Ceiling Mount PIR Occupancy Sensor Switch

Model #: **BRT-380**

Features:

BRT-380 is a ceiling mount occupancy sensor switch which utilizes passive infrared (PIR) sensor to detect the heat (in the form of infrared energy) from people moving within a space. It can determine when a space is occupied and turns on or turns off the loads automatically. It has an advanced micro controller unit and uses a proprietary signal processing technique to avoid false triggers.

- Adjustable working distance from 1m to 7m;
- Instant on and adjustable delay off time from 2 minutes to 60 minutes;
- Ambient light override. Automatically measures the ambient light level, and there is no trigger on when it is above a light level which can be set by the user;
- Easy installation onto the ceiling with or without a holder;
- Load power up to 2000W;
- Good for all kinds of loads (resistive, capacitive, and inductive);
- ABS-V0 flame resistance material; and
- High quality build.

Fig. 1 and Fig. 2 show the front view and the back view of the BRT-307 PIR occupancy sensor switch respectively.

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Fig. 1 Front View **Fig. 2** Back View

Specification Parameters:

Input Voltage	220～240V(50Hz/60Hz)	Operation Environment	No-condensation 20-90% RH，-20℃～40℃
Wattage	2000W	Load type	All Types
Mounting Hole Diameter	68mm	Working Range	Adjustable from 1m to 7m
Dimension (max)	Oval faceplate: 105mm Circular faceplate: 77mm	Weight	115g

Wiring Diagram:

BRT-380 PIR sensor switch requires both hot wire and neutral wire for installation:

Hot wire (ACL): Coming from the power line with 220V;

Neutral wire (ACN): Usually coming with the hot wire; and

Load wires: Going to the load.

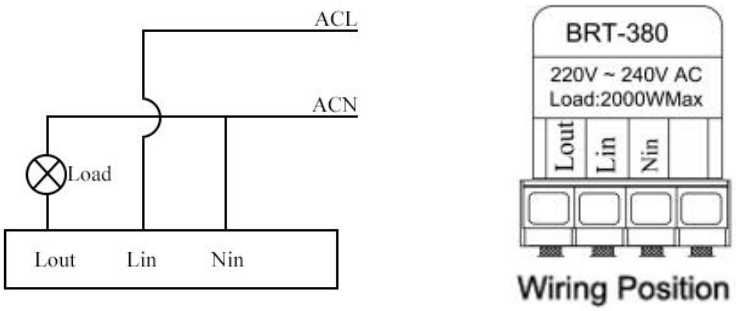

Fig. 3 BRT-380 Wiring Diagram

Fig. 3 shows the wiring diagram. Wiring must be done according to the diagram and the labelled ports of the switch.

Installation Guide:

There are two ways to install BRT-380 PIR sensor switches to the ceiling. Fig. 4 and Fig. 5 show the step-by-step installation instructions, respectively.

Warnings:

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1. Please make sure power is turned off before starting installation!
2. Load shorting or using a load with a power rating higher than the specified wattage of the sensor switch is prohibited.

Cautions:

1. Avoid mounting the sensor switch close to air vents, as the vibration and air flow can reduce the effectiveness of the sensor switch;
2. Avoid installing the sensor switch in an electrical circuit which has other frequent on/off switch or appliance, as those on/off actions could cause false triggers.

1. Installation using a holder

As shown in Fig. 4, a holder is attached to the ceiling using screws first. Then, the PIR sensor switch can be easily snapped into the holder.

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Fig. 4 Installation with a Holder

2. Installation without a holder

As shown in Fig. 5, without a holder, an opening in the ceiling needs to be made first. There are four steps:

Step one: Open a hole of 68mm in diameter in the ceiling;

(Attach the electrical wires as shown in the Wiring Diagram Fig. 3).

Step two: Open the two flexible clamps on the side surface of the sensor switch;

Step three: Insert the sensor switch into the hole; and

Step four: The clamps will hold the sensor switch onto the ceiling tight and steady.

Fig. 5 Installation without a Holder

Operation Guide:

BRT-380 PIR sensor switch needs a warm-up time about two minutes before it can operate properly. It has dip switches to adjust the delay off time, a precision tuning screw to adjust the

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ambient light override threshold, and a precision tuning screw to adjust sensitivity (working distance), as shown in Fib. 6.

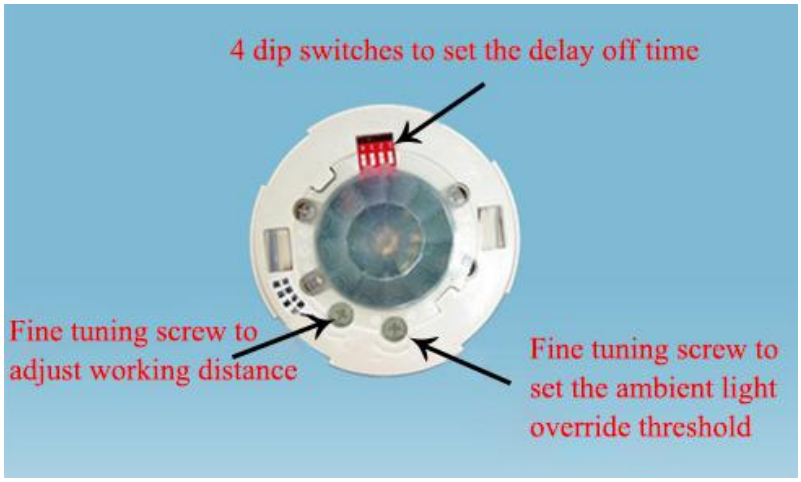

Fig. 6 Dip Switches and Fine Tuning Screw

As shown in Fig. 7, please rotate the front cover counter-clockwise to remove it so that the dip switches and the fine tuning screws are exposed.

Fig. 7 Removing the Front Cover

1. Adjust the delay off time

The 4 dip switches are used to set the delay off time to 8 settings based on different combinations. Fig. 8 shows all the dip switches are in "off" positions. Each combination corresponds to a delay off setting.

0000	delay off time = 2 minutes
1000	delay off time = 5 minutes
0100	delay off time = 10 minutes
1100	delay off time = 20 minutes

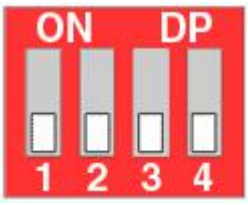

Fig. 8 Dip Switches in 0000 Positions

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0010 delay off time = 30 minutes

1010 delay off time = 40 minutes

0110 delay off time = 50 minutes

1110 delay off time = 60 minutes

0 = off and 1 = on

(Other factory settings are available. Please talk to our sales representatives).

2. Adjust the ambient light override threshold

A fine tuning screw is used to set the ambient light override threshold (Please see Fig. 6). Use a screw driver to tune the screw gently.

Caution: The tuning screw can not make a full turn. To avoid possible damage to the screw, please do not use strong force to tune it.

a. Counter-clockwise to "+": increase the threshold, so that the PIR triggers will be overridden in bright lighting condition; and
b. Clockwise to "-": decrease the threshold, so that the PIR triggers will not be overridden in dark lighting condition.

3. Adjust the working distance

A fine tuning screw is used to adjust the working distance by changing sensitivity (Please see Fig. 6). In some applications, lower sensitivity can help to avoid false triggers. Use a screw driver to tune the screw gently.

Caution: The tuning screw can not make a full turn. To avoid possible damage to the screw, please do not use strong force to tune it.

a. Counter-clockwise to "+": increase the sensitivity, so that the PIR can have longer working distance; and
b. Clockwise to "-": decrease the sensitivity, so that the PIR can have shorter working distance.

Applications:

BRT-380 ceiling mount PIR occupancy sensor can be used for automatically turning on and/or turning off various loads such as lights, fans, appliances, or other kinds of electrical equipment. They are perfect for saving energy and bringing convenience and safety to our daily life and work.

They have wide applications at various locations such as stairwells, corridors, washrooms, offices, conference rooms in homes, schools, laboratories, hospitals, offices, etc.

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