Pyroelectric Infrared Sensor Module

（Model： ZRD16）

User’s Manual

Version: 1.0

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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.

ZRD16 PIR Motion Sensor Module

ZRD16 Pyroelectric infrared sensor module adopts high performance PIR sensor and Pyroelectric dedicated LDO chip. It has the features, as low static power consumption, wide operating voltage, and high sensitivity. This module can be triggered repeatedly. If it's detected again during sensing output delay time, the delay period will be recalculated.

Features:

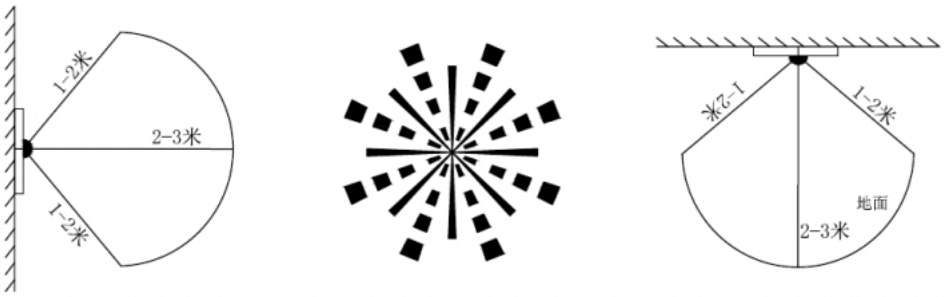
- Automatic Induction (when people enter into its sensing area, it gives an high-level output; when people leave the sensing area, it closes high-level output by 1s automatic-delay, and gives an low-level output.)
- Photo-resistor control:
  This module has no photosensitive control function,
  And it detects the whole day.
- Repeatable trigger mode: after high-level output, on the delay period, if there is human activity in its sensing range, the output remain high-level, and will not convert from high-level to low-level until people leave and the delay period is over. (when the sensor module detects every human body activity, it extend a delay period automatically, and use the last activity time as the starting time of delay period.)
- Induction blocking time(default setting as 2s second): after every sensing output(from high-level to low-level output), a blocking time can be set. At this period, the sensor does not receive any sensor signal. By this function, it can realize interval working, to be applied to interval detection production. At the same time, this feature can inhibit all kinds of interference generated by the switching of load.
- High-level output: TTL output, easy to interface with kinds of circuits;

Applications

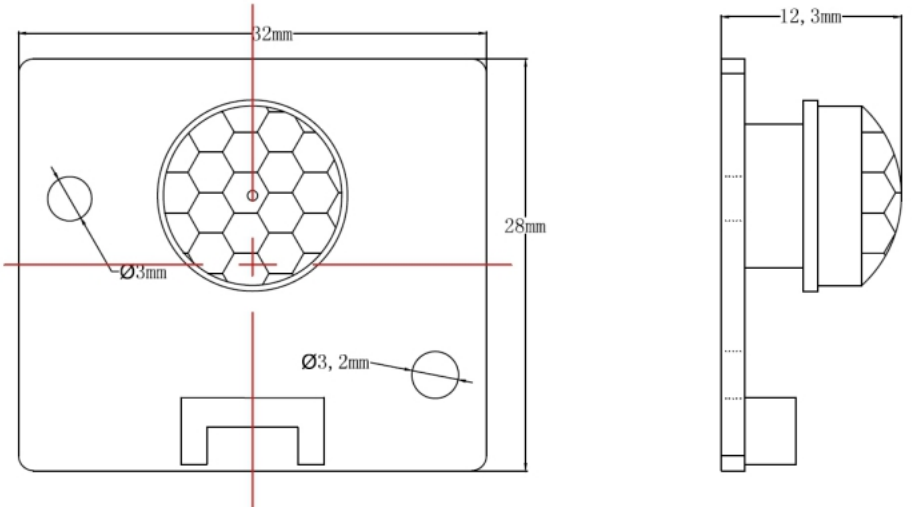
Air conditioners, smart fans, smart door locks
Security products,
Human body induction toys, Human body induction lamps, switches, and appliances
Industrial automatic controlling

Working Voltage	3.3~12V DC
Static Current	10μA, @3.3V @25℃
Level Output	High Level, 3V; Low Level, 0V
Trigger Mode	Repeatable
Blocking Time	2S (fixed)
PCB Size	32×28×12.3mm
Detection Angle	100°(Depend on the Lens)
Working Temperature	-10℃ ~ +70℃
Fresnel Lens Size	Diameter 12.6mm
Detection Distance	＞2m @25℃

Detection Range

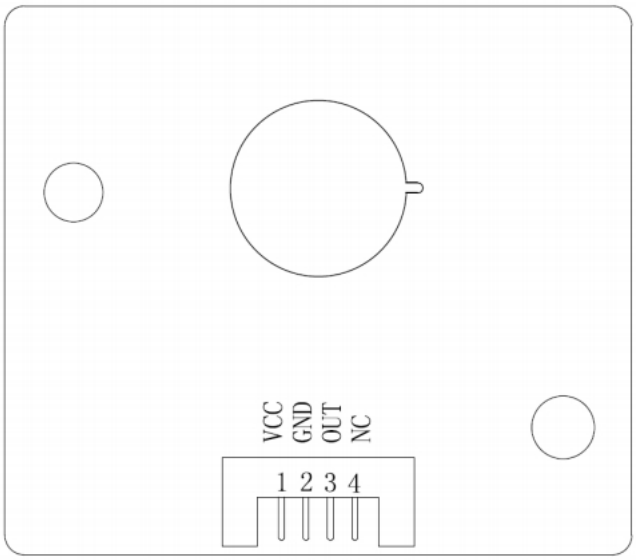


Dimension & Adjust



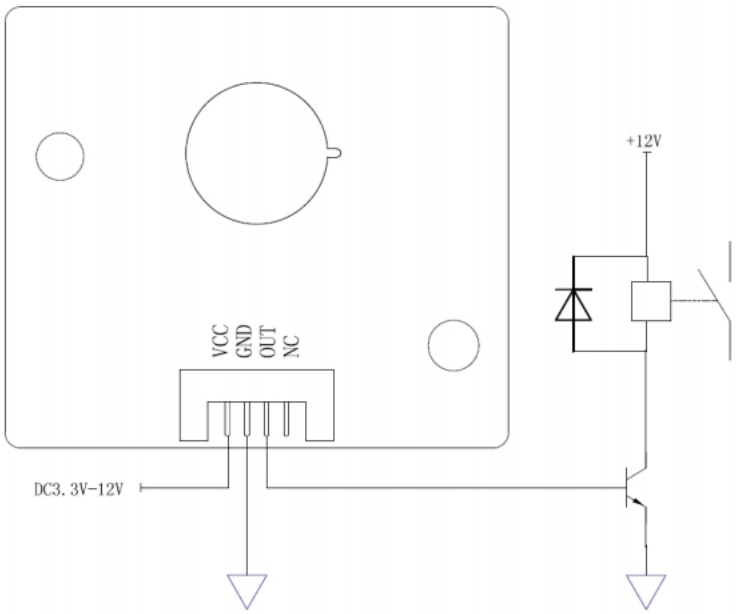
Picture:

Application:



1. Power supply: DC3.3V~12V
2. GND
3. Signal Output, TTL
4. NC

Load circuit diagram



Note:

1. After the sensor module is powered on, it will output a high level for 10 seconds and a low level for 2 seconds to self-test.

2. The module is in the initialization state within 30 seconds after power-on, and the high level output without human body induction during this time is the normal state

3. Please avoid lights or other interference source close to the lens, as well as the wind flow in the environment, so as not to cause false action.

4. This sensor module is using dual sensing elements, the probe window is rectangular, and dual elements is located in the longer direction. When person pass by from left to right (or from light to left), the time and distance that infrared spectrum reach to dual elements, is different. The greater the difference, the more sensitivity. When person pass by from up to down (or from down to up), the time and distance that infrared spectrum reach to dual element, has no difference. Then the sensitivity is low or module no working.

Please keep the direction of the dual sensing element in parallel with the human activity direction, to make sure that human activity is detected by the dual-element one after another.

Note: To keep continual product development, we reserve the right to change design features without prior notice.

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