Microwave Motion Sensor

ED118DY

Brief Introduction

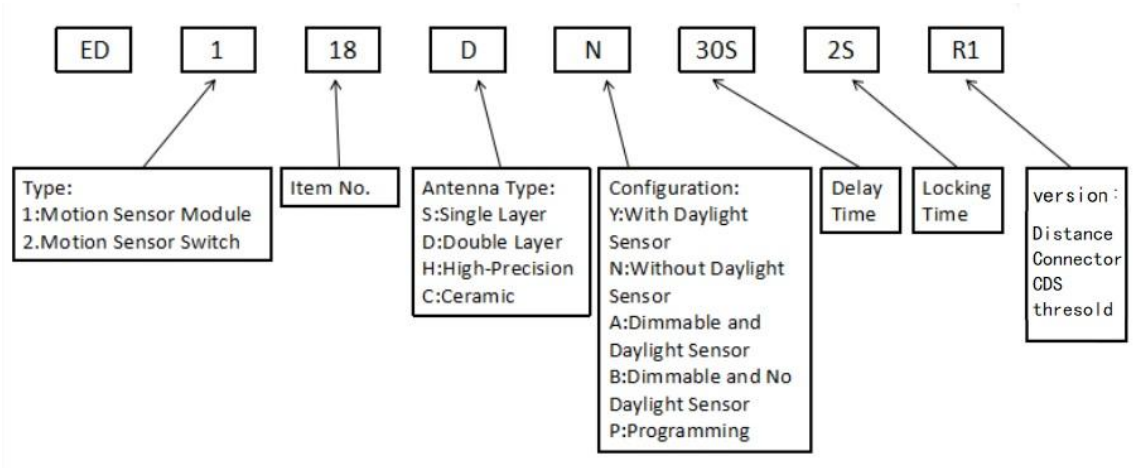
ED118DY The microwave motion sensor is designed based on the Doppler principle,it transmits the high frequency electromagnetic wave through the antenna and receives the reflected wave.Based on this principle it judges the movement of the object within the coverage range, and feedback corresponding electricity signal.

It is widely used in motion sensor lighting, security, small household electrical appliances, smart home, automatic door control switch, greeting device and other products, as well as garage, corridor, courtyard, balcony, bathroom and other places that need automatic motion sensor control.

Feature & Advantage

- Compared with PIR module,microwave motion sensor is better (with more wide detection range,no dead area,no lens,no lens aging problem,no environment interference)
- Strong anti-interference ability -- It is not affected by temperature, humidity, airflow, dust, noise, brightness and other factors
- Microwave can penetrate Acrylic,glass or thin non-metal materials
- Complying with environmental requirements

Naming Rules



Specification

Remark 1 :

Transmit Frequency	5.8	GHz	
Input Voltage		V	
High Output Voltage	3.3	V	IOH=30uA
Low Output Voltage	0.5	V	IOL=50uA
Work Current	26	mA	
Detect Distance	7	M	Remark 1
Delay Time	30	S	Remark 2
Work Temperature		°C	
Storage Temperature		°C	

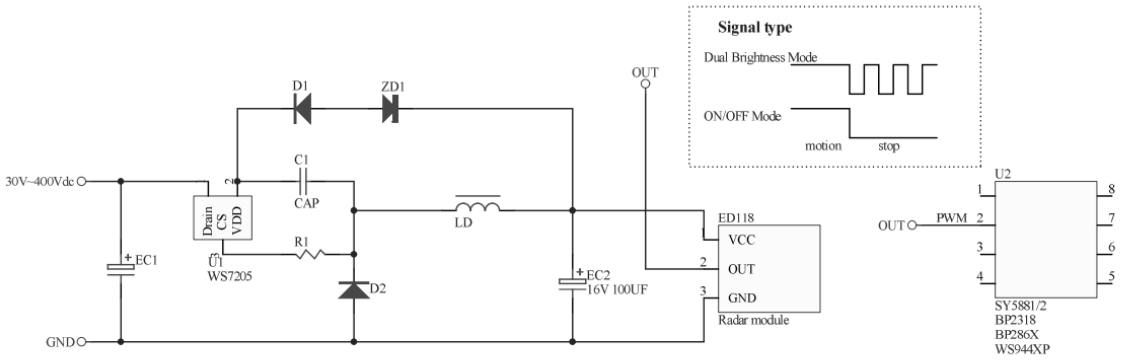
Test

Environment affect detect distance of motion sensor.For example:the detect distance is longer when tested in corridor, because corridor is empty space.

And the distance will be affected if there are many stuffs or obstacles.

Remark 2 : Can be customized according to customer demand,1s--1000s delay time is available.

Typical Application:



Recommend Power Supply Circuit

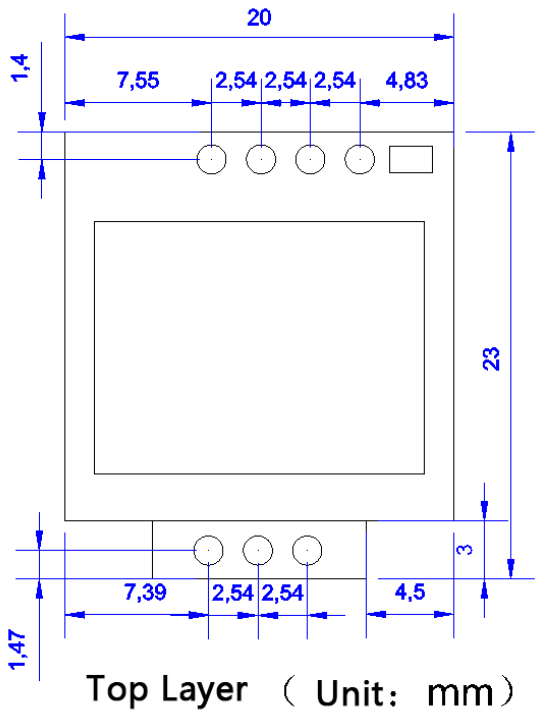
Delay Time

Light Delay Time Resistor (Ω)	Delay Time (Second)
Pull-up Resistor:100K	
100k	1
91k	5
82k	10
75k	15
68k	20
56k	30
47K	45
39k	60
30k	90
20k	120
15k	180
10k	300
4.7K	480
3.3K	600

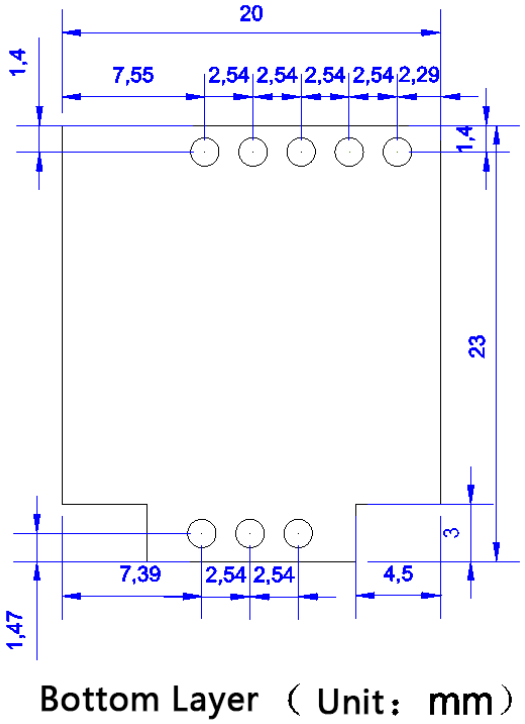
Signal Range

Resistor	Detect Range
200K	100%
390K	80%
620K	60%
820K	40%
1M	20%

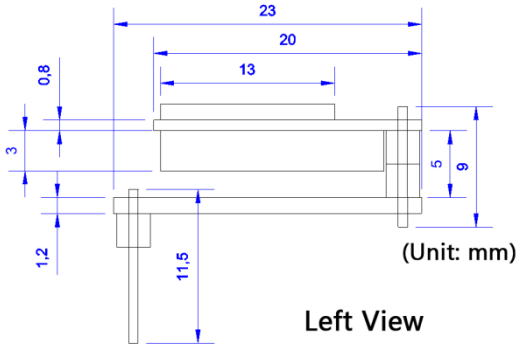
Dimension & Pin Assignment

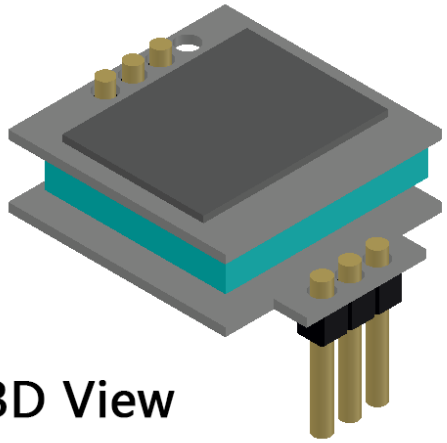


Top Layer （ Unit： mm）



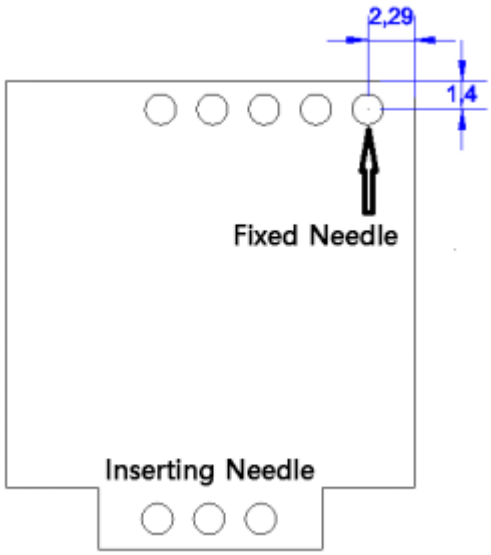
Bottom Layer （ Unit： mm）





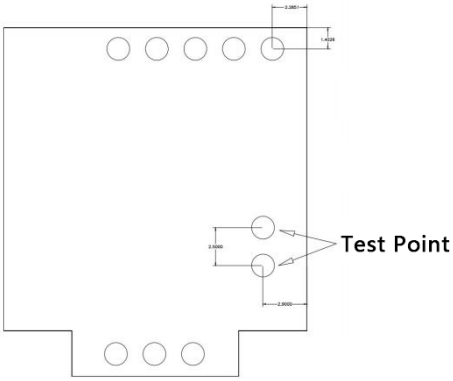
.

Installation Diagram



A fixed pin is reserved in the module, so that the module can be fixed on the driving plate after installed.

Fast Test Mode



When add 100R resistors in series to the test point, motion sensor module enter fast test mode. In fast test mode, the delay time is 1s -- very short delay time, and close-locking time is constant, and the sensitivity is constant.

Notes

- Avoid installing together with metal accessories or shell,when install microwave motion sensor,metal will absorb microwave and affect the effect.
- Please use power supply circuit with tiny ripple current, especially the low frequency ripple, which disturb the sensor's work easily.
- The output current of the sensor is very weak, If driver too large current easy to cause misinformation. Better us drive the load by isolation drive, and can also use MCU to read the output state.

FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: this equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient of relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit difference from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Important Note:

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

Important Note:

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

Any company of the host device which install this modular with limit modular approval should perform the test of radiated emission and spurious emission according to FCC part 15C:15.249 and 15.209 requirement, only if the test result comply with FCC part 15.249 and 15.209 requirement, then the host can be sold legally.

Any company who installs this module inside a host device must ensure that the module is supplied only with battery power.

End Product Labeling:

The final end product must be labeled in a visible area with the following "Contains FCC ID: 2APM8-ED118DY"

Manual Information to the End User:

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

The modular is not intended to be fielded serviceable as without shielding, host manufacturer must be considered shielding when integrating a module.

When the module is installed inside another device, the user manual of this device must contain below warning statements;

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
   (1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.