

# YF500 Series

## YF500-C2H4 Sensor

The YF500-C2H4 Ethylene Transmitter is a high-performance gas sensing device designed for industrial safety and precision agriculture monitoring. It utilizes advanced sensing technology to deliver fast response and high sensitivity in detecting ethylene (C2H4) concentrations. Through our proprietary compensation algorithm and multi-point calibration with standard gases, the transmitter achieves long service life, high accuracy, excellent repeatability, and outstanding long-term stability.

The transmitter supports multiple output interfaces including RS485, 4-20mA analog, and 0-5V DC voltage, with optional wireless transmission via LoRaWAN, 4G, Bluetooth, or WiFi for flexible integration into various monitoring systems. Featuring an industrial-grade IP65 protection housing, it operates reliably in harsh environments including fruit ripening rooms, cold storage facilities, and chemical plants.

This product is specifically designed for fruit ripening facilities, cold storage logistics, agricultural greenhouses, petrochemical plants, and semiconductor manufacturing environments where real-time ethylene monitoring is critical for process control and safety assurance.

### Product Features

#### Professional Ethylene Sensing

Employs high-performance ethylene-specific sensor technology that delivers rapid response and superior anti-interference capability, ensuring accurate measurement even in complex environments.

#### Industrial-Grade Robust Design

Built with IP65-rated enclosure that provides protection against dust and water ingress, ensuring stable long-term operation in demanding industrial and agricultural environments.

#### Flexible Communication Interface

Supports both wired (RS485, 4-20mA, 0-5V) and wireless (LoRaWAN, 4G, Bluetooth, WiFi) communication protocols, enabling seamless integration with diverse monitoring platforms and control systems.

#### Intelligent Calibration & Long-term Stability

Incorporates proprietary compensation algorithms and multi-point calibration technology to maintain high repeatability and minimal drift over extended periods, significantly reducing maintenance frequency and total cost of ownership.



## Wide Application Coverage

Specifically engineered for fruit ripening control, cold storage preservation, industrial leak detection, and agricultural environment monitoring, providing reliable data support for safety and quality control across multiple industries.

## Model Number Explanation

| Model                 | Product Category      |
|-----------------------|-----------------------|
| <b>YF500-C2H4(R)</b>  | C2H4 Sensor (RS485)   |
| <b>YF500-C2H4(L)</b>  | C2H4 Sensor (LoRaWAN) |
| <b>YF500-C2H4(W)</b>  | C2H4 Sensor (WIF)     |
| <b>YF500-C2H4(B)</b>  | C2H4 Sensor (BLE)     |
| <b>YF500-C2H4(20)</b> | C2H4 Sensor (4-20mA)  |
| <b>YF500-C2H4(V5)</b> | C2H4 Sensor (0-5V)    |

## Technical Parameters

| Model                    |                       | YF500                                        |                                  |              |
|--------------------------|-----------------------|----------------------------------------------|----------------------------------|--------------|
| Electrical Parameters    | Operating Voltage:    | DC 10V~30V (Standard 24V)                    |                                  |              |
|                          | Power Consumption     | 0.18W                                        |                                  |              |
|                          | Response Time         | ≤20s                                         |                                  |              |
|                          | Repeatability         | ≤2%                                          |                                  |              |
|                          | Resolution            | 0.1ppm                                       |                                  |              |
|                          | Warm-up Time          | ≥3min                                        |                                  |              |
|                          | Zero Drift            | ≤10ppm                                       |                                  |              |
|                          | Stability             | ≤2% of signal value                          |                                  |              |
|                          | Output Method         | default                                      | RS485                            |              |
|                          |                       | optional                                     | 4-20mA/0-5V/LoRaWAN//WIFI/BLE/4G |              |
|                          | Product Material      | ABS flame-retardant housing                  |                                  |              |
|                          | Mounting Options      | Pipe-mount / Wall-mount                      |                                  |              |
|                          | Dimensions            | 124x94x45 mm (Main Unit) 118*50*34mm(Sensor) |                                  |              |
| Environmental Parameters | Operating Temperature | -20℃ ~ 60℃                                   |                                  |              |
|                          | Operating Humidity    | 0 ~ 99%RH (non-condensing)                   |                                  |              |
|                          | Storage Conditions:   | -30℃ ~ 60℃ ; 0 ~ 99%RH (non-condensing)      |                                  |              |
| Sensor Selection Guide   |                       |                                              |                                  |              |
| Detection Type           | Detection Range       | Resolution                                   | Accuracy                         | Service Life |
| C2H4                     | 0~100ppm              | 0.1ppm                                       | ± 5%FS                           | 2 years      |

Remark: This table covers common parameters and detection ranges. If you have requirements for other parameters or detection ranges, please contact us.

## Installation

### RS485

| PIN | Definition | Description      |
|-----|------------|------------------|
| 24V | VCC        | Power Input +24V |
| GND | GND        | Ground Terminal  |
| B   | 485B       | Modbus-RS485 B   |
| A   | 485A       | Modbus-RS485 A   |

### 4~20mA

| PIN  | Definition | Description      |
|------|------------|------------------|
| 24V  | VCC        | Power Input +24V |
| GND  | GND        | Ground Terminal  |
| IOUT | IOUT       | 4~20mA Output    |

### 0~5V/0~10V

| PIN  | Definition | Description       |
|------|------------|-------------------|
| 24V  | VCC        | Power Input +24V  |
| GND  | GND        | Ground Terminal   |
| VOUT | VOUT       | 0-5V/0~10V Output |

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