Lutuo

Precision Multi-Function Occupancy Sensor

LTHB315
LTHC315

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LTHE


LTHC315


LTHB315

Lutuo's Smart Occupancy Sensor obtains energy from ambient light through its solar cell panel, this energy is then stored in a super capacitor that provides power to the sensor when an ambient energy source is not available. When fully charged, the Smart Occupancy Sensor can continue to operate for up to six days in total darkness. This intelligent sensor can be used in a stand-alone application, or it can easily be integrated into a centralized system for energy management and building automation.

The Smart Occupancy Sensor is a compound sensor, meaning that it not only detects motion of a human body, but also measures ambient illumination levels. The integration of Lux level sensing and motion detecting allows this sensor to make energy conservation decisions. For example, if ambient light levels are above a preset threshold and motion is detected, the lights will remain off. This scenario is also the case if light levels range in the middle or below a desired Lux threshold. The Lux measurement can dim, turn off, or turn on designated lights for energy conservation. After motion is detected and the message from the sensor is sent to the controller, for energy conservation purposes the sensor will go on sleep mode for 60 seconds. After a 60-second sleep period, the sensor will be kept on until a new motion is detected. This sleep mode function enables the sensor to save energy for extreme environments where lux levels are low, and the sensor is unable to charge.

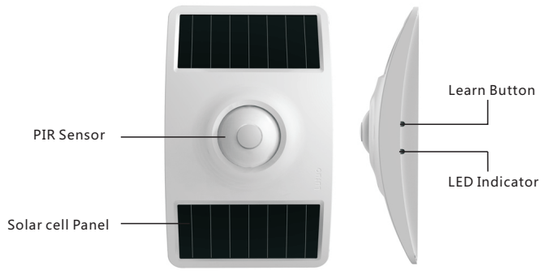
To ensure that the Smart Occupancy Sensor is properly working and functioning, it sends out an energy status of the super capacitor to a controller every 50 to 58 minutes. This pulse messaging is referred to as a heartbeat. This automatic sensor report system helps monitors the super capacitor's voltage levels that help provide valuable information for maintenance, troubleshooting, and security applications. For example, if a sensor is blocked and unable to charge or if its super capacitor is discharged it will notify the central system that this sensor is not properly working.

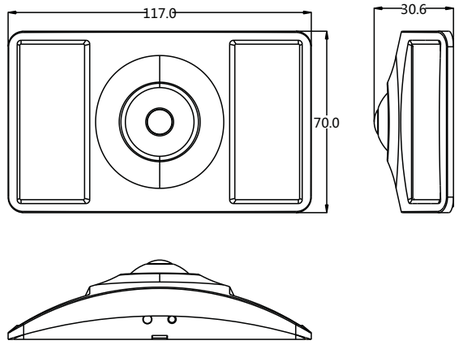
SPECIFICATIONS	
Radio Frequency:	315.0 MHz
Energy Source:	Ambient Light
Energy Storage:	Super Capacitor
Startup Time:	1 Min at 100 Lux
Operating Temperature:	0°C to 60°C
Relative Humidity:	5% to 95% RH Non Condensing
Maximal Tx Interval:	60 Minutes (Heart Beat)
Minimal Tx Interval:	5 Seconds in test mode
Min Tx Interval in Normal Operation	60 Seconds
Min Lux Sampling period	3 Minutes
PIR Detection Range:	LTHE: 0 to 7m;Angle: 132°-146° LTHA/LTHB: 0 to 5 m; Angle: 82° - 94° LTHC: 0 to 12 m; Angle: 92°-102°
Radio Range:	Typically 30 Meters Indoor
Lux Measurement Range:	LTHB/LTHC: 1 to 1000 Lux
Bridge Time:	Up to 6 Days in darkness

WARNINGS AND CAUTIONS

- This device is intended for indoor installation in a dry environment.
- Radio transmission range tests should be performed prior to installation.
- Use a cloth to clean the switch since solvents can damage the plastic.
- Avoid installing on a metal surface.

COMPONENTS AND DIMENSIONS (mm)





TOOLS NEEDED FOR INSTALLATION

- Double-sided tape (provided)
- If a screw mount installation is required you will need:


2#Screw Driver


Two Screws(T3X10)

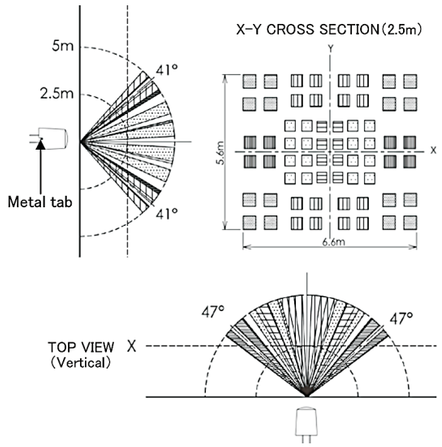
INSTALLATION INSTRUCTIONS

- Preparation prior installation
- Choose the right sensor model that is suitable for the application (Detection range, angle, energy requirement etc.)
- Take out the sensor from the packaging box. Charge the sensor by placing the sensor (the solar cell) under a direct light source (sunlight, window, light bulb, etc.)
  Make sure the controller/gateway working with the sensor is installed as instructed in the documents of the devices.
- Identify the optimal installation location of the sensor according to the following guidelines (note sensor head figures before Installation Instructions. Figure 1 corresponds to LTHA/B and Figure 2 corresponds to LTHC).
  (1)Ensure the sensing zone for the motion is covered by the sensor detection range
  (2)Ensure minimal Lux-time is availabe at the location selected

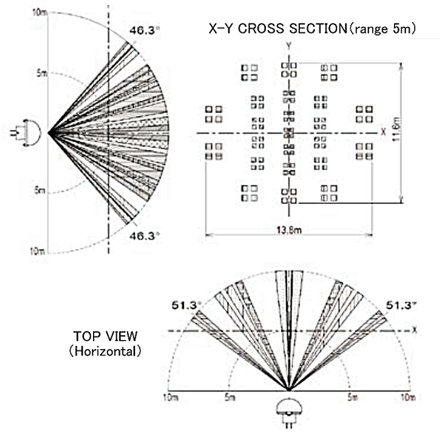
- The installation kit comes with a sensor with back plate, T-bar installation adaptor, and a pre-cut double-sided tape.
- The Smart Occupancy Sensor can either be installed by using the double-sided tape provided, or by using two screws through the back plate.
- If the device is required to operate where insufficient light is available, an optional CR2032 coin battery can be installed to allow operation for up to 7 years.

Note:

1、Remember that this device harvests ambient light. It is important to ensure that the solar cells are directed to a light source.
2、The solar cell identified with Lux symbol is used to measure and report the ambient Lux level, this solar cell shall be pointed to the zone where the light level is expected to be monitored and controlled.
3、The sensor PIR head is pivoted to allow aiming the sensing element to disirable zone for maximal performance.



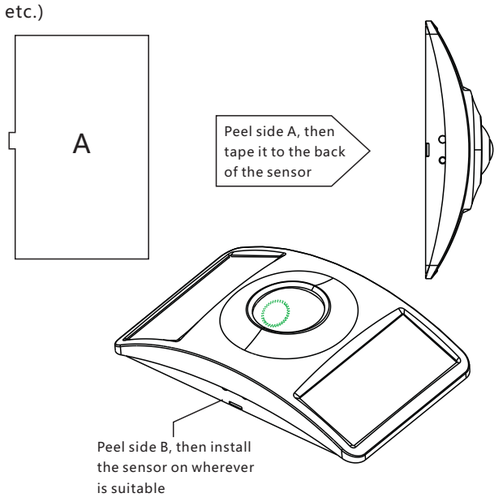
The LTHA/B need to be place between 0 to 5 meters.



The LTHC needs to be placed between 0 to 12 meters.

A) Use Double-Sided Tape to Install Sensor

Note: Tape is provided in installationtion kit. If tape is used, the sensor can be placed on any surface (mirror, glass, wood, tiles, etc.)

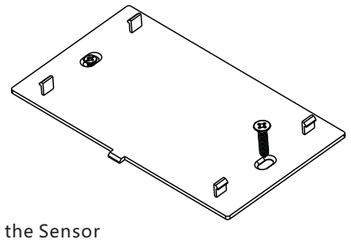


STEP 1

B) Use Screws to Install Sensor

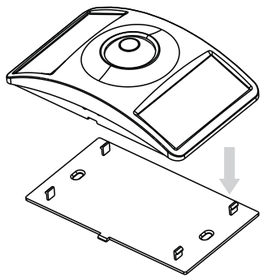
Install the Back Plate

Remove the sensor's back plate. Screw in and secure the back plate to the desired surface.



STEP 2 Install the Sensor

- Place sensor cover over the back of the sensor.
- Apply small amounts of pressure and snap sensor cover over the back until you hear a snap.



LEARN BUTTON AND LEARN TELEGRAM

The Smart Occupancy Sensor needs to be connected and learned to a compatible device; list of compatible devices are located under the "Compatible Devices" section.

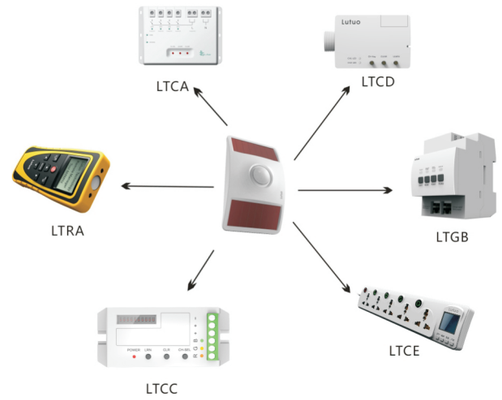
APPLICATION

Lutuo's Smart Occupancy Sensor LTHA and other battery-less and wire-less products are an eco-friendly solution ideal for retrofits and new constructions in building automation. The Smart Occupancy Sensor works together in conjunction with other EnOcean enabled Lutuo controllers; such as the LTCF, LTCC, LTCD, LTC, LTR. Lutuo's line of sensors and controllers can also work with other devices produced by EnOcean Alliance Members. Installation is quick and simple. For instance, replace traditional switches with Lutuo's No-Neutral Switch Controller LTCF or install other controllers, apply the Smart Occupancy Sensor and installation is complete. These wire-less, battery-less intelligent devices do not require additional wires to be pulled for installation. The sensor's adjustable PIR sensor head and its energy harvesting dual solar panels located on each side of the sensor make the sensor's positioning flexible and adjustable for multiple environment scenarios. Smart Occupancy Sensors are also ideal for security applications, lighting settings, and HVAC control. If motion is detected in an unauthorized zone, it can alarm, report, and turn on the lights instantly.

PROFILE

LTH Occupancy Sensor			
EEP2.0	070701	070702	070703
EEP2.1 (Proposed)	A50701	A50702	A50703
DB3.7..DB3.7		0-250 = 0-5V (Super Cap Voltage)	0-250 = 0-5V (Super Cap Voltage)
DB02.7..DB2.0			0-250 = 0-1000 (Lux) Lux Illumination
DB1.7..DB1.0	0-127 = Unoccupied 128-255= Occupied	0-127 = Unoccupied 128-255= Occupied	0-127 = Unoccupied 128-255= Occupied
DB0.6:DB0.4			
DB0.3	0 = Teach 1 = Data Learned Bit	0 = Teach 1 = Data Learned Bit	0 = Teach 1 = Data Learned Bit
DB0.2			
DB0.1			
DB0.0			

COMPATIBLE DEVICES



Other EnOcean Alliance products are compatible with this Sensor, as well as other Lutuo products.
Please refer to the user manuals of the associated devices for details

TROUBLESHOOTING

Device is Not Charging

a. The device is blocked; expose the sensor to ambient light.
b. The solar cell panel is dusty.

Device is Not Responding

a. The Super Capacitor is discharged. If it is discharged, the indicator, located on the sensor, will not blink when the learn button is pushed.

COMPLIANCE STATEMENT

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. 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.

FCC INFORMATION FOR THE CONSUMER

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

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

Lutuo Technology Co., Ltd is IS09001:2008 Registered.

WARRANTY STATEMENT

Lutuo's limited warranty covers the original consumer for a period of five years beginning on the purchase date. Lutuo will repair or replace, at its option, products that fail to perform as intended if returned prepaid accompanied with proof of purchase date. This warranty excludes any liability for product installation, removal, or re-commissioning. All warranty liability is void if the product is improperly installed, disassembled, altered, or abused in any way. Lutuo is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to equipment, or loss of use, lost sales, lost profits, delays or failure to perform. There are no other implied warranties, including merchantability or fitness for purpose. The remedies herein are the exclusive remedies covered by this warranty, whether based on contract, tort or otherwise.

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No Wires. No Batteries. No Limits.

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