Pyroelectric Infrared Sensor Module

(Model: ZRP110)

User Manual

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ZRP110 Pyroelectric Human Sensing Module

Product Description

The ZRP110 pyroelectric human sensing module uses a high-performance infrared pyroelectric sensor , with a Fresnel lens, a pyroelectric dedicated chip, and a high-performance voltage stabilization circuit. It has the characteristics of low static power consumption, wide operating voltage, and high sensitivity. The module can be triggered repeatedly. If it senses again during the induction output delay time period, the module will recalculate the delay period.

Sensor Features

Low power consumption, fully automatic sensing , high sensitivity, no light-sensitive control , strong anti-interference ability.

Main Applications

➢ Security Products

➢ Human body induction toys

➢ Human body sensing lamps, switches, home appliances, environmental appliances

➢ Industrial automation control , etc.

Technical indicators

Table 1

Product Model	ZRP110
Operating voltage	4.8V ~ 5.5V DC
Detection distance	5m (25℃)
Sensing Angle	120°
Output method	High and low level (High VCC / Low 0V)
Delay time	1s
Detecting infrared wavelengths	7um ～ 14um
Dimensions	26*16*15.8mm (L*W*H)
Operating temperature	-20 ℃ ～ 45℃
Storage temperature	-20 ℃ ～ 60 ℃
weight	About 3.5g
Lens color	White/Black
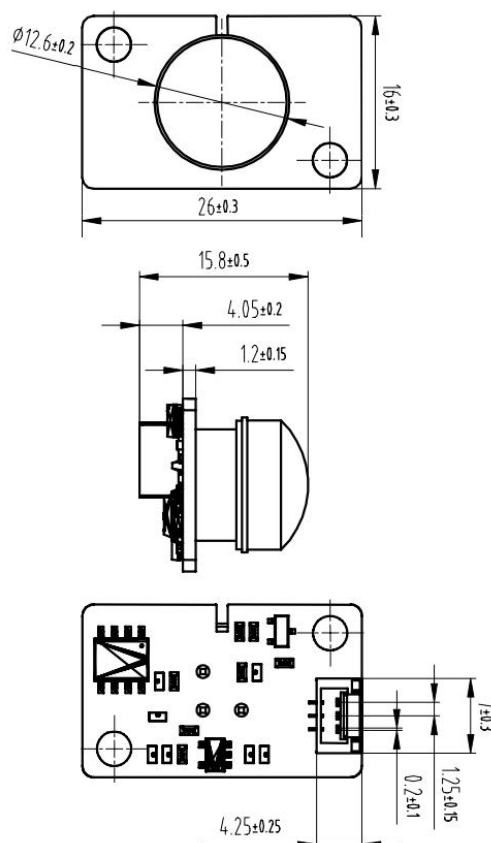
Figure 1: Module structure

Port Definition

Table 2

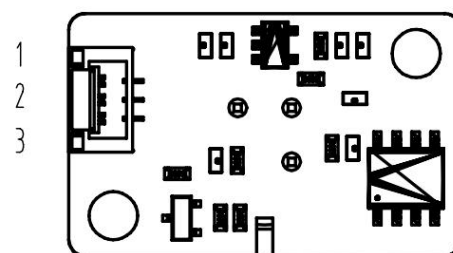| Pins	name	Function
1 foot	VCC	Input power positive terminal
2-pin	OUT	Signal output
3-pin	GND	Input power negative terminal

Fiture 2: Module Pin Definition

Note: When there is no one or a person is stationary in the sensing area, the OUT pin outputs a low level by default.

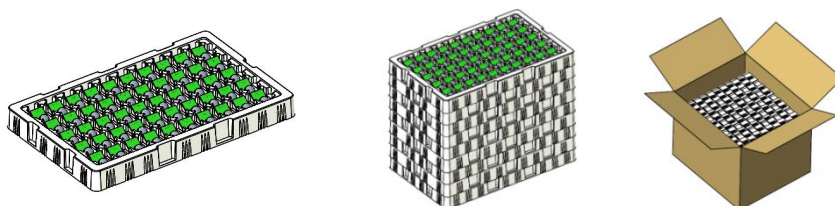When someone moves in the sensing area, the OUT pin outputs a high level.

Product Picture

ZRP110-whiteZRP110-black

(Same size, only different color)

Product packaging diagram

Packaging instructions: 1. The inner lining of the package is a blister tray, each tray contains 50 pieces.

2. Pallet size (mm): 312.5*197*29 .

3. The outer carton is placed on 9 layers of pallets, with 2 layers of empty pallets on the top and bottom for protection, a total of 1 1 layers of pallets.

4. Carton inner dimensions (mm): 355*310*285 .

Detection diagram
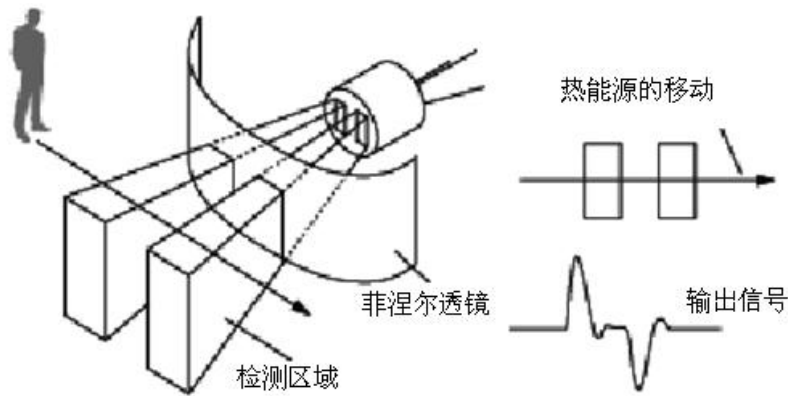

热能源的移动

菲涅尔透镜

输出信号

检测区域

Figure 3: Module working diagram

Note: The Fresnel lens determines the detection range and detection distance of the sensor.
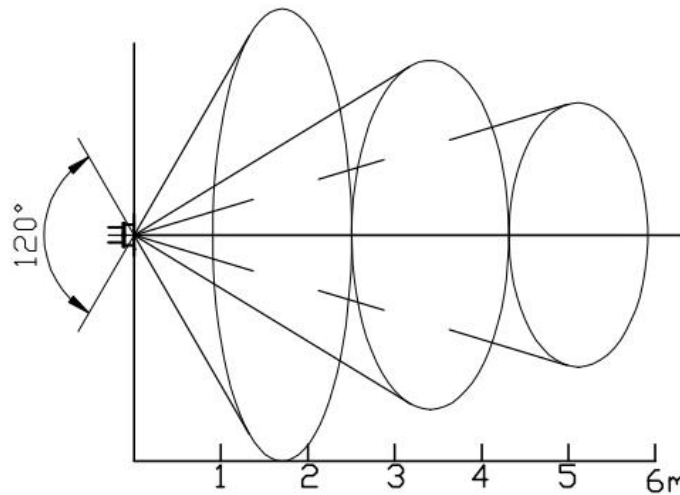

Figure 4: Fresnel lens detection range (unit: m)

Precautions

1. The module is in initialization state within 30 seconds after initial power-on. It is normal for the module to output a high level without human movement during this period.

2. Avoid direct exposure of interference sources such as lights to the module lens at close range to avoid false triggering;

3. Avoid wind in the use environment as much as possible, as wind can also interfere with the sensor.

4. Frequent and excessive vibration may damage the pyroelectric sensor, so please handle it with care during use.

5. Please strictly follow the power supply voltage of the module, otherwise the module may not work properly or be damaged;