CUBIC

SPECIFICATION

Product Name: CO2 Transmitter

Item No.: AM6208W/D

Version: V0.3

Date: 2023-09-25

Revision

No.	Version	Content	Date
1	V0.1	First edition	2022-5-10
2	V0.2	Change the item number	2022-10-20
3	V0.3	Change the product pictures	2023-09-25

CO2 Transmitter

AM6208W

AM6208D

Applications:

- Residential ventilation system
- Commercial ventilation system
- Industrial ventilation system

Description

Cubic HVAC CO2 transmitter is designed based on non-dispersive infrared (NDIR) technology, it can detect real-time indoor environment CO2 concentration and send signal to HVAC system, which can be used to reduce energy waste and consumption. It is the foundation of a complete ventilation control system, and applied control the volume of fresh air supplied to maintain comfortable and health indoor air environment. It can effectively improve air quality and create a healthy, comfortable, efficient, environmentally friendly, energy-saving living and working environment.

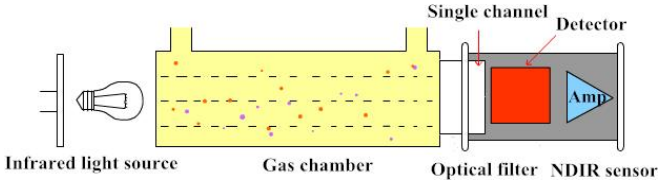
Features

- Reliable non-dispersion infrared (NDIR) technology for CO2 sensing
- High accuracy, in conformity with RESET Standard Grade A & California Title 24
- Flexible industrial standard analog output: 0-10VDC, 4-20mA
- Optimized auto baseline correction, maintance-free
- Long lifespan≥15 years

Working Principle

The main components of an NDIR CO2 sensor are an infrared light source, a sample chamber, a filter and an infrared detector. The infrared light is directed by the infrared source passing through the gas chamber towards the detector.

CO2 molecules inside the gas chamber will only absorb a specific wavelength of the light. The filter allows only the specific wavelength corresponded to pass through it. The detector measures the intensity of infrared light that is related to the intensity of CO2 and can be described through the Lambert-Beer's Law. The change in sensor signal reflects the change in gas concentration.



Specifications

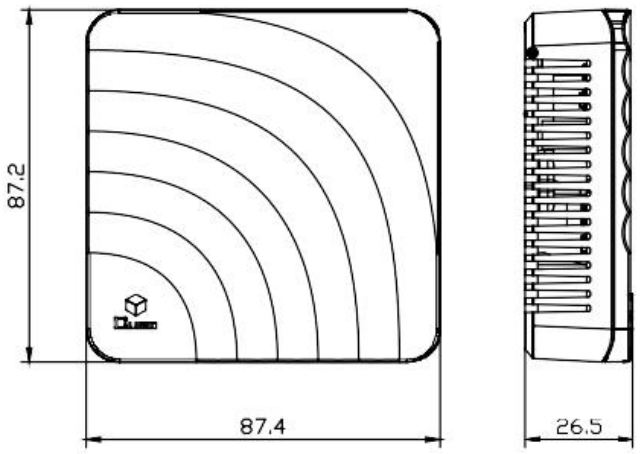
CO2 transmitter Specification	
Operating principle	Non-dispersion infrared (NDIR)
Measurement range	0~2000ppm
Accuracy[1,2]	±（30ppm+3% of reading）@0~50℃(Note 1,2)
Resolution	1ppm
Sampling frequency	1s
Warm up time	<180s
Response time	≤30s
Working condition	-10~50℃，0~95%RH(non-condensing)
Storage condition	-20~70℃，0~95%RH(non-condensing)
Power supply	24VAC ±10% OR 24VDC ±10%
Working current	≤60mA
Standby current	≤20mA
Signal output	Output 1 : 0-10 VDC Output 2 : 4-20 mA (maximum load 500Ω)
Life span	≥15 years

1. In normal IAQ applications, accuracy is defined after minimum three (3) ABC periods of continuous operation with ABC on. Some industrial applications do require maintenance. Contact Cubic for further information.

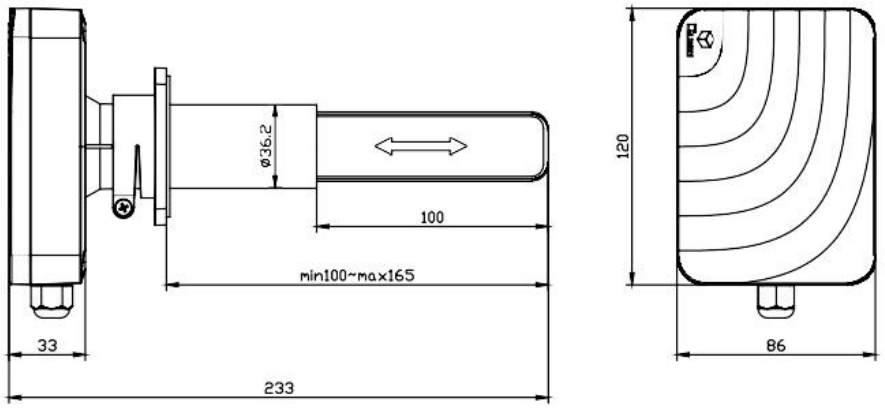
2. Specification is referenced to certified calibration mixtures. Uncertainty of calibration gas mixtures (±2% currently) is to be added to the specified accuracy for absolute measurement.

Dimensions and Connector

1.Dimensions (Unit: mm)



AM6208W: Wall-Mount CO2 Transmitter



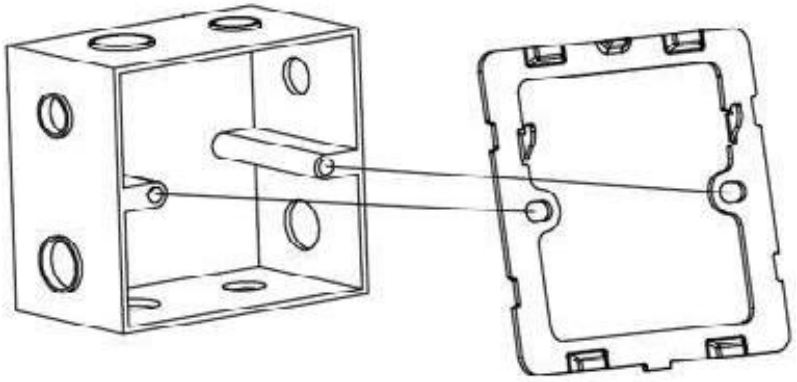
AM6208D: Duct CO2 Transmitter

2. I/O Connector Pinout

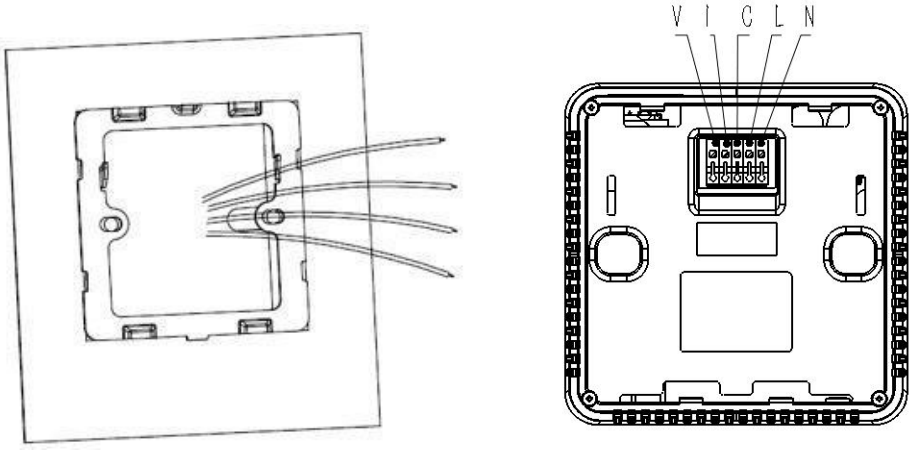
Pin	Name	Description
1	V	Voltage output: DC 0-10V
2	I	Current output: 4-20mA
3	C	COM
4	L	Power :AC 24V_L / DC 24V_+
5	N	Power: AC 24V_N / DC24V_-

AM6208W

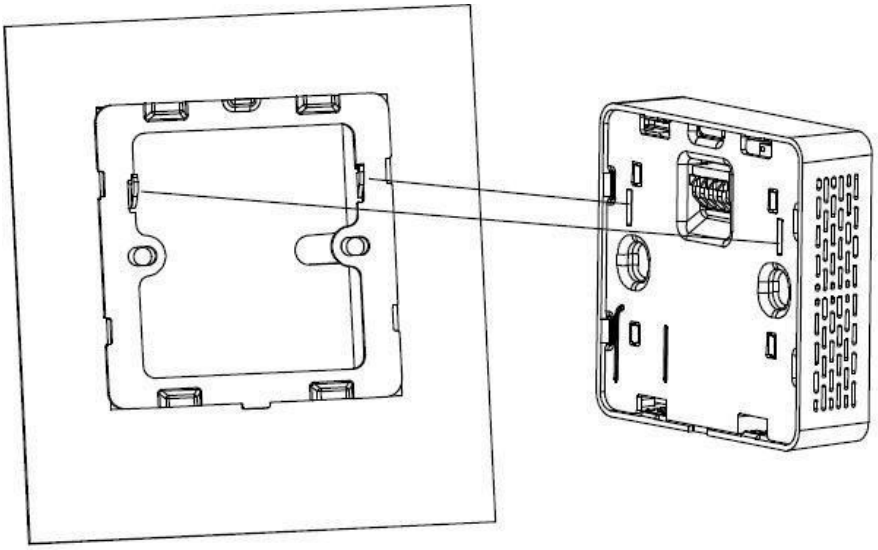
Step 1: Fix the wall mounting bracket on the 86 type bottom box embedded in the wall with screws



Step 2: Connect the corresponding cable to the transmitter's interface according to the interface definition, as shown below:

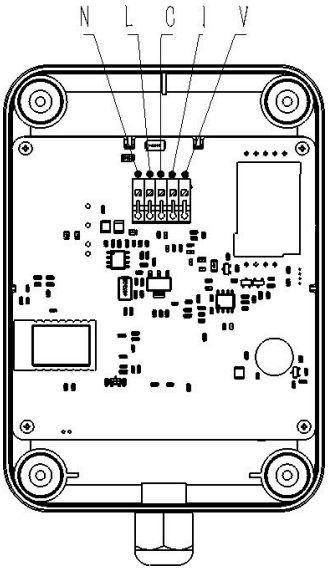


Step 3 : Align the two holes on the transmitter with the hooks in the wall mounting bracket, and slide the transmitter downward to ensure that the transmitter hook is tight and firmly installed .

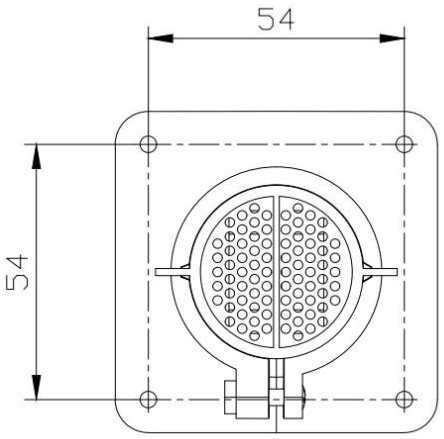


AM6208D

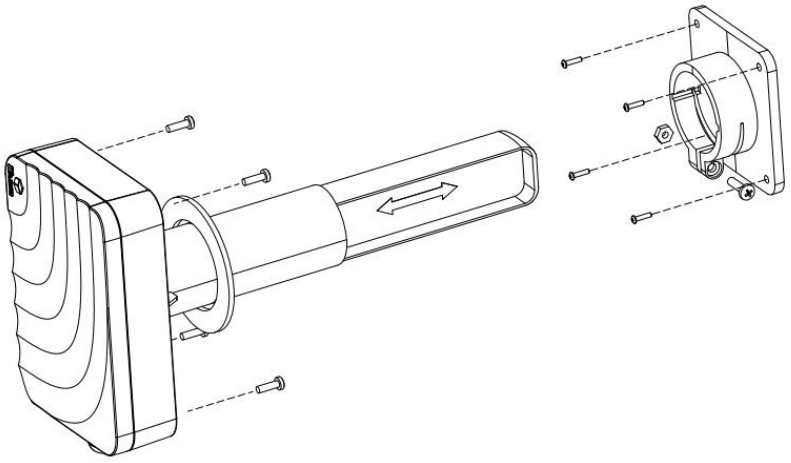
Step 1: Connect the corresponding cable to the interface according to the interface definition, as shown below:



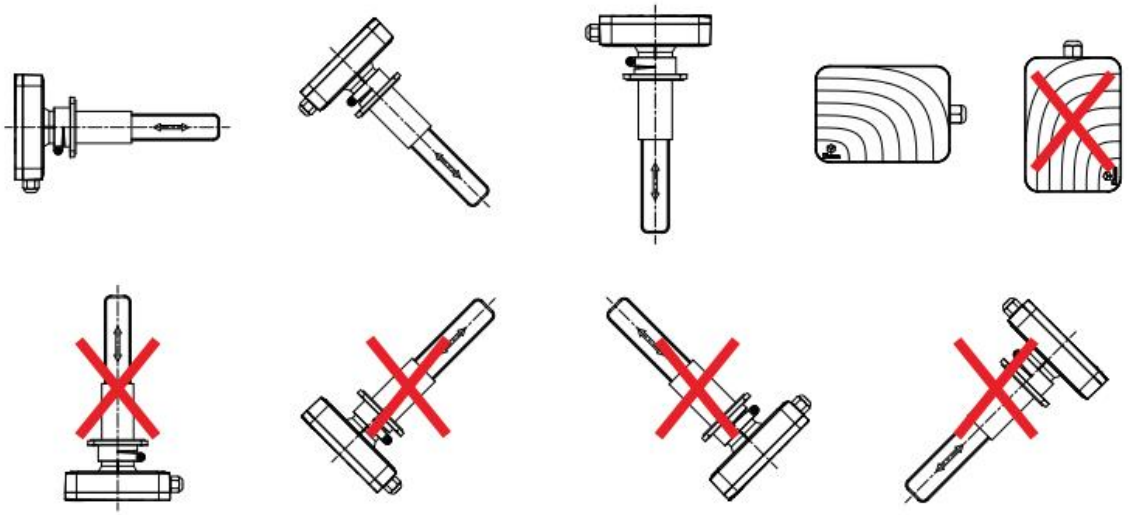
Step 2: Fix the cover with screws, then install the retaining flange in the air duct with screws



Step 3: Insert the transmitter into the fixed flange in the direction of airflow and tighten the screws.



Installation site



Precautions for use

- Do not place the transmitter in an environment where the ambient temperature is too high (above 60 ° C) or too low (below -20 ° C).
- Keep it out of reach of children as much as possible to prevent injury from collision and fall.
- Do not drop the transmitter or rub it against hard objects during use, otherwise it may cause damage to the transmitter's external light and damage.
- Do not place the transmitter in a dusty environment to avoid dust accumulation in the CO2 sensor and affect the measurement accuracy.
- When using the transmitter, do not cover or block the vent hole with any object to avoid affecting the air quality monitoring.
- Do not disassemble, repair or modify the transmitter without permission

After-Sales Services and Consultancy

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