

User Guide

Product Introduction

The sensors have built-in protection against lightning, reverse connection, overcurrent, etc. The products are fully interchangeable and are used to accurately measure ethylene and oxygen concentrations.

Use Case Scenarios

The sensor is widely used in fruit storage, transport and other scenarios.



Features

1. High measurement accuracy.
2. Fast response speed and good interchangeability.
3. Built-in lightning protection, anti-reverse connection, over-current and other multiple protection.

Product Specifications

Specifications	
Model	UB-EO-N1
Power Supply	DC 5V
Measuring Range	Ethylene: 0~20ppm, Oxygen: 0~25%Vol
Resolution	Ethylene: 0.1ppm, Oxygen: 0.1%Vol
Working Environment	-20~50°C, 5~90%RH
Connector	Audio
Cable Length	3m
Communication Protocol	RS485 Modbus RTU Protocol
RS485 Address	0x03
Baud Rate	1200 bit/s, 2400 bit/s, 4800 bit/s, 9600 bit/s (default), 19200 bit/s

Wiring Instruction



Communication protocols

1. Communication basic parameters

Communication Basic Parameter	
Coding System	8-bit binary
Data Bit	8 bits

Parity Checking Bit	none
Stop Bit	1 bit
Error Checking	CRC Check
Baud Rate	1200 bit/s, 2400 bit/s, 4800 bit/s, 9600 bit/s (default), 19200 bit/s

2. Data Frame Format

The Modbus-RTU communication protocol is used in the following format:

- Initial structure ≥ 4 bytes in time.
- Address code: 1 byte, default 0x03.
- Function code: 1 byte, support function code 0x03 (read only) and 0x06 (read/write).
- Data area: N bytes, 16-bit data, high byte comes first.
- Error check: 16-bit CRC code.
- End structure ≥ 4 bytes of time.

Request							
Slave Address	Function Code	Register Address	No. of Registers	CRC LSB	CRC MSB		
1 byte	1 byte	2 bytes	2 bytes	1 byte	1 byte		
Response							
Slave Address	Function Code	No. of Bytes	Content 1	Content 1	...	Content n	CRC
1 byte	1 byte	1 byte	2 bytes	2 bytes	...	2 bytes	2 bytes

3. Register Address

Register Address				
Address (hex)	Content	Register Length	Function Code	Description of definitions
0x0002	Ethylene value	1	03	Unsigned integer data, divided by 10
0x0003	Oxygen value	1	03	Unsigned integer data, divided by 10

NOTE

1. Users are not allowed to dismantle it by themselves to avoid damage to the product.
2. Installation, disassembly must be disconnected from the power supply first, water entering the equipment can lead to irreversible changes.
3. Prevent chemical reagents, oil, dust and other direct infringement of the sensor, do not condensation, extreme temperature environment.