



TKG-CO2 SERIES

Carbon Dioxide Detector/Controller

Professional Design & Manufacture CO₂ Controllers

Features

- ◆ Special used to real-time detect CO₂ level in air ducts.
- ◆ NDIR infrared CO₂ sensor inside with Self-Calibration and up to 15 years lifetime
- ◆ High accuracy humidity and temperature detection & display optional
- ◆ With LCD or without LCD selectable
- ◆ Providing one dry contact output with presetting the setpoint
- ◆ Modbus RS485 communication interface optional
- ◆ Wireless of ZigBee protocol optional
- ◆ Smart structure with easier wire connection through the external pipe
- ◆ Provide four types: wall mounted, duct mounted, split and plug & play
- ◆ For plug & play type, special design a photosensor inside to detect day/night and change the working mode of the CO₂ generator
- ◆ For duct probe type, special the 180° rotatable fastness position of the probe can be used in two directions of air flow.
- ◆ Replaceable filter in the probe and extendable probe length
- ◆ Design the convenient and easier buttons for operation
- ◆ CE-Approval



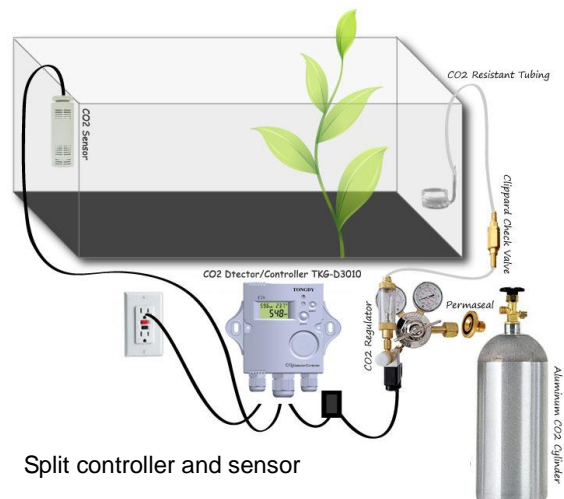
Wall mounted



Duct probe mounted



Wall mounted with plug & play



Split controller and sensor

Specifications

CO ₂ 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 ₂ 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 ₂ measurement or CO ₂ + temperature& humidity measurements	
Dry contact output (optional)	1xdry contact output for CO ₂ Max. 8A (100~240VAC/30VDC)rated switch contact	
Plug& play type	Just for 100VAC~240VAC power supply with European or American power plug and power connector to the CO ₂ generator	
Modbus RS485 Interface (optional)	19200bps, 15KV antistatic protection.	
Wireless module (optional)	ZigBee 2.4G short distance wireless communication	
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	IP30	
Standard Approval	CE-Approval	

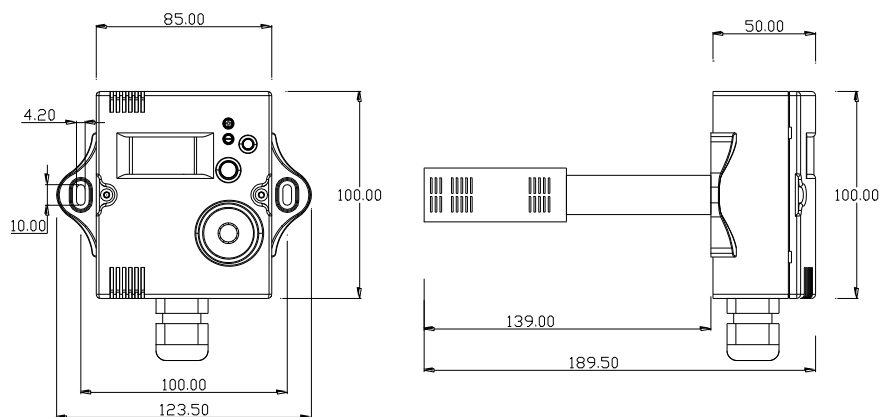
Typical Applications

- ◆ In office and residence areas to detect CO2 level
- ◆ Ventilation control
- ◆ In BAS to detect the CO2 and the data transmittance
- ◆ For greenhouse and plant bin
- ◆ For CO2 laboratory

Dimensions & Mounting

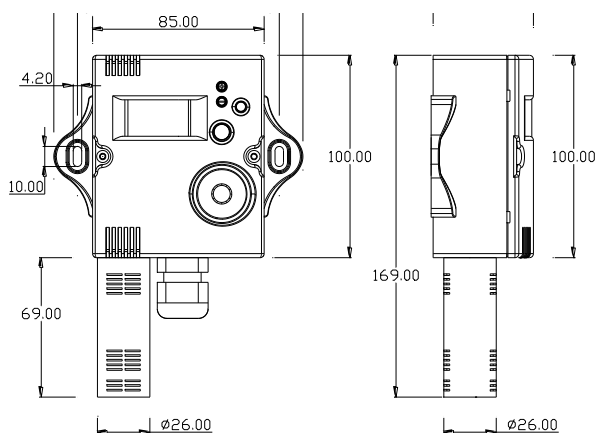
Duct mounted

- Probe Length 139.00mm
(can be extended to 139+70mm)
- Probe Diameter Ø26.00mm
- Installation Holes 100.00mm



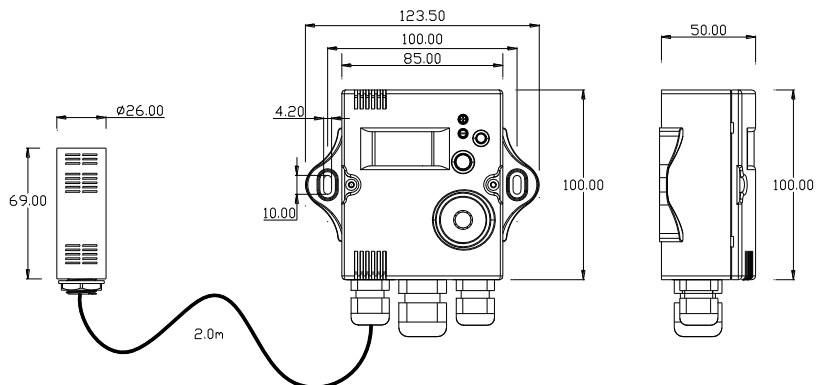
Wall mounted

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



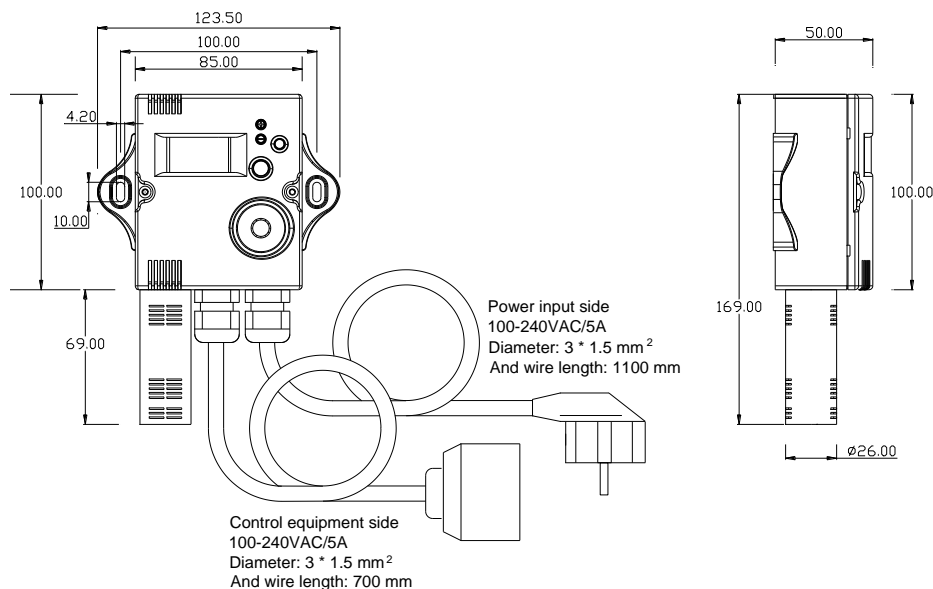
Split sensor

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



Wall mounting with plug&play

probe Length	69.00mm
Probe Diameter	Ø26.00mm
Installation Holes	100.00mm
Power cable	1100.00mm
Cable to device	700.00mm
Power plug/socket	European American



Models Guide

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

A: the sensor installation type

- 1: wall mounted with the external adown probe sensor
- 2: probe 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
- 2: with ZigBee wireless module (will be provided in the future)

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

- PPX Plug and play for wall mounting type
 - No "PP" indicates without plug & play installation
 - PPE means European standard plug
 - PPA means American standard plug

Note: The option "TH" and "PP" is alternative.

Wiring Diagram

