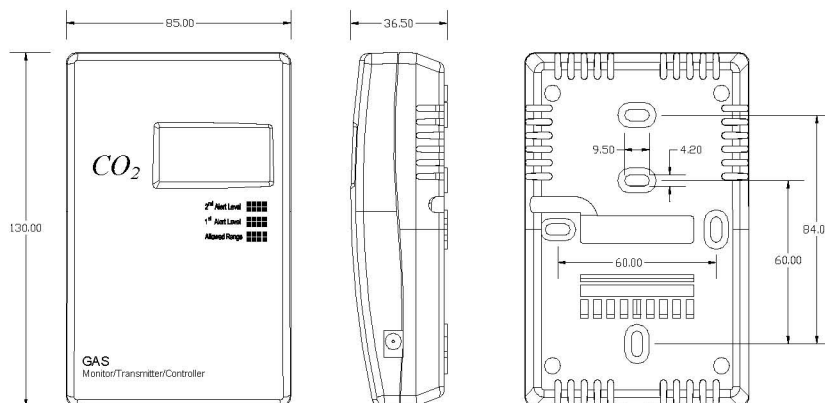


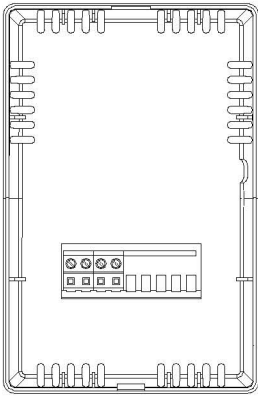
□ Specifications

Gas detected	Carbon Dioxide (CO ₂)
Sensing element	Non-Dispersive Infrared Detector (NDIR)
Accuracy@25°C	±100ppm + 3% of reading

Stability	<2% of FS over life of sensor (15 yr typical)
Calibration interval	ABC Logic Self Calibration Algorithm
NDIR life	15 years
Response Time	<2 minutes for 90% step change
Signal update	Every 2 seconds
Warm up time	24 hours (first time) 5 minutes (operation)
CO ₂ measuring range	0 ~2,000ppm (standard) , 0~5,000ppm
CO ₂ Display resolution	1ppm
Power supply	85~265VAC or 9~24VAC/VDC selectable with the order
Consumption	3.5 W max. ; 2.5 W avg.
Temperature sensor	NTC
Humidity sensor	HS series capacitive sensor
Temperature measuring range	0 ~50°C
Humidity measuring range	0 ~99%RH
Relay output (optional)	One relay output with rated switching current: 3A, resistance load
RS485 interface (optional)	RS-485, 9600/14400/19200(default)/28800 or 38400bps (programmable selection), 15KV antistatic protection, 3 independent base address, max network node 64
Operation conditions	0 ~50°C ; 0~ 95%RH, non condensing
Storage conditions	-40~70°C
Weight	200g
Dimensions	130mm(H)×85mm(W)×36.5mm(D)
Installation	Desktop and wall mount 65mm×65mm or 2"×4" wire box
Housing and IP class	PC/ABS fireproof plastic material, protection class: IP30
Compliance	EMC Directive 89/336/EEC

□ Mounting and Wiring Diagrams





□ Models Guide

Model	Name	Description	Power	Type
4200-CO2-B32C	CO2, temperature and humidity monitor/alarm	Three-color backlit LCD, buzzer alarm	85~265VAC	Wall mount
4200-CO2-B33D	CO2, temperature and humidity monitor/alarm	Three-color backlit LCD, buzzer alarm	9~24VAC/VDC, with DC socket and a power adaptor	Desktop type, with a bracket
4200-CO2-B32C01	CO2, temperature and humidity monitor/controller	Three-color backlit LCD, buzzer alarm; 1 on/off output; touch-key for operation	85~265VAC	Wall mount
870	Power adaptor	Input: 100~240VAC, Output: DC 24V/ 240mA	Just for G01-CO2-B33D	
873	Vehicle power adaptor	Can plug in the 12VDC power in car	Just for G01-CO2-B33D	
920	Bracket	Can be used for wall mount type to mount on the desk		