

LEFOO®

LFG201
CARBON DIOXIDE TRANSMITTER

PRODUCT OPERATION MANUAL



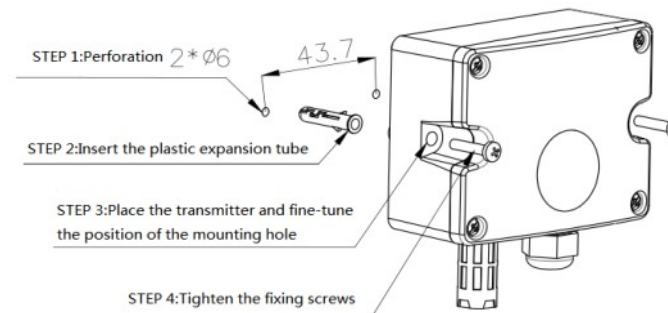
OVERVIEW

The transmitter uses electrochemical principle to detect carbon monoxide in the air and has good selectivity and stability. Current, voltage, RS485 output mode available, wide voltage power supply and power anti-reverse connection protection. Suitable for indoor air quality detection, air conditioning, air purifier, underground parking lot and other occasions of carbon monoxide monitoring.

TECHNICAL PARAMETER

Output Mode	See logo
Measure concentration	See logo
Accuracy	±(40ppm+ 3%Fs)@25℃
Product stability	±2%F.S
Average current	<40mA
Working temperature	-10~50℃
Working humidity	0-80%RH (No condensation)
Storage temperature	-20~60℃
Preheat time	2min(Available)-10min(reach the maximum accuracy)
Working Voltage	10-30VDC (0-10V output requires 16-30VDC power supply)

INSTALLATION NOTES



WIRING INSTRUCTIONS

Power	Red	Positive
	Black	Negative
RS485	Green	485-A
	White	485-B

RS485 Output

Power	Red	Positive
	Black	Negative
Output	Green	Current/voltage output +
	White	Current/voltage output -

Analog Output

1.PROTOCOL (RS485)

Communication default baud rate:9600, Data bits:8, Stop bits:1, Parity:None, Flow control:None

(1)03 Example of reading data:The following are read address 01 data and return data respectively

Address	Function code	Starting Address	No. of Registers		CRC16	
01	03	00 02	00	01	25	CA

Address	Function code	Data bytes	Data high	Data low	CRC16	
01	03	02	09	C4	B8	50

Description: The output concentration value = 0x09*256+0xC4=2304+196=2500ppm

(2)06 Example of writing data:The following are respectively writing 01 and returning data to the unknown address

Address	Function code	Starting Address	Data		CRC16	
00	06	00 05	00	01	59	DA

Address	Function code	Starting Address	Data		CRC16	
01	06	00 05	00	01	58	0B

Description: 0x00 is the broadcast address, the above is to modify the unknown address sensor address to 0x01

SELECTION INSTRUCTIONS

PRECAUTIONS

(3)Register description

Register address	Content	Operating	Range	Remarks
0002	CO ₂ concentration	R	0~10000	
0003	Auto zero	R&W	0~1	0:Close(default) 1:Open
0004	Baud rate	R&W	0~4	1=2400, 2=4800, 0/3=9600 (default 0), 4=19200
0005	Slave ID address	R&W	0~255	Default: 0x01 0x00 is to set broadcast receiving address.

2.ANALOG OUTPUT

For example 1, if the range is 5000ppm, the output type is 0~10V, when the output is 5V, the output concentration = 5V/10V*5000ppm = 2500ppm

For example 2, if the range is 5000ppm, 4~20mA output, and the output is 12mA, then the output concentration= ((12mA-4mA)/16mA)*5000ppm = 2500ppm

3.TRANSMITTER CALIBRATION

After the transmitter is running for a long time, the zero point may drift. You can calibrate it as follows (outdoor fresh air is generally about 400ppm, which can be used as a rough reference): Method 1: Send the command:

First unlock: XX (first address) 80 00 01 EA 60 CRC16 (zero calibration valid within 1 minute) Then zero calibration: XX (first address) 80 00 14 01 90 CRC16

Method 2: Press and hold the button inside the transmitter for more than 7 seconds (away from its breathing), and release it when the light flashes.

Note: Before zero calibration, the transmitter should work continuously for more than 20 minutes in a 400ppm environment.

CODE AND DESCRIPTION			Remark
LFG201-	Carbon dioxide transmitter		Model NO.
	1	2000ppm	Range
	2	5000ppm	
	3	10000ppm	
	V0	0~5V	Output
	V10	0~10V	
	A4	4~20mA	
	RS	RS485/Modbus	
LFG201-	1	A4	

- Keep the transmitter away from heat sources and avoid direct sunlight;
- Please confirm before use: whether the output voltage of the power supply is correct; Positive and negative wiring methods; product output wiring methods
- It is recommended that the transmitter be calibrated regularly, the period is not more than 6 months, please be cautious when calibrating.