FEATURES

- Imported sensor with high accuracy and excellent stability.
- Optional LCD backlight, displays CO2, temperature, and humidity simultaneously.
- High linearity with temperature compensation.
- CO2 sensor using NDIR infrared absorption detection principle.
- Oxygen-independent CO2 sensor with long service life.

DESCRIPTION

The LFG61 series is an all-in-one CO2, temperature, and humidity transmitter, capable of monitoring multiple parameters without the need for multiple devices. It uses non-dispersive infrared (NDIR) technology to detect CO2 and is equipped with high-precision temperature and humidity sensing elements. Featuring long service life and excellent stability, it is suitable for applications such as warehouse logistics, industrial HVAC, environmental monitoring, and greenhouse cultivation, providing reliable data support for production safety and energy efficiency optimization.

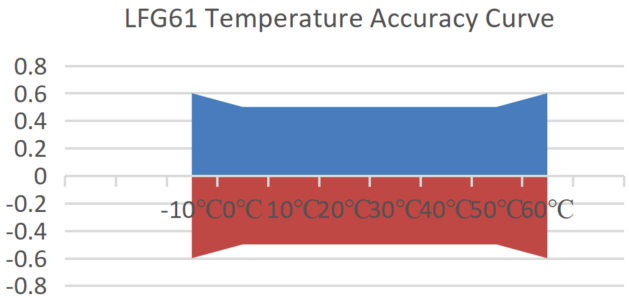
SPECIFICATION

(1) Relative humidity

Sensor	Digital
Range	0%~100%RH
Output	RS485/Modbus，0~10VDC，4~20mA
Accuracy	±3%@20°C & 20~80%RH
Response time	≤10s(at 20°C，in slow-flowing air)

(2) Temperature

Sensor	Digital or RTD (see selection table)
Range	0~50℃，-20~60°C, etc.
Output	RS485/Modbus，0~10VDC，4~20mA
RTD	See selection table and RTD calibration table
Accuracy	Digital sensor: ±0.5°C (@0~50°C), see table below RTD: Typical ±0.2~0.5°C @25°C, see selection table

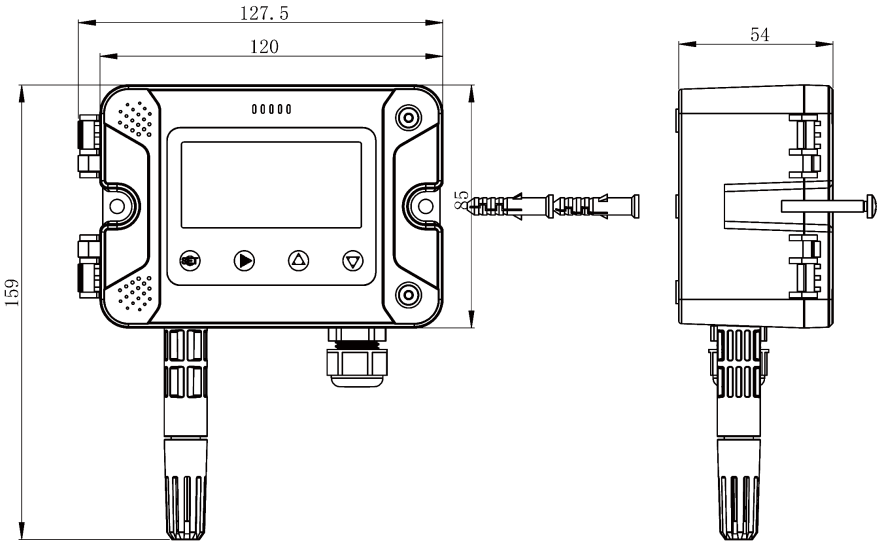


(3) CO2

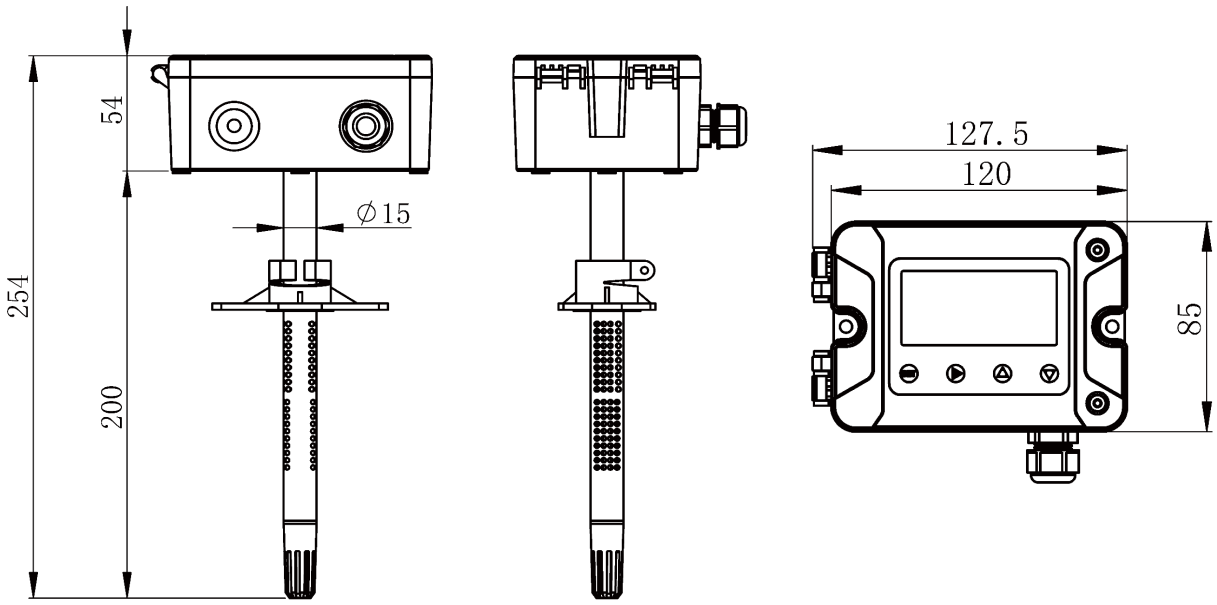
Sensor	NDIR sensor with ABC self-calibration function
Sensor life	＞5 years
Range	0~2000ppm，0~5000ppm, etc
Accuracy	±(40±3%MV)ppm
Output	RS485/Modbus，0~10VDC，4~20mA
Response time (T_{90})	2min

Power Supply:	16~35 VDC / 24 VAC ±20% Note:When using AC power, an isolation transformer is required.
Output Load:	≥10 kΩ (voltage type); ≤500 Ω (current type)
Display Resolution:	0.1 °C, 0.1 %RH, 1 ppm
Display and Buttons:	Optional LCD with unit display, backlight, and buttons
Relay:	1 × SPDT, 3 A / 30 VDC, 3 A / 250 VAC
Enclosure Material:	Housing: PC; Probe: Pa6
Operating Environment:	Probe: -20~60 °C & 5~95 %RH (non-condensing) Housing: 0~50 °C & 5~85 %RH (non-condensing)
Storage Environment:	-20~60 °C
Protection Rating:	IP65 (excluding probe), IP30 (including probe)

DIMENSIONS(mm)



LFG611 (Wall-mounted) Dimensions



LFG612 (Duct) Dimensions

ORDER REF NO.

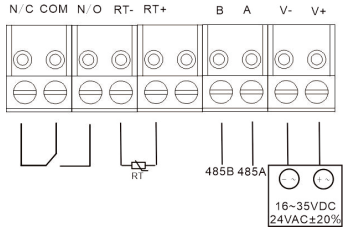
Code & Description								Remarks
LFG611-	Wall-mounted CO2, temperature, and humidity transmitter							Model
LFG612-	Duct-type CO2, temperature, and humidity transmitter							
	V10	0~10VDC (3-wires)						Output
	A4	4~20mA (3-wires)						
	M	RS485 / Modbus						
		0	None					RTD
		1	PT1000					
		2	PT100					
		3	NTC20K					
		4	NTC10K					
			0	None				Temperature Range
			1	0~50℃				
			2	-20~60℃				
			8	Other (customer-specified; transmitter main body must not exceed 0~50°C)				
				1	0~2000ppm			CO2 Range
				2	0~5000ppm			
				8	Other (customer-specified; must not exceed 0~10000 ppm)			
					0	None		Display
					1	LCD Display		
						N	None	Relay
						D	1*SPDT	
LFG611-	A4	0	2	2	1	D		Example

Note:

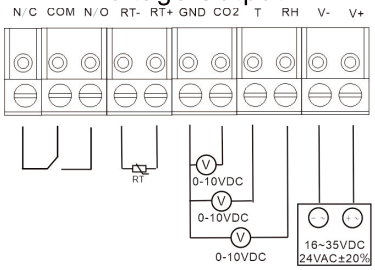
1.When the RTD option is 0, a temperature range of 1~8 must be selected; otherwise, only 0 can be chosen for the temperature range.
2.When the output option is RS485/Modbus, the temperature range can only be 0.
3.A relay (0 or 1) can only be selected if the display option is 1; otherwise, the relay must be 0.
4.Example: LFG611-A4-0-2-2-1-D represents a wall-mounted CO2, temperature, and humidity transmitter with 4~20 mA output, no RTD, temperature range -20~60 °C, CO2 range 0~5000 ppm, LCD display, and a single-pole double-throw (SPDT) relay.
5.Prolonged exposure of the sensor probe to high temperature and high humidity may cause humidity drift; placing it back in a normal environment allows it to recover naturally.

WIRING INSTRUCTIONS

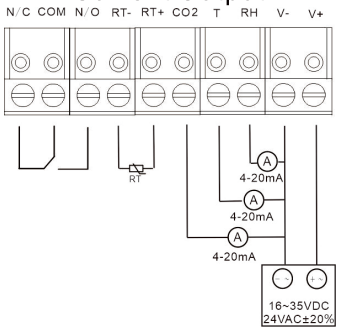
RS485 Output



Voltage Output

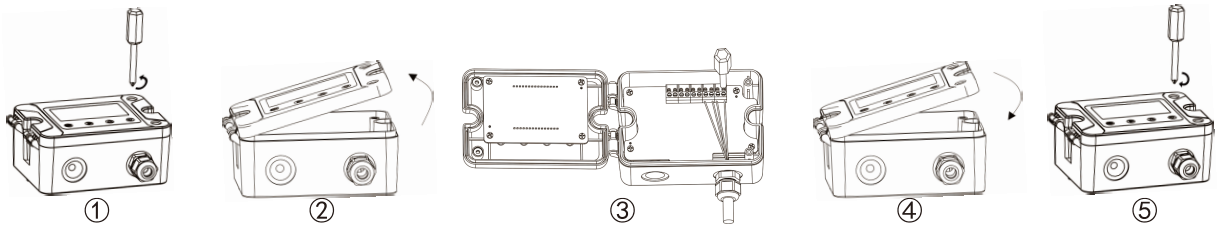


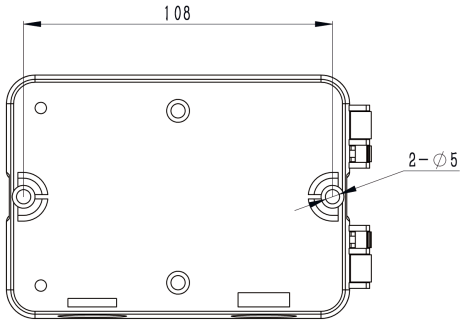
Current Output



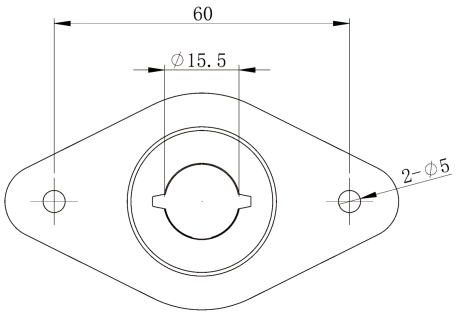
Note: When wiring, for the convenience of wiring and use, the outer sheath of the cable should be stripped 6-8 cm, and then passed through the waterproof connector into the transmitter to prevent interference between the cable and the internal structure of the transmitter, while ensuring that the outer sheath of the transmitter's external cable provides proper protection for the wires. For details, please refer to product installation diagram ③.

PRODUCT INSTALLATION

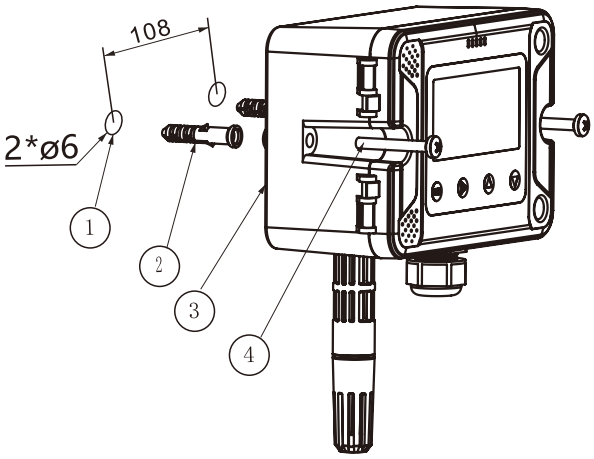




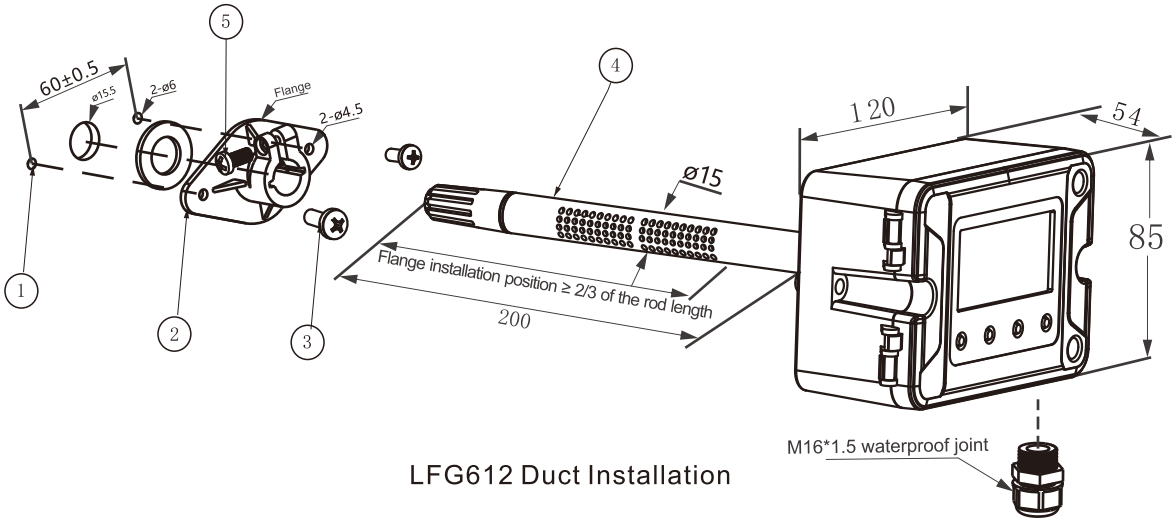
Wall-mounted Installation Cutout



Flange-mounted Installation Cutout



LFG611 Wall-mounted Installation



LFG612 Duct Installation

As shown in the above diagram, before installing, first complete the wiring in the following order: ①Loosen the screws ②Open the top cover ③Connect the corresponding wires according to the wiring diagram ④Close the top cover ⑤Tighten the screws. After wiring, choose the installation method according to the product type:

Wall-mounted Installation:
① Drill two parallel holes (Φ6 mm) on the wall, 108 mm apart.
② Insert plastic expansion anchors into the drilled holes.
③ Position the transmitter and adjust the mounting hole alignment.
④ Tighten the fixing screws.

Duct Installation:
① Drill a through-hole (Φ15.5 mm) in the duct, and drill two additional holes (Φ6 mm) on both sides of the through-hole, 60 mm apart.
② Attach the flange sealing gasket to the duct.
③ Fix the flange onto the duct.
④ Insert the probe into the duct (the flange installation position must cover at least 2/3 of the probe length).
⑤ Tighten the flange screws to secure the probe.