Winsen
炜盛科技

Vehicle-Mounted Fuel Gas Leakage Detection Module

（Model:ZP05）

Manual

Version： 1.8

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Zhengzhou Winsen Electronics Technology Co., Ltd

Statement

Thanks for purchasing our product. In order to let customers use it better and reduce the faults caused by misuse, please read the manual carefully and operate it correctly in accordance with the instructions. If users disobey the terms or remove, disassemble, change the components inside of the sensor, we shall not be responsible for the loss.

The specific such as color, appearance, sizes &etc, please in kind prevail.

We are devoting ourselves to products development and technical innovation, so we reserve the right to improve the products without notice. Please confirm it is the valid version before using this manual. At the same time, users' comments on optimized using way are welcome.

Please keep the manual properly, in order to get help if you have questions during the usage in the future.

Zhengzhou Winsen Electronics Technology CO., LTD

ZP05 Vehicle-Mounted Fuel Gas Leakage Detection Module

Profile

ZP05 adopts thick film semiconductor sensor, which is designed for vehicle-mounted fuel gas leak alarm. It has the basic functions of vehicle-mounted flue gas leak alarm: electric power light, fault lamp, alarm light, output signal of working state; It can be installed respectively in the different positions of the vehicle, reducing the development period and guaranteeing high accurate detection.

Features

High sensitivity, wide voltage input, strong anti-jamming capability, good stability and shock resistance

Applications

It is used for complete device development of vehicle-mounted flue gas leak alarm to detect the flue gas in the vehicle.

Technical Parameters Stable1

Model	ZP05
Detection Gas	Natural gas
Detection range	1～25%LEL
Response Time	< 30s
Resume Time	< 30s
Working Voltage	DC 9～32V
Working Current	< 80mA
Output	To be external connection with 3 LED, 1 signal output
Accuracy	±3%LEL (under room temperature)
Expected Life	> 2 years
Working Environment	Temperature：-40~85℃
	Humidity：20%~90%RH
Storage Environment	Temperature：-20~105℃
	Humidity：20%~90%RH
Size	25.4×21.7×11mm（L×W×H）

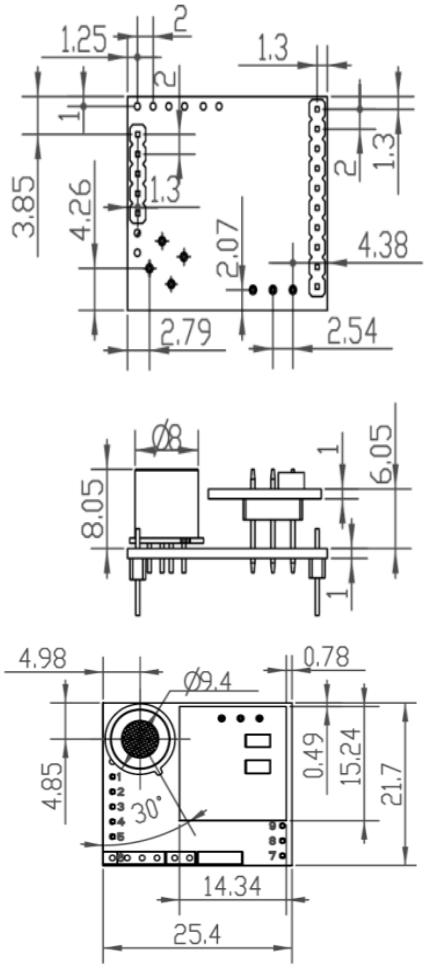
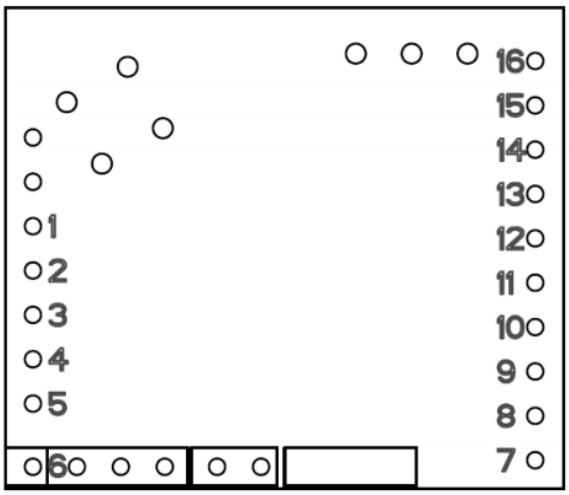


Fig1.Module Structure

Pins Definition Stable 2.

PIN16	Vcc（DC 9V -32V）
PIN1	5V output
PIN5	GND
PIN2	alarm lamp
PIN3	fault lamp
PIN4	State output S
PIN11	Power lamp
PIN6,PIN7,PIN8,PIN9,PIN10, PIN12,PIN13,PIN14,PIN15	Reserved



Application Diagram

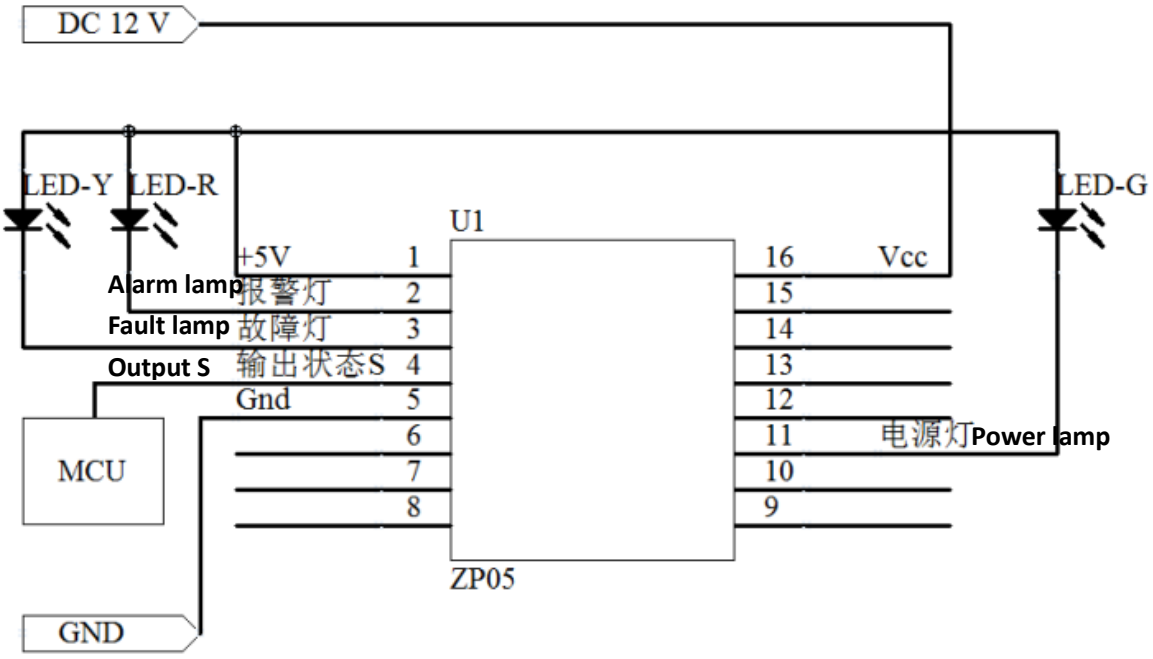


Fig2 Application Diagram

S is the state output for the module:

In normal working state: S is high level

In failure state: S is low level

In alarm state: Output is 1Hz wave which occupies 50% ratio

Other vacant pins can be customized according to customers' actual request, such as the output signal of buzzer, relay, solenoid valve &etc.

Cautions

1 .Following conditions must be prohibited

1.1 Exposed to organic silicon steam

Module will lose sensitivity and never recover if it absorbs organic silicon steam. Module

must avoid exposing to silicon bond, fixature, silicon latex, putty or plastic contain silicon environment.

1.2 High Corrosive gas

If the module is exposed to high concentration corrosive gas (such as H_2S, SO_X, Cl_2, HCl etc.), it will not only result in corrosion of sensor's heating material and pins, also it causes sensitivity and performance attenuation.

1.3 Touch water

Sensitivity of the sensors will be reduced when spattered or dipped in water.

1.4 Freezing

Do avoid icing on sensor's surface, otherwise sensing material will be broken and lost sensitivity.

2 .Following conditions must be avoided

2.1 Water Condensation

Indoor conditions, slight water condensation will influence sensors' performance lightly. However, if water condensation on sensing material surface and keep a certain period, sensors' sensitive will decrease.

2.2 Used in high gas concentration

No matter the sensor is electrified or not, if it is placed in high gas concentration for long time, sensors characteristic will be affected. If lighter gas sprays the sensor, it will cause extremely damage.

2.3 Long time storage

The sensors resistance will drift reversibly if the module is stored for long time without electrify, this drift is related with storage conditions. Modules should be stored in airproof bag without volatile silicon compound. For the modules with long time storage but no electrify, they need long galvanical aging time for stability before using. The suggested aging time as follow:

Stable3.

Storage Time	Suggested aging time
Less than one month	No less than 48 hours
1 ~ 6 months	No less than 72 hours
More than six months	No less than 168 hours

2.4 Long time exposed to adverse environment

No matter the modules electrified or not, if exposed to adverse environment for long time, such as high humidity, high temperature, or high pollution etc., it will influence the module's performance badly.

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