

G7C-IR-SF6

G7C-IR-SF6 SF6 NDIR Infrared Gas Sensor

Shanghai Yixin • Sulfur Hexafluoride • Non-Dispersive Infrared (NDIR)

The Shanghai Yixin G7C-IR-SF6 is a Non-Dispersive Infrared (NDIR) sensor for sulfur hexafluoride (SF6) detection. It offers a 0 – 1500 ppm range with linearity error of ±30 ppm for ≤600 ppm and ±5% of reading for >600 ppm, a minimum detection limit of 30 ppm and repeatability of ≤3% reading. The sensor provides both Modbus RTU 1200 bps digital output and 0.4 ~ 2 V analog output, powered by 3.3 ~ 6 VDC with average power consumption of only 0.23 W. Its compact size makes system integration easy, ideal for SF6 insulation gas monitoring in electrical equipment, substations, switchgear leakage detection and online monitoring.

Specifications

|                         |                                             |
|-------------------------|---------------------------------------------|
| Target Gas              | Sulfur Hexafluoride (SF6)                   |
| Operating Principle     | Non-Dispersive Infrared (NDIR)              |
| Measurement Range       | 0 ~ 1500 ppm                                |
| Linearity Error         | ≤600 ppm: ±30 ppm; >600 ppm: ±5% of reading |
| Response Time (T90)     | ≤ 60 s                                      |
| Minimum Detection Limit | 30 ppm                                      |
| Repeatability           | ≤3% of reading                              |
| Operating Temp.         | -10 °C to +50 °C                            |
| Storage Temp.           | -40 °C to +85 °C                            |
| Ambient Humidity        | 0 ~ 95% RH                                  |
| Warm-Up Time            | 1 min                                       |
| Digital Output          | Modbus RTU 1200 bps                         |
| Analog Output           | 0.4 ~ 2 V                                   |
| Supply Voltage          | 3.3 ~ 6 VDC                                 |
| Drive Current           | 45 mA (average) / 180 mA (max)              |
| Power Consumption       | 0.23 W (average)                            |

Key Features

- Non-Dispersive Infrared (NDIR) technology
- Long lifetime and long-term stability
- Compact size for easy system integration
- Modbus RTU + analog dual output
- Low power consumption, only 0.23 W average

Typical Applications

- Electrical Equipment Insulation Gas Monitoring

- Substation SF6 Leak Detection
- Switchgear Online Monitoring
- Gas Leakage Prevention

### Calibration & Cross-Sensitivity

Calibrated with SF6 standard gas; installation and use should follow the G7C datasheet pin definitions and interface circuits.