

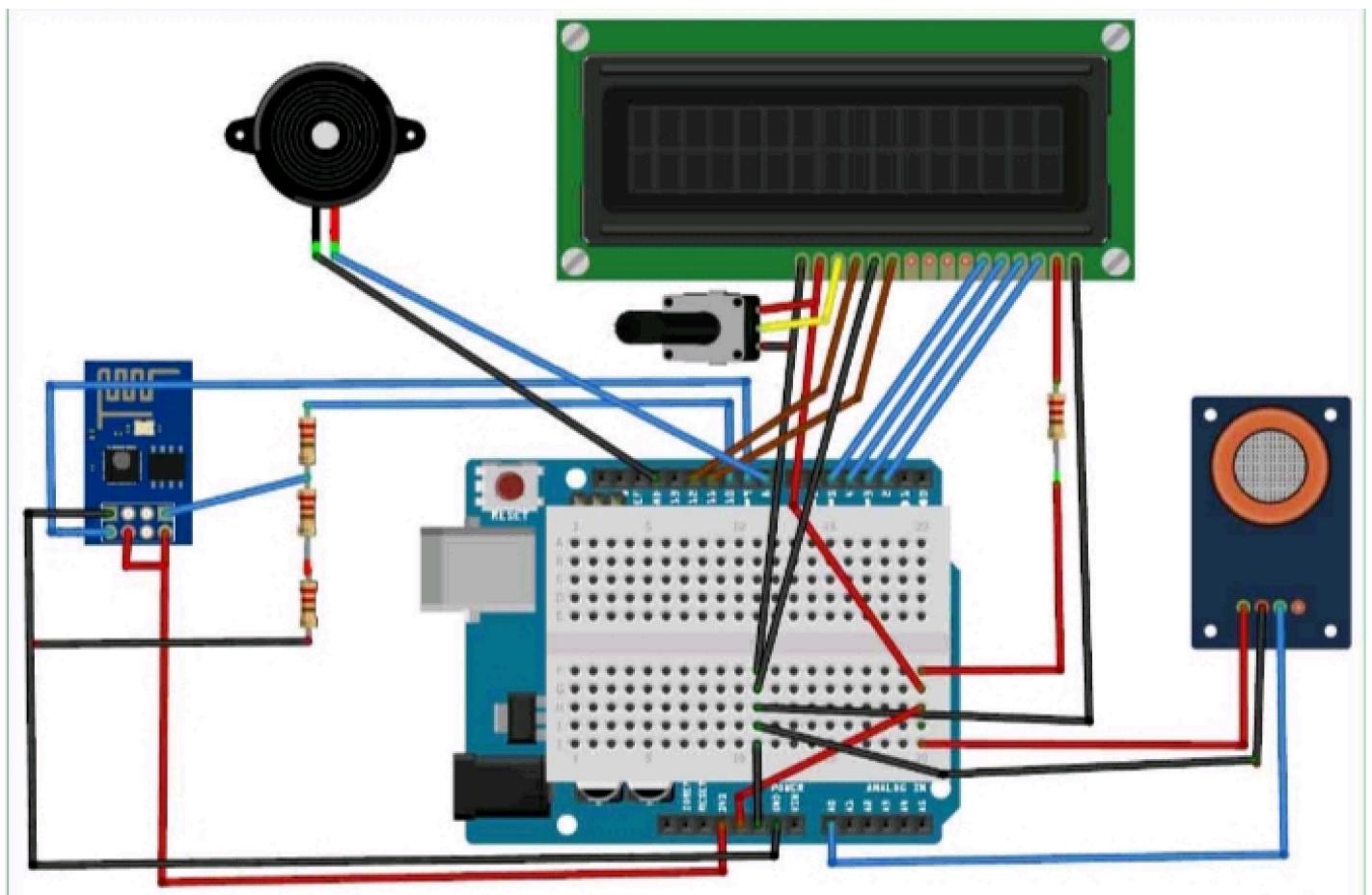
**PROJECT TITLE : IOT - AIR QUALITY
MONITORING**

PHASE 3 : Development Part 1

In this project we are going to make an **IoT Based Air Pollution Monitoring System** in which we will **monitor the Air Quality over a webserver using internet** and will trigger a alarm when the air quality goes down beyond a certain level, means when there are sufficient amount of harmful gases are present in the air like CO₂, smoke, alcohol, benzene and NH₃. It will show the air quality in PPM on the LCD and as well as on webpage so that we can monitor it very easily.

Required Components:

- MQ135 Gas sensor
- Arduino Uno
- Wi-Fi module ESP8266
- 16X2 LCD
- Breadboard
- 10K potentiometer
- 1K ohm resistors
- 220 ohm resistor
- Buzzer



- Connect pin 1 (VEE) to the ground.
- Connect pin 2 (VDD or VCC) to the 5V.
- Connect pin 3 (V0) to the middle pin of the 10K potentiometer and connect the other two ends of the potentiometer to the VCC and the GND. The potentiometer is used to control the screen contrast of the LCD. Potentiometer of values other than 10K will work too.
- Connect pin 4 (RS) to the pin 12 of the Arduino.
- Connect pin 5 (Read/Write) to the ground of Arduino. This pin is not often used so we will connect it to the ground.
- Connect pin 6 (E) to the pin 11 of the Arduino. The RS and E pin are the control pins which are used to send data and characters.
- The following four pins are data pins which are used to communicate with the Arduino.

Connect pin 11 (D4) to pin 5 of Arduino.

Connect pin 12 (D5) to pin 4 of Arduino.

Connect pin 13 (D6) to pin 3 of Arduino.

Connect pin 14 (D7) to pin 2 of Arduino.

- Connect pin 15 to the VCC through the 220 ohm resistor. The resistor will be used to set the back light brightness. Larger values will make the back light much more darker.
- Connect pin 16 to the Ground.

```
import requests
import json
[platform_url = 'https://api.data-sharing-platform.com/data'
api_key = 'your-api-key' def send_data_to_platform(data):
    headers = {
        'Content-Type': 'application/json',
        'Authorization': f'Bearer {api_key}'
    }

    data_json = json.dumps(data)

    response = requests.post(platform_url, data=data_json, headers=headers)

    if response.status_code == 200:
        print("Data sent successfully")
    else:
        print(f"Failed to send data. Status code: {response.status_code}")
iot_data = {
    "temperature": 25.5,
    "humidity": 60.0,
    "sensor_id": "123"
}
send_data_to_platform(iot_data)
```



WHT20 MEMS type Temperature and
Humidity Sensor

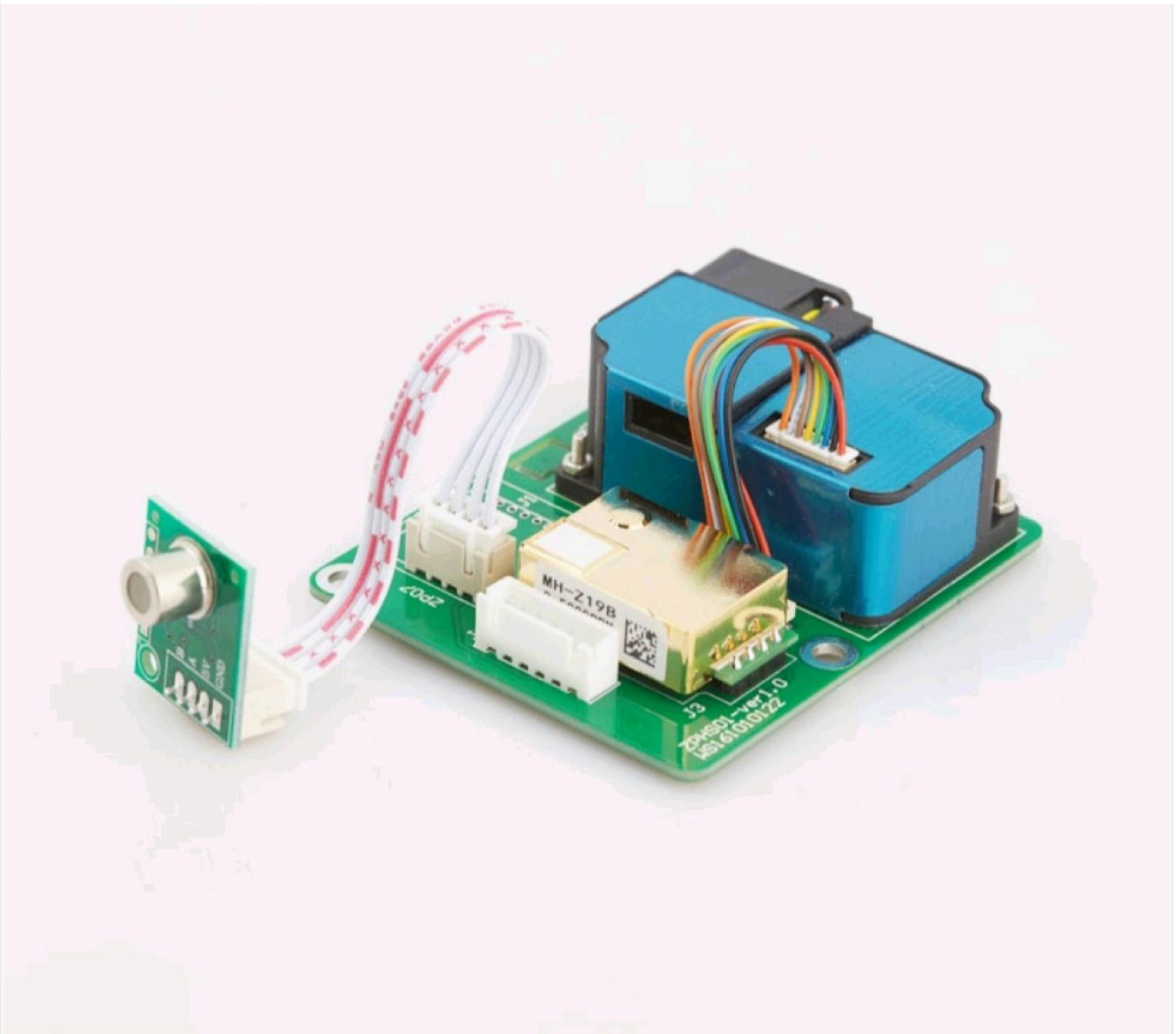


ZH06-II/ZH06-III

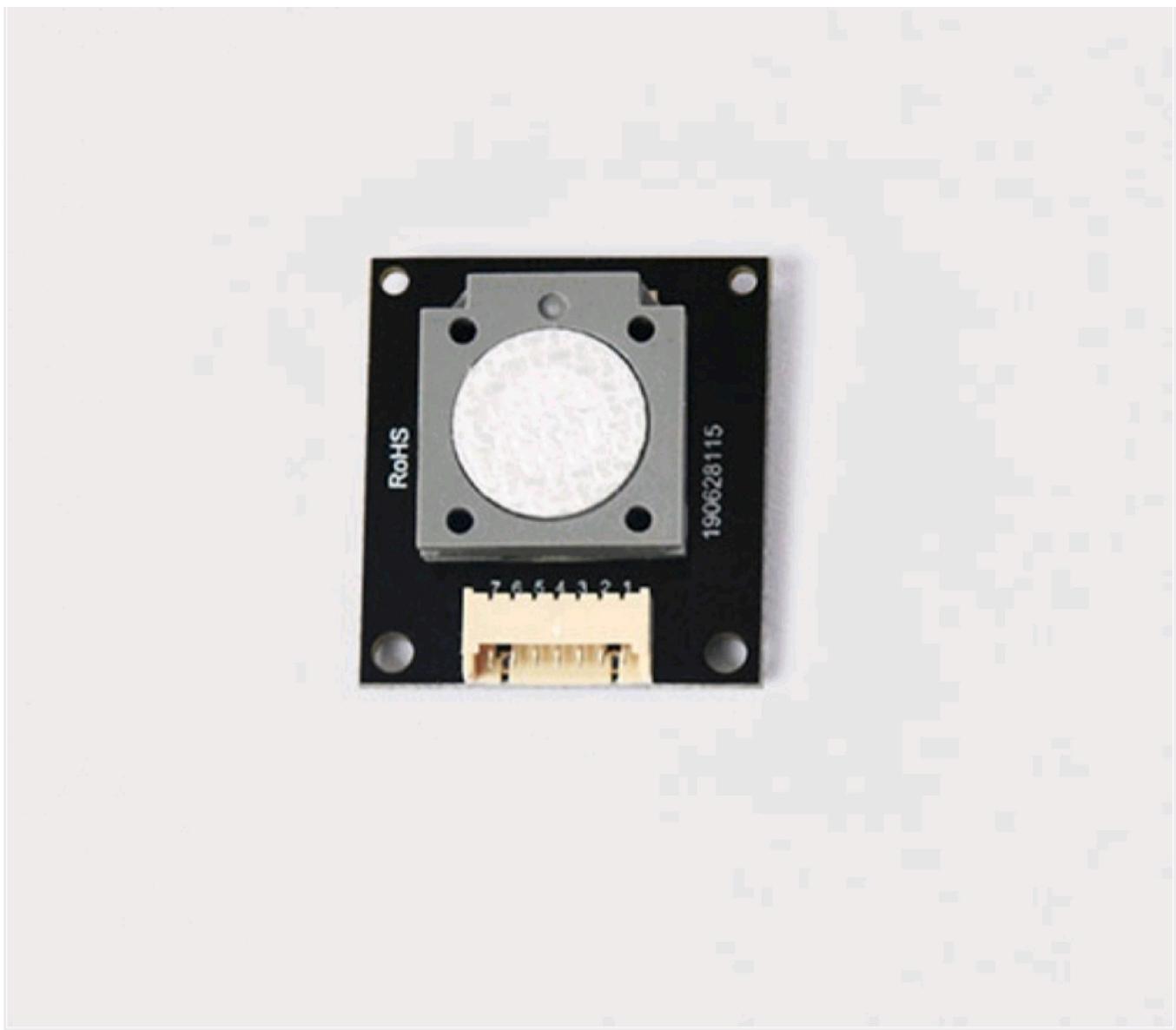
ZH06-III Laser dust sensor



ZP07-MP503 Air-Quality Detection
Module



ZPHS01 Multi-in-One Sensor Module



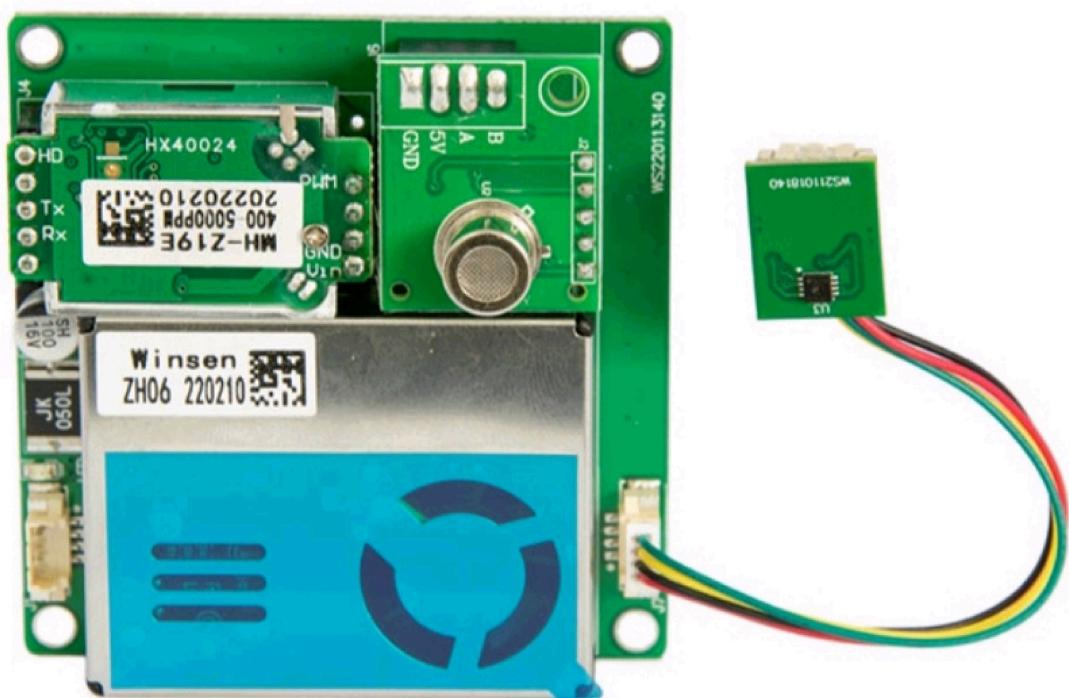
Electrochemical TVOC Detection
Module ZE40B-TVOC



ZE15-CO Carbon Monoxide Module



Electrochemical Ozone Detection
Module ZE27-03



ZPHS01C Multi-in-One Air quality monitoring Sensor Module



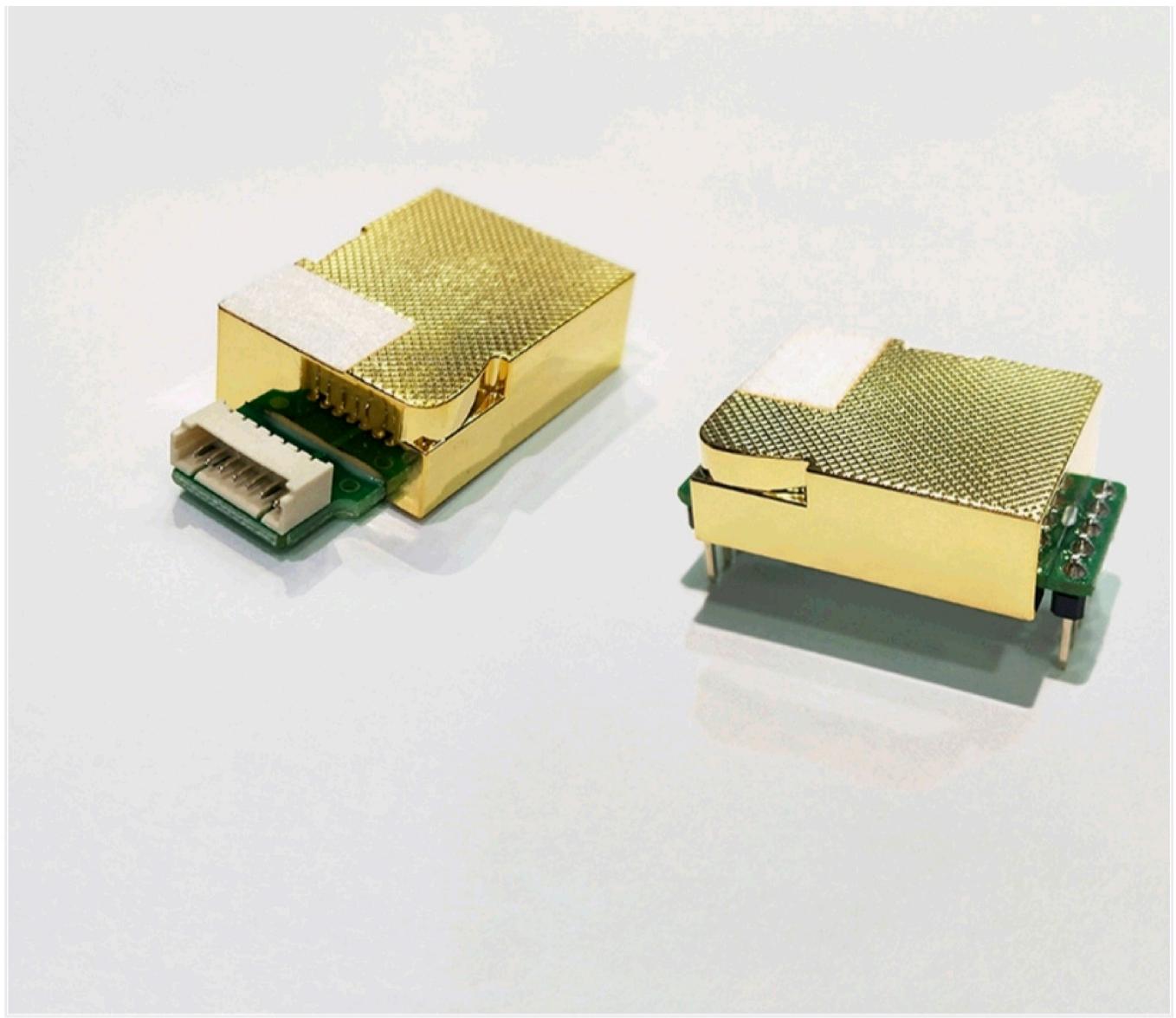
ZPHS01B Multi-in-one Air Quality
Monitoring Sensor Module



4R-PID Photoionization PID Sensor



**ZE08B-CH20 Electrochemical CH₂O
Detection Module**



MH-Z19C NDIR CO2 Sensor for HVAC
and IAQ