

TxCOW31

CARBON MONOXIDE SENSOR

PRODUCT OPERATION MANUAL



OVERVIEW

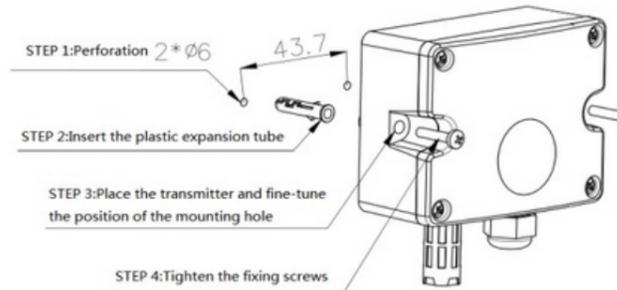
The sensor uses electrochemical principle to detect carbon monoxide in the air and has good selectivity and stability. Current, voltage, RS485 output mode available, wide voltage power supply and power anti-reverse connection protection. Suitable for indoor air quality detection, air conditioning, air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

TECHNICAL PARAMETER

Output Mode	See logo
Measure concentration	See logo
Accuracy	±5%Fs@25°C
Minimum reading	0.1 ppm / 1ppm
Working temperature	-10~50°C
Working humidity	15~90%RH (No condensation)
Working pressure	1atm±10%
Storage temperature	10~30°C
Working Voltage	10-30VDC (0-10V output requires 16-30VDC power supply)

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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

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SELECTION INSTRUCTIONS

CODE AND DESCRIPTION		Remark
TxCOW31-	Carbon monoxide sensor	Model NO.
	5	500ppm
	10	1000ppm
	V5	0~5V
	V10	0~10V
	A	4~20mA
	RS	RS485/Modbus

TxCOW31- 5 A

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PRECAUTIONS

- Recommended for underground garages, kitchens and other places where carbon monoxide gas is generated;
- Keep the sensor 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;
- Long-term use in an over-range and high-concentration gas environment can cause damage to the sensor.

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(3) Register description

Register address	Content	Operating	Range	Remarks
0002	CO concentration	R	0~1000	0-500ppm : reading value/10
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 500ppm, the output type is 0~10V, when the output is 5V, the output concentration = $5V/10V \times 500.0\text{ppm} = 250.0\text{ppm}$ For example 2, if the range is 500ppm, 4~20mA output, and the output is 12mA, then the output concentration = $((12\text{mA} - 4\text{mA})/16\text{mA}) \times 500.0\text{ppm} = 250.0\text{ppm}$

3. sensor CALIBRATION

After the sensor has been running for a long time, the zero point may drift. You can calibrate it as follows (outdoor fresh air is generally 0ppm, which can be used as a reference): Method: Press and hold the button inside the sensor for more than 7 seconds (away from its breathing), release it when the light flashes. Note: Before zero calibration, the sensor should work continuously for more than 20 minutes in a 0ppm environment, and the return value is 0ppm after calibration.

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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 = $0x09 \times 256 + 0xC4 = 2304 + 196 = 2500 \dots 250.0\text{ppm}$

(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

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