

## Energom-3001-N-Freon 4...20 mA

### Freon sensor operating instructions

#### 1. Overview

Energom-3001-N-Freon sensor 4~20 mA analog signal output, equipped with LCD screen on-site display of measurement data, can also be optional 1 relay alarm output. It is widely used in smart home, intelligent transportation, intelligent agriculture, factory buildings and other environmental monitoring fields of the Internet of things.

#### 2. Technical indicators

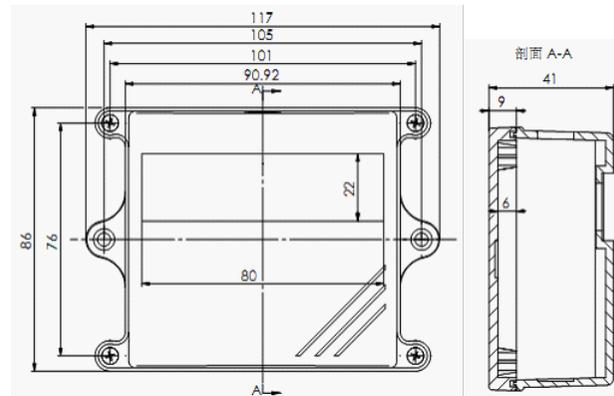
Working environment	-10~50°C, 15%~90%RH(non-condensing)
Storage environment	-25~60°C
Supply voltage	DC24V
Measuring range	10~1000PPM
Measurement accuracy	±3%
Display mode (optional)	LCD
LCD Screen Specifications (optional)	2 lines of 8 characters each display O2 concentration data
Alarm and control output (optional)	1 relay, contact capacity (resistance) : 3A/ AC220V, DC24
Output mode	4~20mA

Output load	< 500Ω, Recommended 250 euros (4~20mA transmission); > 10K OHM (0~5V output)
Transmission distance	500 m (4-20mA transmission, RVVP4*1.0 signal cable)

#### 3. Installation and use

The internal Freon sensor has been linearized, according to user requirements output 4~20mA analog signal corresponding to the Freon range, can be directly connected to the PLC and other measurement and control equipment.

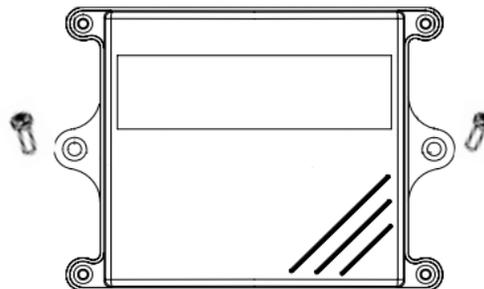
##### 3.1 Overall Dimensions 117\*86\*41



**Please install front side when installing (better waterproof effect)**

##### 3.2 Installation method of wall hanging shell (reference)

The mounting holes are located on both sides of the device,



#### Freon Sensor

and the diameter of the mounting holes is less than 4mm, which can be installed to the desired location with self-tapping screws.

##### 3.3 Cable Connection Description



Linear definition:

Red line: DC 24V power supply +

Black line: power source

Yellow line: Output current 4~20mA(+)

##### 3.4 Freon :10~1000PPM range: S

4 to 20mA: S=61.875\* I<sub>o</sub>-237.5

#### 4. Precautions

✘ The sensor should not be used in corrosive gases, otherwise it will damage the sensor probe.

✘ The sensor must not be stored or used in the environment of high concentration alkaline gas, otherwise the performance of the sensor

will be damaged.

※ The normal service life of the sensor probe: 1 year (normal temperature and humid air environment), please replace the probe in time after the expiration date. Extreme temperature and humidity environment sensor probe life will be greatly reduced. In particular, it should not be used in the field of environmental humidity > 90% or < 15% for a long time, resulting in serious damage to the sensor probe, and the damage caused by improper use of the user is not within the scope of product warranty.

※ The red and black wires of the power supply can not be reversed, otherwise it may burn the internal components.

※ Please try to use a special instrument signal cable to improve the transmission distance.

※ The sensor standard does not include DC12V/1A DC power supply, usually by the field RTU terminal power supply, remote recommended 4~20mA output.

## 5. Common problems and solutions

No output or output error cause:

1, the range corresponding error leads to the PLC calculation error, the range please refer to the technical indicators in Part 2.

2, the wiring mode is wrong or the wiring sequence is wrong.

3, the power supply voltage is not correct (the current output is the power supply voltage cannot be lower than 12V).

4, the distance between the sensor and the collector is too long, resulting in signal disturbance.

5. PLC acquisition port is damaged.

6. Equipment damage.

## 6. After-sales and warranty

The company's products within 1 year from the date of delivery due to product quality problems free maintenance, but irresistible factors or artificial damage or improper use of the case is not covered by the warranty. Long-term maintenance of this product.

Adhering to the principle of scientific and technological progress, committed to the concept of technological innovation. For this reason, our company reserves the right to improve any product without prior notice, product structure, parameters may be slightly different from this manual, please refer to the actual purchase.

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