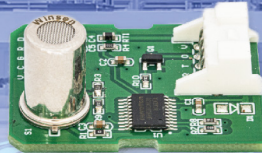
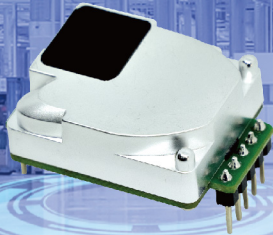




IoT World, Sensing Leads the Way

# Refrigerant Sensor Solutions

Semiconductor and NDIR infrared refrigerant sensors are used for qualitative and quantitative detection of R32, R290, R454B, R410A, R134A, etc. in different application scenarios. The sensors are designed with function of self-diagnosis, meeting standard of UL60335-2-40:2022. With the sensors, refrigerant gas leakage alarm and automatic switch-off can be realized. More different functions can be equipped according to the needs of manufacturers of air conditioner, heat pump, and refrigerant detection instrument.



## R&D, Production, Sales and Solutions of Sensing Products

### 30+ YEARS OF EXPERIENCE

R&D, manufacture and sales of sensors, covering an area of 30,000m<sup>2</sup>

### INTERNATIONAL MARKET

60M+ PCS delivery yearly to 100+ countries & regions

### R&D STRENGTH

100+ patents of sensors, 100+ team members self-built lab for continuous innovation



### EXCELLENT QUALITY

Complete and strict process flow from raw materials to outgoing, rigid quality control

### AUTOMATIC PRODUCTION

500+ sets of equipment for development manufacturing and test

### ONE-STOP SERVICE

Professional consultation, fast delivery 24 hours after-sales support

## Zhengzhou Winsen Electronics Technology Co., Ltd.

Add.: NO.299 Jinsuo Road, National High-Tech Zone, Zhengzhou, China.

Post code: 450001

Email: sales@winsensor.com

Tel.: 0086-371-67169097

Fax.: 0086-371-60932988

Web: www.winsen-sensor.com www.winsentech.com



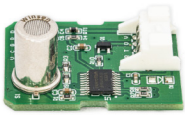
Winsen Zhengzhou



Winsen Shanghai



# Create Value for Customers, Create Win-win Future with Customers



## Technical Specifications

- Semiconductor Gas Sensor
- High Sensitivity to R290
- Good Consistency
- Anti-interference Filter Layer
- Aged & Calibrated
- Long Life Span

|                    |                   |                 |             |                        |              |
|--------------------|-------------------|-----------------|-------------|------------------------|--------------|
| Model              | ZP211             | Working voltage | 5.0±0.2V DC | Working temperature    | -20~55°C     |
| Target gas         | Refrigerants R290 | Working current | ≤80mA       | Working humidity       | ≤95%RH       |
| Physical interface | S05B-PASK-2       | Warm-up time    | 3min        | Storage temperature    | -20~60°C     |
| Output signal      | PWM               | Recover time    | ≤120s       | Storage humidity       | ≤60%RH       |
| Output data        | /                 | Alarm point     | 2000ppm     | Initial alarm accuracy | 1340~2660ppm |
| Size (L×W×H)       | 25×34×14.1mm      | Weight          | 5g          | Life span              | 10 years     |



## Technical Specifications

- Semiconductor Gas Sensor
- High Sensitivity to R32
- Good Consistency
- Anti-interference Filter Layer
- Aged & Calibrated
- Long Life Span

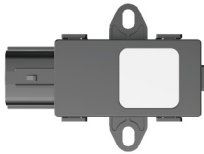
|                    |                  |                 |             |                        |              |
|--------------------|------------------|-----------------|-------------|------------------------|--------------|
| Model              | ZP201            | Working voltage | 5.0+0.2V DC | Working temperature    | 20~55°C      |
| Target gas         | Refrigerants R32 | Working current | ≤80mA       | Working humidity       | ≤95%RH       |
| Physical interface | S05B-PASK-2      | Warm-up time    | 3min        | Storage temperature    | -25~60°C     |
| Output signal      | PWM              | Recover time    | ≤120S       | Storage humidity       | ≤60%RH       |
| Output data        | TTL level        | Alarm point     | 5000ppm     | Initial alarm accuracy | 3000~7000ppm |
| Size (L×W×H)       | 25×34×14.1mm     | Weight          | 5g          | Life span              | 10 years     |



## Technical Specifications

- Smart NDIR Gas Sensor
- Good Selectivity
- Non-oxygen Dependent
- Sophisticated Circuit Design
- Easy to Use
- Long Life Span

|                 |                  |                 |             |                     |             |
|-----------------|------------------|-----------------|-------------|---------------------|-------------|
| Model           | MH-Z1542B-R32    | Detection range | 0~5.00% Vol | Resolution          | 1% LFL(R32) |
| Target gas      | Refrigerants R32 | Working voltage | 3.6-5V DC   | Working temperature | -20~60 °C   |
| Interface level | 3.0V             | Average current | <85mA       | Working humidity    | 0-95%RH     |
| Output signal   | UART             | Warm-up time    | 3min        | Response time       | T25 < 7 s   |
| Size (L×W×H)    | 32.9×22.3×11.9mm | Weight          | 35g         | Life span           | > 15 years  |



## Technical Specifications

- Smart NDIR Gas Module
- High Sensitivity
- High Resolution & Fast Response
- Temperature Compensation
- Excellent Linear Output
- Anti-vapor Interference

|                |                    |                 |            |                     |            |
|----------------|--------------------|-----------------|------------|---------------------|------------|
| Model          | ZRT510             | Detection range | 0~50% LFL  | Resolution          | 0.1% LFL   |
| Target gas     | Refrigerants R454B | Working voltage | 5±0.1 V DC | Working temperature | -40~85 °C  |
| Interface mode | XHQ-4              | Average current | < 70 mA    | Working humidity    | 0~100% RH  |
| Output signal  | RS485              | Warm-up time    | <30s       | Response time       | <10s       |
| Size (L×W×H)   | 75.4×57×21.5mm     | Weight          | 32.5g      | Life span           | > 15 years |

## Application

