

# PIR SENSOR

## Users' Manual

MODEL: HC-7D

### Brief Introduction

HC-7D sensor switch can detect the Infrared Rays released by human body motion within the detection area, then start the load – light automatically. This unit is suitable for indoor use. Please read this manual carefully before installation, and retain it for future use.

### Positioning the Unit

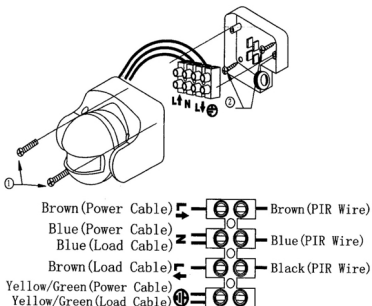
Please take the following factors into consideration when selecting installation position for HC-7D sensor switch:

1. To get optimum performance, the unit is suggested to be installed 1.8 to 2.5 meters high (above the ground to be detected).
2. Not mounting at the surface of vibrational object.
3. Avoid positioning the unit close to trees and bushes which may cause false triggering when raining or blowing.
4. Avoid positioning close to heat sources as air-conditioners, flues and strong electromagnetic disturbance areas which may also cause false triggering.
5. Avoid pointing at bright objects, otherwise, PIR sensor will not function when setting LUX control level at dark position (☉).
6. Not aiming the PIR sensor towards the sun and reflexible surfaces as smooth white walls, swimming pools.
7. The detector is more sensitive to motion across the front of the sensor than to motion towards the sensor.
8. For outdoor application it is recommended to use sensor under shed to have increased life of sensor.

### Installation

Before installation, making sure all power supply cables are isolated by switching off and/or removing the relevant fuse.

1. The unit should be installed by qualified electrician according to IEC wiring regulation.
2. Unscrewing (marked No.1), remove the bottom of sensor holder and the terminal block.
3. Drill holes accordingly on the mounting surface, and fit the bottom of sensor holder to the mounting surface with supplied screws (marked No.2) and plastic washers.
4. Connect power cable and load cable to the corresponding position on the terminal block through the rubber ring (wiring regulations: rigid cable 0.75 – 1.50mm<sup>2</sup>).
5. Fix the terminal block to the bottom, and refit the upper part of the sensor holder with supplied screws. After installation, you are suggested to adjust HC-7D sensor switch to your desired detection range and work state.



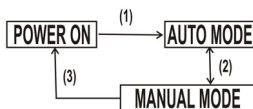
### Control Setting

1. Switch on the power to warm up PIR sensor, if setting TIME control at position (-) and not receiving any

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effective signal, the load – light will turn off automatically in 30 seconds (generally within 60seconds), then the sensor entered into automatic detection state.

2. Adjust the sensor towards the area to be scanned; finding another person to go across the front of the sensor, you may confirm the detection range by the maximum area where motion can be detected anyway.
3. Set your desired Time-delay by revolving the TIME knob to a proper position.
4. LUX Control Level: when setting LUX knob to position (☉), load-light will be turned on only at night (darkness), if you want load-light to be triggered earlier (e.g. dusk), adjust the LUX knob slowly from position (☉) to position (☼), once load-light be turned on, stop adjusting immediately.
5. Manual Mode: if you connect a switch to the PIR sensor, you could control it to the manual mode.
  - (1) After power on, the sensor is working in an AUTO mode. The sensor is controlled by a valid PIR trigger signal and the duration time is about 1 minute.
  - (2) Switching OFF/ON twice within 3 seconds, the auto mode and manual mode can be interchanged.
  - (3) In Manual mode, the light will be overridden to ON. This override ON time is 8 hours. If the chip is overridden to ON and there is no further override operation, it will automatically return to AUTO mode after an internal preset ON time duration has elapsed.



### Adjustment

1. Adjust the Time-delay: the length of time that load-light remains switched on after activation can be adjusted from (10±5) seconds to (6±1) minutes. Position (-) indicates the min. length.

**Note:** Once the load-light has been started by PIR sensor, any subsequent detection will start the Time-count again from the beginning.

2. Adjust the LUX control level: there is a built-in photo-cell (CDS) inside the PIR sensor; it detects the change of ambient luminosity. The ambient luminosity in which PIR sensor may start load-light can be adjusted continuously from daytime to darkness by revolving LUX knob.

**Sign (☼)** indicates that load-light will be switched on during daytime and night (darkness).

**Sign (☉)** indicates that load-light will be turned on only at night (darkness).

Adjust this knob according to your needed ambient luminosity.

### Warning

1. Not suitable for use with dimmer switch.
2. Never damage the lens of the sensor.
3. Do not try to modify the unit, there is no user serviceable components inside.
4. In order to ensure PIR sensor function effectively, it is suggested to clean dust from the lens with wet soft cloth every three month.

### Technical Data

1. Voltage : 230VAC, 50Hz.
2. Fuse Type : 6.3A/ 250VAC, Φ5 x 20mm.
3. Load Wattage : Max. 1000W Incandescent Bulb, max. 300W Fluorescent Lamp
4. Detection Area : Max. 12 meters.
5. Detection Angle : Max. 180°
6. Time – delay : From (10±5) seconds to (6±1) minutes adjustable.
7. LUX Control Level : From daytime to darkness adjustable.