

# Carbon Dioxide Controller

-Wall mount, Duct mount & Split external probe



Wall mount



Duct mount



Split external probe

## Applications

- BAS, BMS systems
- Ventilation control systems
- HVAC systems
- Industry VAC systems
- Mushrooms, greenhouses, storage warehouses

**Product No: TKG-CO2**

## Features

- Real time carbon dioxide monitoring
- NDIR CO2 sensor with Self-Calibration and up to 15 years lifetime.
- High accuracy humidity and temperature detection option
- Providing one dry contact output with presetting the setpoint
- Modbus RS485 communication interface option
- Providing three types: Wall mount, Duct mount, Split external probe
- Replaceable filter in the probe and extendable probe length.
- Design the convenient and easier buttons for operation.
- Optional split external sensor with 2 meter cables
- CE-Approval.



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# Specifications

CO <sub>2</sub> Sensor	Non-Dispersive Infrared Detector (NDIR)	
Measurement Range	0~2,000ppm (default) 0~5,000ppm (preset)	
Accuracy	±60ppm + 3% of reading @22°C (72°F)	
Stability	<2% of full scale over the life of the sensor	
Calibration	Self-calibration system	
Response Time	<5 minutes for 90% step change at low duct speed	
Non-linearity	<1% of full scale @22°C (72°F)	
Duct Air Velocity	0~450m/min	
Pressure Dependence	0.135% of reading per mm Hg	
Warm up time	2 hours (first time) 2 minutes (operation)	
Split CO <sub>2</sub> sensor	2 meter cable connection between the sensor and the controller	
Temperature & Humidity Detection&Display (optional)	Temperature	Relative Humidity
Sensing element:	Band-gap-sensor	Capacitive humidity sensor
Measuring range	-20°C~60°C	0 -100%RH
Accuracy	±0.5°C (20~40°C)	±4.5%RH (25°C, 15%-85%RH)
Display resolution	0.1°C	0.1%RH
Stability	±0.1°C per year	±1%RH per year
General Data		
Power supply	24VAC/24VDC or 100VAC~240VAC	
Consumption	1.8 W max. ; 1.0 W avg.	
LCD display	Display CO <sub>2</sub> measurement or CO <sub>2</sub> + temperature& humidity measurements	
Dry contact output (optional)	1xdry contact output for CO <sub>2</sub> Max. 8A (100~240VAC/30VDC)rated switch contact	
Modbus RS485 Interface (optional)	19200bps, 15KV antistatic protection.	
Operation conditions	0°C~50°C (32~122°F); 0~99%RH, non condensing	
Storage conditions	0~60°C (32~140°F)/ 0~80%RH	
IP class	IP40	
Standard Approval	CE-Approval	

## Models Guide

### TKG- CO2- A 0 C D Y -TH

A: the sensor installation type

- 1: wall mounted with the external adown probe sensor
- 2: duct mounted
- 3: split sensor with 2 meters cable connection
- 4: probe duct type with extended probe (209mm)

C: relay dry contact output

- 0: no dry contact output
- 1: 1xdry contact output

D: Modbus interface

- 0: no communication
- 1: Modbus RS485 interface

Y: power supply

- C: 24VDC/VAC power supply
- D: 100~240VAC power supply

-TH temperature & RH detection and display

No "TH" indicates without temperature & RH detection and display

## Mounting

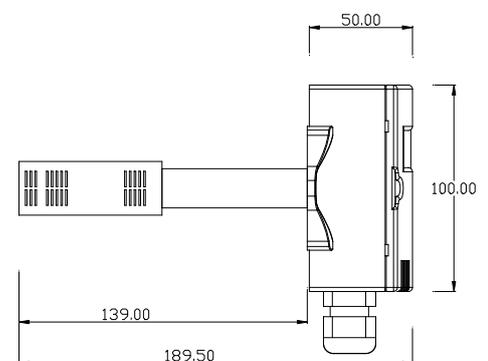
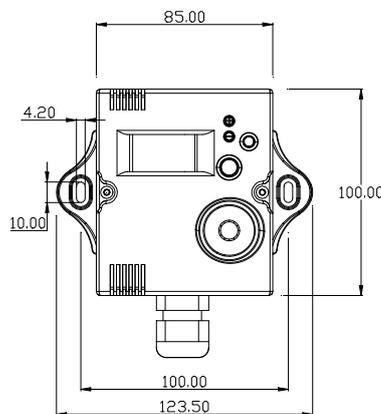
### Duct mount

Probe Length 139.00mm

(can be extended to 139+70mm)

Probe Diameter

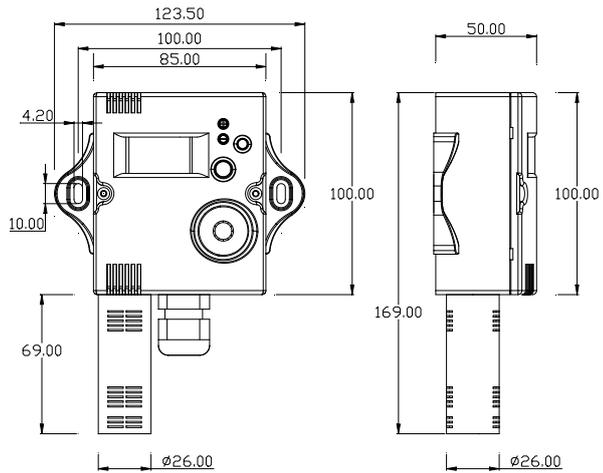
Installation Holes 100.00mm





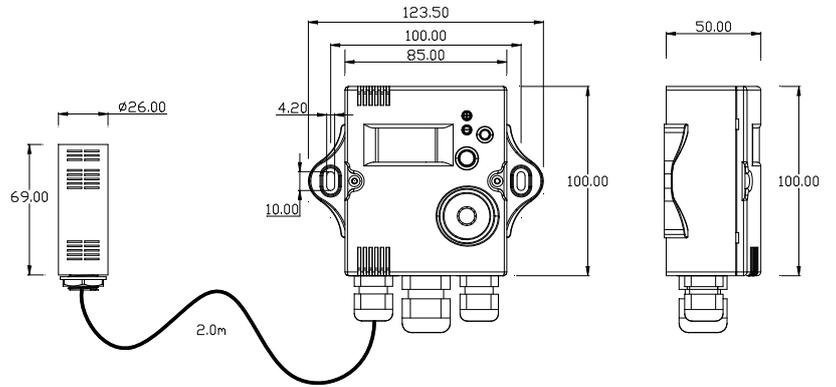
**Wall mount**

probe Length 69.00mm  
Probe Diameter Ø26.00mm  
Installation Holes 100.00mm



**Split sensor probe**

Connection cable Length 2.0m  
Sensor Probe Diameter Ø26.00mm  
Installation Holes 100.00mm



## Wiring Diagram

