

CO₂ Transmitter

CO₂, Temperature & Humidity Transmitter

Aecl[®]

AVC-31X Series

■ Features

AVC-31X series is specially designed to detect carbon dioxide, temperature and humidity in indoor environment. The installation method can be divided into wall-mounted type and duct type. The duct type can be installed in the air duct of the air-conditioning system, and the installation height of the wall-mounted type is recommended to be between 1 and 2 meters above the ground. It can be applied to intelligent ventilation system control and environmental monitoring. It can be used with the ventilation system and air conditioning system of intelligent buildings to perform appropriate ventilation control according to the number of people in the room, control energy consumption and improve indoor air quality.

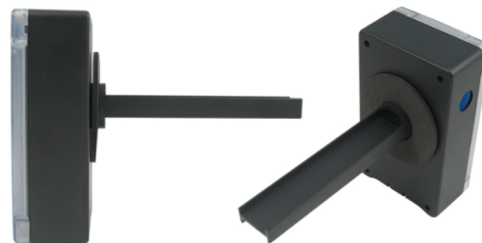
The detection method adopts NDIR's infrared waveguide technology and air sampling sensing components, which improves the accuracy of its measurement. It is mostly used in shopping malls, offices, conference rooms, classrooms, restaurants, railway stations or various public places; other high-concentration models with a detection range of up to 9999ppm can be used in wine cellars, breweries, Chemical gas plants, etc.



Wall-mount

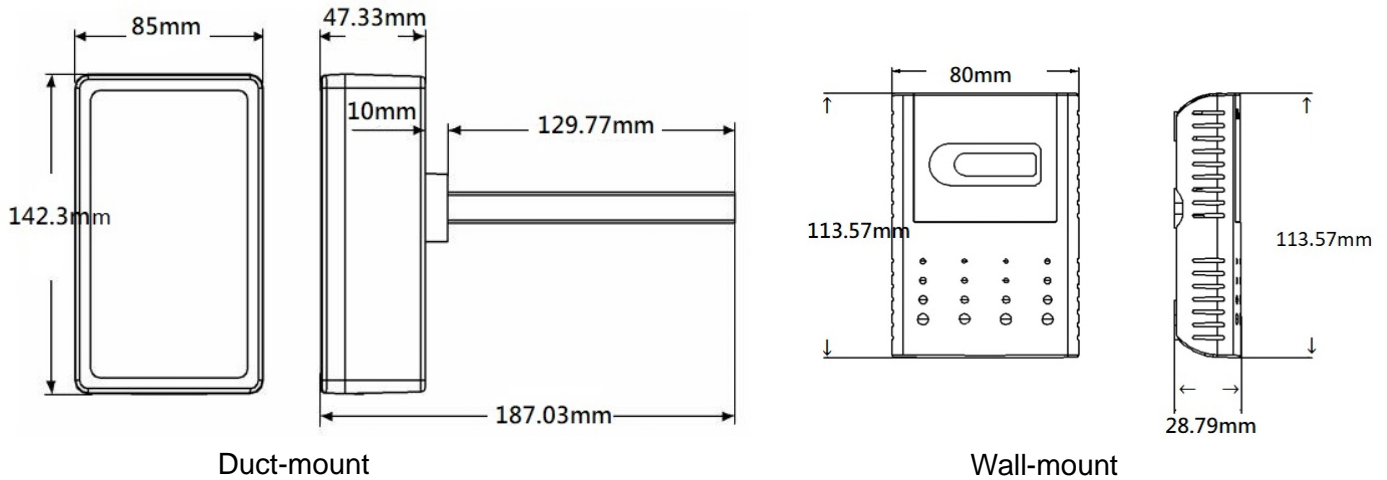


Duct-mount



Side view of duct-mount type

■ Dimensions



■ Specifications

Model No.	AVC-310 CO ₂ Transmitter	AVC-311 CO ₂ , Temperature & Humidity Transmitter
Coverage area	100m ² ⁽²⁾	
Alarm output	Relay output N.O,N.C (2A / 30V DC ; 0.5A / 125V AC)	
Pressure dependence	CO ₂ : 1.6% reading/kPa	
Operating conditions	Temperature : -10 ~ 50°C Humidity : 0 ~ 95%RH (non-condensing)	
Storage temperature	-20 ~ 70°C	
Warm-up time	≤ 1 min. (at full specs ≤ 15 minutes)	
Power supply	DC 12 ~ 36V AC 24V (50/60Hz)	
Sampling interval	CO ₂ sampling interval : 1 sec.	
Power consumption	0~20mA, 4~20mA, 0~10V, 2~10V, RS485 : 1.6W (Max.) RS485/LoRa : 2.4W (Max.)	
Installation	Wall-mount ⁽³⁾ , Duct-mount	
Case material	Fireproof ABS	
Protection	Wall-mount : IP30 (No protection from liquids) ; Duct-mount : IP65	
Certifications	CE and FCC	

Model No	AVC-310 CO ₂ Transmitter	AVC-311 CO ₂ , Temperature & Humidity Transmitter
Sensing element	CO₂ : Gold-plated infrared (NDIR) wave-guide technology with Automatic Baseline Correction (ABC) and passive gas diffusion (no moving parts)	CO₂ : Gold-plated infrared (NDIR) wave-guide technology with Automatic Baseline Correction (ABC) and passive gas diffusion (no moving parts) Temperature & humidity : CMOS sensor
Response time	CO₂ : < 10 sec. @ 30 cc/min. flow rate < 3 min. diffusion time	CO₂ : < 10 sec. @ 30 cc/min. flow rate < 3 min. diffusion time Temperature : min. 3 sec. ; max. 30 sec. at τ63% Humidity : < 8 sec. at τ63%
Accuracy (at 25°C)	CO₂ : 0~2000ppm (± 30ppm ±3% of reading), 2001~9999ppm(± 70ppm ±3% of reading) <small>note1 and 2</small>	CO₂ : 0~2000ppm(± 30ppm ±3% of reading), 2001~9999ppm(± 70ppm ±3% of reading) <small>note1 and 2</small> Temperature : ±0.3°C Humidity : ±2%RH
Repeatability	CO₂ : ± 20 ppm+(±reading *1%)	CO₂ : ± 20 ppm+(±reading *1%) Temperature : ±0.1°C Humidity : ±0.1%RH
Zero Drift	CO₂ : <±10ppm/yr. with Automatic Baseline Correction (ABC)	CO₂ : <±10 ppm/yr. with Automatic Baseline Correction (ABC) Temperature : < 0.04°C/yr. Humidity : < 0.5 %RH/yr.
Measurement range	CO₂ : 0 ~ 2,000 ppm (Standard) 0 ~ 9999 ppm (High concentration)	CO₂ : 0 ~ 2,000 ppm (Standard) ; 0 ~ 9999 ppm (High concentration) Temperature : -10 ~ 50°C ; display range : -9.99 ~ 50.00°C Humidity : 0 ~ 100%RH ; display range : 0 ~ 99.9%RH
Signal output	DC 0~20mA / 4~20mA / DC 0~10V / 2~10V RS485 (Modbus RTU) RS485/LoRa (Peer to Peer), radio frequency band: 862 ~ 932 MHz ⁽¹⁾	RS485 (Modbus RTU) RS485/LoRa (Peer to Peer), radio frequency band: 862 ~ 932 MHz ⁽¹⁾

Note 1 : For general indoor air quality monitoring application, the accuracy can be achieved after three-week continuous measurement, because of ABC function. However, in some industrial applications, maintenance or calibration may be required.

Note 2 : The accuracy is determined under temperature at 25°C and barometric pressure at 101.3kPa, with comparison to the calibrated gas, of which the uncertainty (±1%) is considered. The AVC-31x series is for general indoor use. For any special application, such as industrial or agriculture, please contact us.

- (1) The frequency channels will be differed by country and this frequency can be configured accordingly from 862 to 932Hz.
- (2) The coverage area should be considered individually to account for the particular layout and any varying or enclosed spaces. It is recommended to install at least one device in each room.
- (3) **The installation height of wall-mounted type is recommended to be between 1 to 2 meters above the ground.**

■ Ordering information

AVC-31 □ □ □ □ - □ **M**

Code1	Function	Code2	Installation	Code3	Signal output <small>Note1 Note2</small>
0	CO ₂	W	Wall-mount	A	4~20mA
1	CO ₂ , Temp.& Humidity	D	Duct-mount	2	0~10V
				4	RS485
				5	0~20mA/4~20mA/ 0~10V/2~10V
				6	RS485 / LoRa

Code4	Display	Code5	Measurement range
X	No	-	0 ~ 2000ppm
D	Yes	H	0 ~ 9999ppm

Note1 : For signal output of AVC-311, it's only available for RS485 and RS485 / LoRa.

Note2 : The duct-mount type is not workable for RS485 / LoRa output.