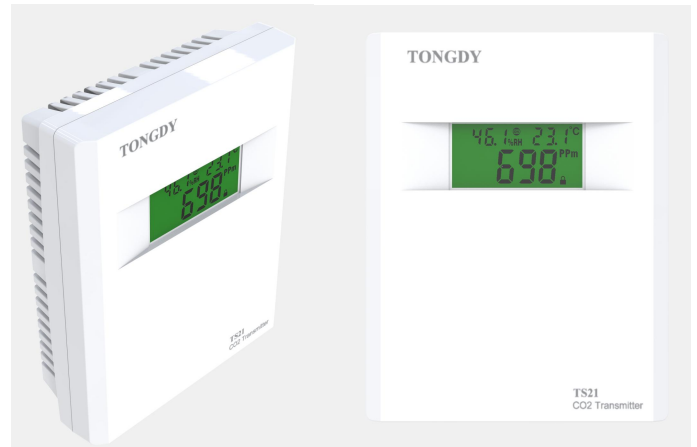


Carbon Dioxide Detector

Model Name: TS21-CO2



- Real time detection of air carbon dioxide and optional temperature and humidity
- NDIR infrared CO2 sensor with patented self calibration
- Up to 10 years lifetime of CO2 sensor and longer T&RH sensor
- One or two 0~10VDC/4~20mA linear outputs for CO2 or CO2 &Temp. or CO2&RH
- LCD display with 3-color backlight for three CO2 measured ranges
- Modbus RS485 communication interface
- The buzzer alarm is optional
- 24 VAC/VDC power supply
- CE approval

Specifications

General Data	
Power supply	12~28VDC, 18~26VAC
Consumption	Average 1.8W (24V)
Analog outputs	0~10VDC or 4~20mA for CO2 measurement or CO2//Temp measurements Or CO2 /RH measurements
RS485 interface	Modbus protocol, 4800/9600(default)/19200/38400bps; 15KV antistatic protection, independent base address.
3-color LCD backlight	Default: Green: ≤1000ppm Orange: 1000~1400ppm Red: >1400ppm Can be easily set via DIP-switch
LCD Display	Display CO2 or CO2/temp. or CO2/Temp./ RH measurements
Buzzer alarm	Alarm when CO2 exceeds the preset value Can be disable and turn it off
Operation condition	0~50℃; 0~95%RH, non condensing
Storage condition	0~50℃, 0~70%RH

Net Weight / Dimensions	170g /116.5mm(H)×94mm(W)×34.5mm(D)
Installation	wall mounting with 65mm×65mm or 2"×4" wire box
Housing and IP class	PC/ABS fireproof plastic material, protection class: IP30
Standard	CE approval
Carbon Dioxide	
Sensing element	Non-Dispersive Infrared (NDIR)
CO ₂ measuring range	0~2000ppm (default) 0~5000ppm (selected in purchasing)
CO ₂ Accuracy	±40ppm + 3% of reading
Stability	<2% of FS over life of sensor (10 year typical)
Pressure dependence	0.13% of reading per mm Hg
Calibration	ABC Logic Self Calibration Algorithm
Response time	<2 minutes for 90% step change typical
Signal update	Every 2 seconds
Warm-up time	2 hours (first time) / 2 minutes (operation)
Temperature and RH (option)	
Temperature and humidity sensor	NTC thermistor for only temperature detection Digital integrated temperature and humidity sensor for Temp. &RH
Measuring range	-20~60℃/-4~140F (default) 0~100%RH
Accuracy	Temp.: <±0.5℃@25℃ RH: <±3.0%RH (20%~80%RH)

■ Models Guide

TS21 - X Y 0 Z - V/A -05/02 -b

X: sensor

A-CO₂

B-CO₂+Temp.

C-CO₂+Humi

D-CO₂+Temp.&RH

Y: analog output

0- no analog output

1- 1x analog output (for CO₂)

2- 2x analog output (for CO₂ & Temp.)

4- 2x analog output (for CO₂ & Humi.)

Z: communication interface

0- no communication interface

1- RS485 interface (Modbus RTU)

V/A: type of analog output

V- 0~10VDC output (default)

A- 4~20mA output

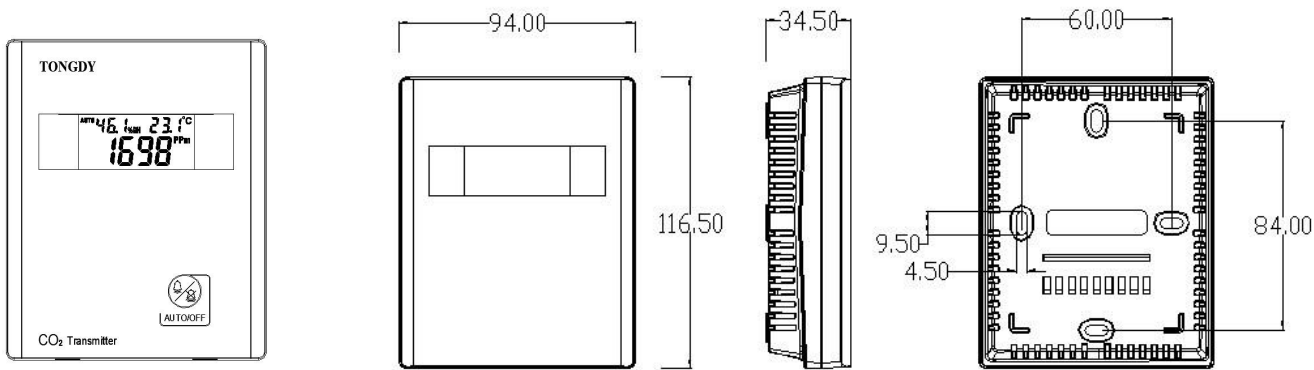
02/05: CO₂ range

02: 0~5000ppm (default)

05: 0~2000ppm

b: Buzzer alarm

■ Mounting and Dimensions



■ Wiring Diagram

