IR-SF6 series diffusive NDIR gas sensor

Ver1.0.1

Operating Instruction

Thank you for choosing our IR-SF6 series diffusive NDIR gas sensor, please carefully read this operating instruction before usage!

iSweek www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036 Fax: + 86-755-83289052 E-mail: sales@isweek.com

1、Product Introduction

IR-SF6 series diffusive infrared sensor is a gas sensor based on the principle of single light source dual wavelengths using non-dispersive infrared detecting technology(NDIR). The sensor applies a high-end infrared light source and a detector, choosing gold-plated parts as light path return channel, which improve the measuring accuracy and stability. Meanwhile, the environmental suitability of the sensor is also enhanced by adding certain special mature technology.

The major applications of the sensor include electricity, petrochemical, food processing, semiconductor and other industries, which is suitable for leakage alarm, environmental protection, industrial safety and other occasions.

2、Product Features

- Fault diagnosis and false alarm prevention technology
- Temperature and pressure compensation technology
- Anti-condensation technology
- Life span is greater than 10 years

3、Detecting Gases and Ranges

Gas types detected	Ranges
IR-SF6-1000	(0~1000)μL/L
IR-SF6-1500	(0~1500)μL/L

4、Technical Specification

General spec.:

Measuring principle	Single light source dual wavelengths non-dispersive infrared (NDIR)
Product dimension	66mm*36mm*29.5mm（L*W*H）
Product weight	36.5g
Warm-up time	＜2min
Sampling method	diffusion

Measuring spec.:

Linearity error	＜±2%FS
Response time(T_{90})	＜40s
Repeatbility（relative to standrd deviation）	＜1%
minimum detection limit	1%FS
Resolution	0.1%FS
Long-term stability（zero）	≤±1%FS/ year
Long-term stability（span）	≤±2%FS/year
Temperature drift（zero）	≤±0.1%FS/℃
Temperature drift（span）	≤±0.2%FS/℃

Electrical characteristics：

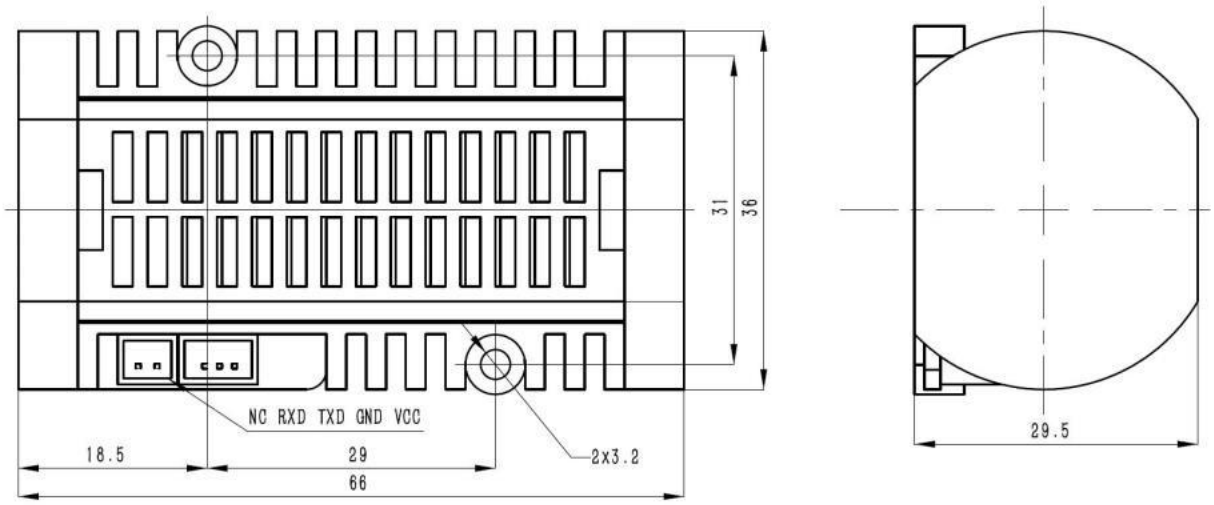
Operating voltage	(3.3~6.5) VDC
Operating current	max 190mA(average 90mA);@5VDC
Average power	＜0.7W
Peak power	＜1W
Signal output method	UART TTL 、RS485
Singal output protocol	Modbus ASCII（standard） Modbus RTU（customized）

Environmental condition：

Temperature compensation range	(-10~40)℃
Working humidity	（0~95）%RH (non-condensing)
Storage temperature	(-20~60)℃
Environment pressure compensation	(80~110)kPa

*： The above typical values are measured under standard(101.3kPa,20℃, non-condensing) and clean environment.

5、Product Dimensions and Mounting method

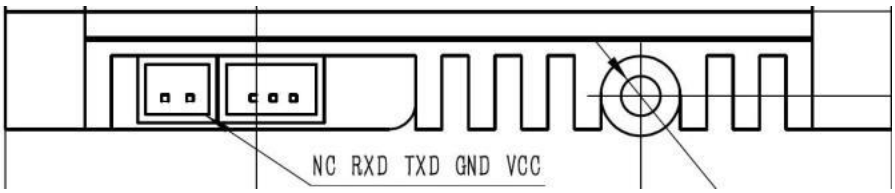


Standard dimensions :66mm*36mm*29.5mm(L*W*H)（diffusive）

Note： The sensor uses diffusive method to sample gases to be detected. The supply is 5V DC and the output method is UART TTL/RS485 digital output. A PH2.0mm-5P terminal wire is needed when establishing communication to the sensor. Customer could secure and mount the sensor with two M3 screws.

Note：SN:10-2007-0005（indicates the manufacturing date of the sensor is July 2020 and its communication address is “5”）

6、Electrical Wiring diagram



Pin Definition (table-01)

Pin	Definition
VCC	Supply voltage (3.3~6.5)VDC
GND	Ground
TX	Sensor signal transmission/ Host signal receiving pin/single bus communication pin
RX	Sensor signal receiving/host signal sending pin
NC	Reserved

7、Communication Configuration Information

Communication configuration: the sensor module uses serial communication method

Communication configuration specification (table-02)

Baud rate	Data bits	Stop bit	check
2400	7	1	even parity check