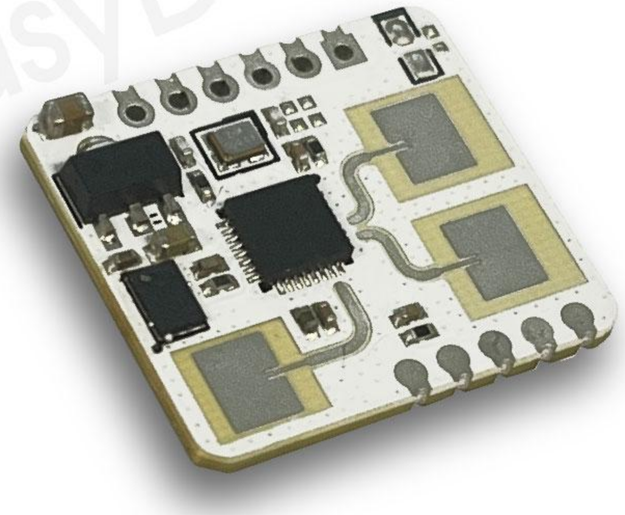
深圳市易探科技有限公司
Shenzhen EasyDetek Technology Co.,Ltd

EasyDetek易探

EDQ152 Specification

24GHz High Performance Series Modules



Product Features

- Interference zoning: can exclude interference in specified areas
- Sensitivity control: you can control the size of the detection range
- Micromotion/presence detection: enables micromotion detection for typing, etc.
- Interference filtering: able to filter out false positives caused by curtains and vibrations
- Auto-learning function: able to automatically learn according to the environment, get rid of some fixed interference in the surrounding environment
- Rich interface: support pin connection and stamp hole patch

Electrical Parameters

Input voltage	5-8V
Operating current	40mA
Output voltage	3.3V
Output signal	IO/UART/PWM
Power consumption	＜0.5W

Functional Parameters

Motion Sensing Radius ①	5-6m
Sensing radius of micromotion presence ①	4-5m
Hanging height	Regular 3m
Delay time	10s(adjustable)
Photosensitive	selectable

Output Parameters

operating frequency	24.00-24.25GHz

Environment & Lifespan

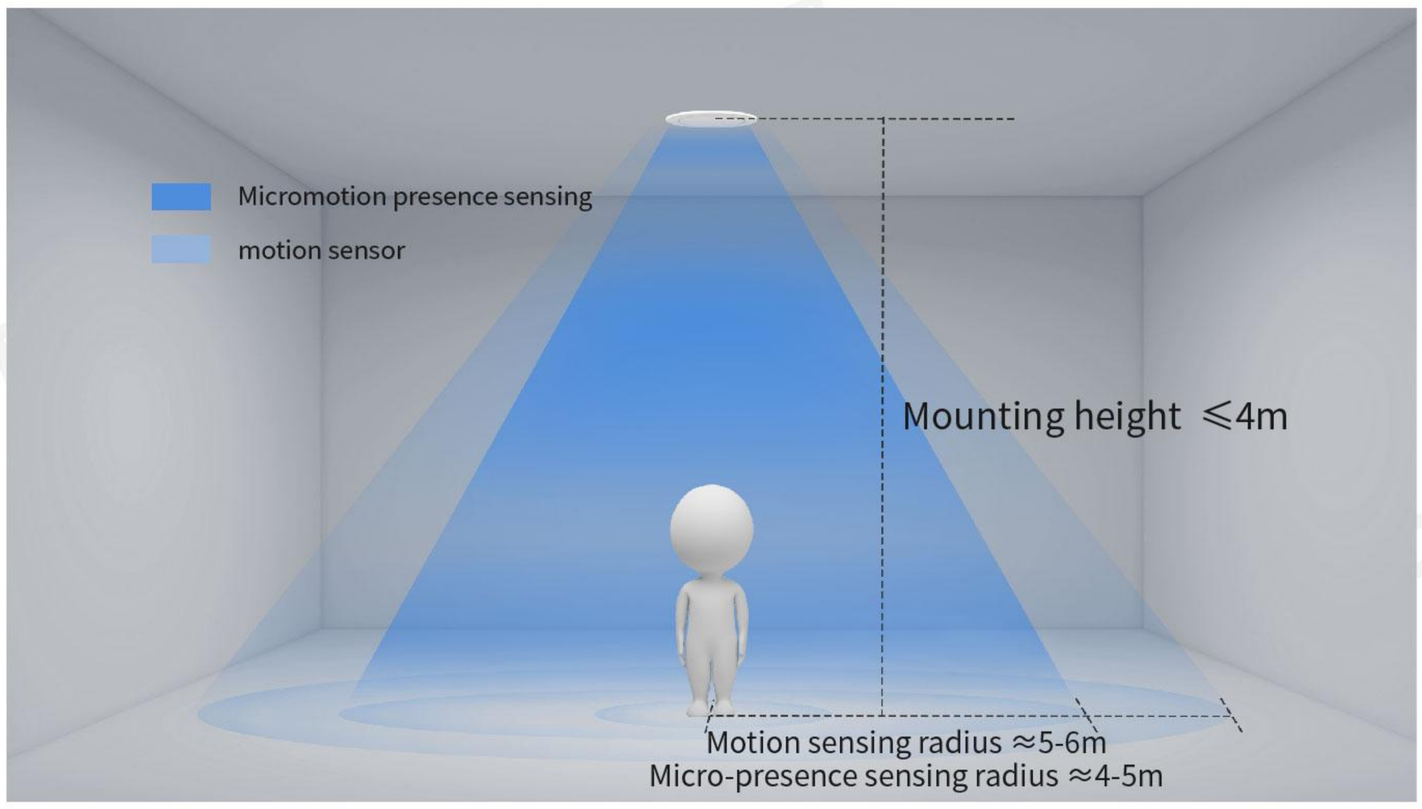
Operating temperature	-20...+85°C
Storage temperature	-20~+105°C

Remarks:

① The test distance range is based on the sensor hanging height of 3m, indoor installation environment test, the test person is 170cm tall, weight 65-75kg, walking speed 1m/s.Different scenarios may cause changes in the range of installation, subject to the actual test.

② Due to the spectral characteristics of the photosensitive device, the threshold is uniformly tested under natural light conditions.

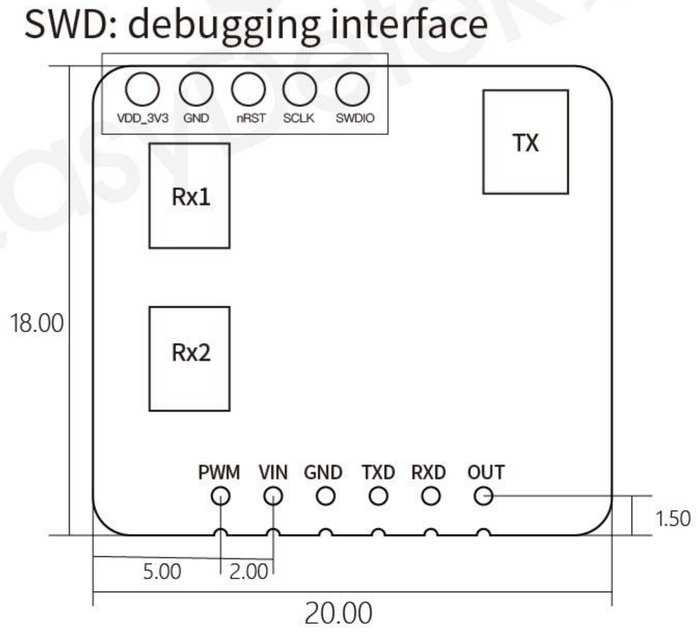
Detection Schematic



Dimension Drawing / Pinout

Dimensions in mm

SWD: debugging interface



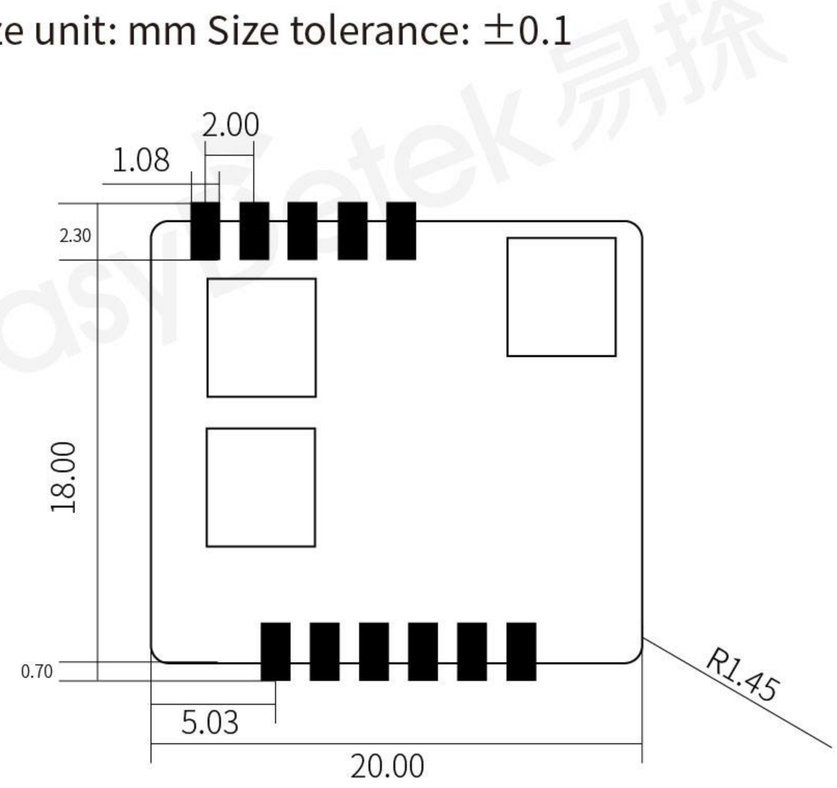
EDQ152 Dimensional tolerance: ±0.2
Welding hole of the row of pins:ϕ0.9

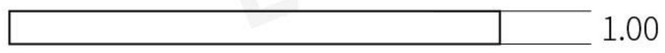
Pin Description

PIN	Description
PWM	PWM Output
VCC	Power Input
GND	Reference ground
TXD	UART_TXD
RXD	UART_RXD
OUT	I/O Output

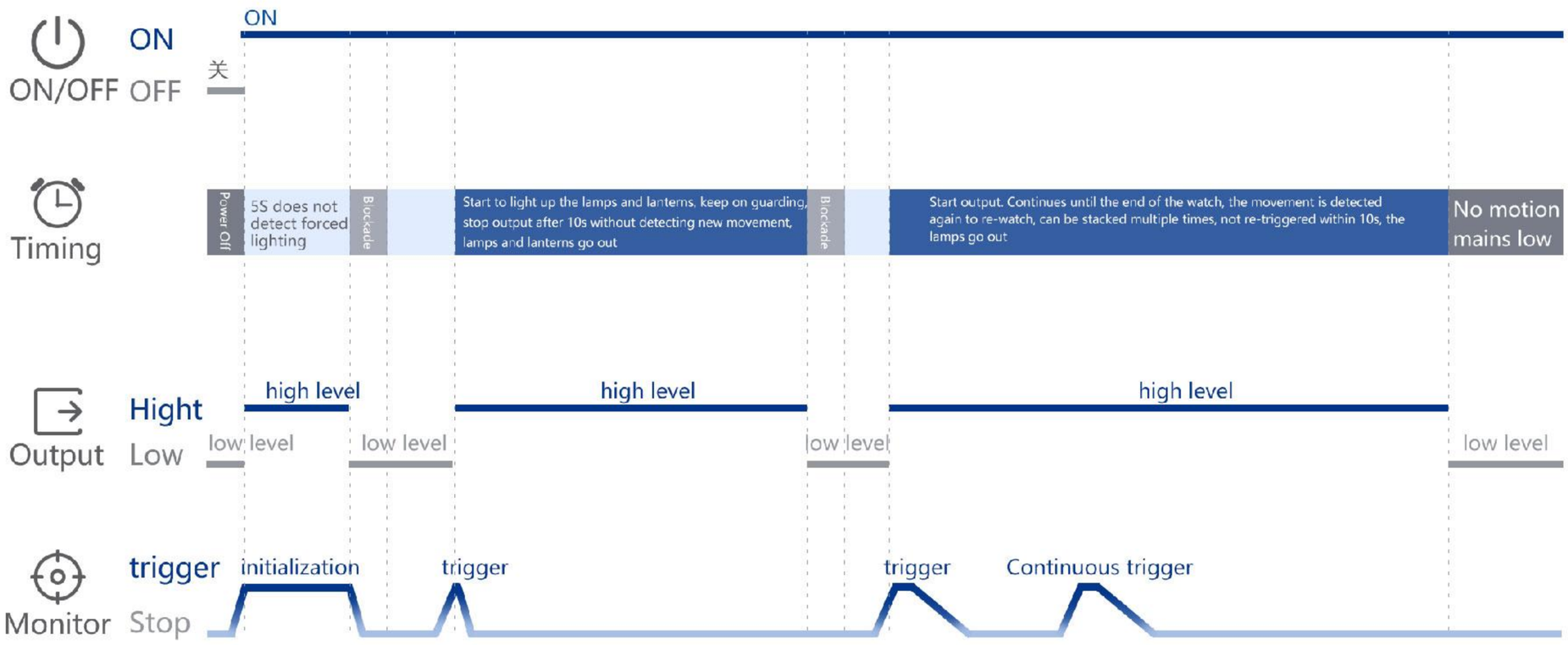
PCB Package Dimension Drawing

Size unit: mm Size tolerance: ±0.1





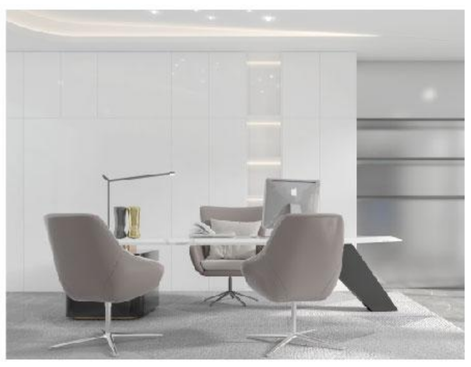
Timing Diagram



Application Scenarios/Products

restrooms

bathroom



studyroom

office lighting

panel light

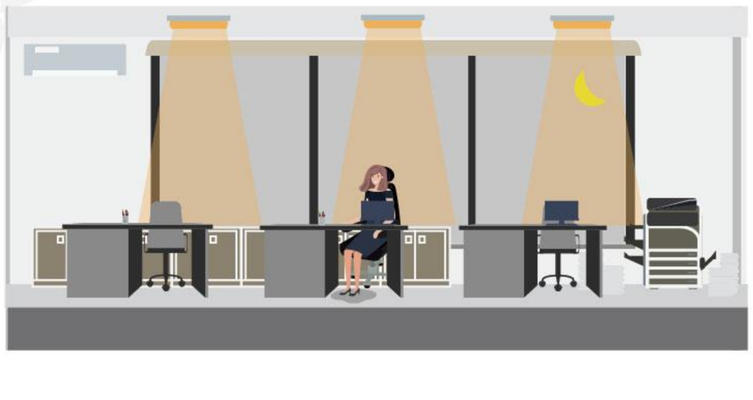
ceiling lamp

T-tube lamp

Educational Lighting

Functional Description

After initialization is complete, when the ambient light is sufficient, the sensor detects a moving object, the light will not come on automatically.



When the ambient light is not sufficient The sensor detects a moving object and the light comes on automatically.

The moving object leaves.
After the preset delay time has elapsed, the light goes out automatically.

Product Naming Law

ED	Frequency Band	Product Categories	Product Subdivision	Product Number	Delay Time	Serial number
ED	Q	1	5	2	Y	
EasyDetek	C 5.8GHz	1 Microwave sensor module	0 Ultra-low-power series	0-9, A-Z	Y Has light sensor	
	X 10.5GHz	2. Microwave radar switch	1 Flagship series		N no light sensor	
	Q 24GHz	3 Radar antenna	2 Short-distance series		P programmable	
	V 60GHz	4 MCU	3 Adjustable series			
	W 77GHz	5 Microwave power supply	4 External antenna series			
		6 IC	5 General Series			
		7 Other	6 To be defined			
		8 Networking	7 To be defined			
			8 Basic series			
			9 High altitude series			

Configuration Version Description

【Hardware】:

【Software】:

Historical revision records

Versions	Time	Description	Note
V1.0	2024-05-13	first edition	-
v1.1	2024-06-05	Updated specifications	-

Precautions

Product driver circuit design considerations

1. The power supply voltage should meet the requirements of the product, and the ripple is recommended to be controlled within 100mV. 2;

2. the radar antenna should avoid facing the driving power supply, and try to keep away from the rectifier bridge, transformer, switching tube and other high-power devices of the driving power supply, so as to avoid false alarm or influence on the sensing range caused by the interference of industrial frequency signals;

3. The radar antenna should avoid high current circuit coverage, so as to avoid the electromagnetic field generated by the loop, resulting in false alarms or changes in the induction range.

Product installation precautions

1. Radar signal has good penetration to glass, wood, plastic, but there will be a certain reflection and penetration attenuation, reducing the induction distance;

2. Electromagnetic wave penetration of metal materials is poor, while the existence of reflection, easy to make the radar receiving false alarms or lead to changes in sensing distance, our products have been through the internal laboratory metal environment test, can resist certain conditions of the metal reflection brought about by the impact;

3. metal shell and large copper-coated PCB board, electromagnetic wave shielding and blocking effect; module installation can not be close to the metal plane, so as to avoid abnormal radar work, it is recommended that the antenna panel distance from the metal plane control in 6-12mm;

4. For patch mounted radar module, it is recommended to lay copper on PCB plane for skeletonization;

5. Product installation should be avoided with regular mechanical vibration equipment installed in a unified installation plane, the radar itself is prone to generate false alarms regular vibration;

6. The product should be installed with the surrounding micro-vibration equipment (such as drainage pipes, fire pipes, ventilation pipes) to maintain a certain distance, regular vibration or swinging objects (such as fans, swinging plants, floating curtains) to maintain a certain distance; recommended 0.5m radius within the speed of the moving object is less than 10mm / s;

7. When multiple products of the same type are applied in the same site, the installation distance is too close and may trigger false alarms; it is recommended that the installation distance of 24G products is more than 2m;

8.5.8G radar and wireless communication module (NB, Bluetooth, WIFI) coexistence application, should maintain the distance, so as to avoid signal interference resulting in false alarms, it is recommended that the installation distance of more than 2m or appropriate adjustment of wireless communication module antenna pointing direction;

Product installation process should avoid electrified operation, so as not to endanger personal safety or misuse damage to the product.