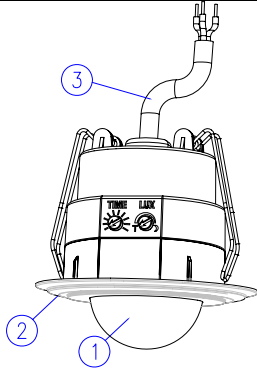


HC21

FLUSH MOUNT OCCUPANCY DETECTOR



- ① Lens
- ② Main Body
- ③ Power Cord

INTRODUCTION

The 360 degrees flush mount occupancy detector uses a passive infrared sensor which reacts to changes in temperature emitted by the motion of persons or objects passing through its detecting area. Not only is it a lighting controller, but also has the capability of detecting slight motion within a radius of 3m around the sensor. This ensures even the smallest movement in the 'sitting zone' will switch the connected load.

Using PIR technology, the occupancy detectors which are installed indoors where people are usually seated, have increased sensitivity and are able to register very slight movements (a seated persons head or hand movements).

With this detector installed, you get rid of the nuisance of fumbling in a dark hallway or staircase for a light switch, thus avoiding danger for the elderly, infirm and children at night or when it is dark.

Note : Read this entire manual before you start to install the system.

SAFETY PRECAUTIONS

- DO NOT install it when it is raining.
- DO isolate the power supply during installation or maintenance.
- DO ensure that the power supply circuit is protected by a 16 amp circuit breaker or suitable equivalent fuse.
- The unit cannot be installed on the wall. (FIGURE 1)

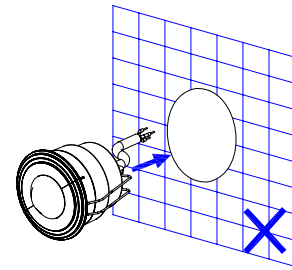


FIGURE 1

IMPORTANT

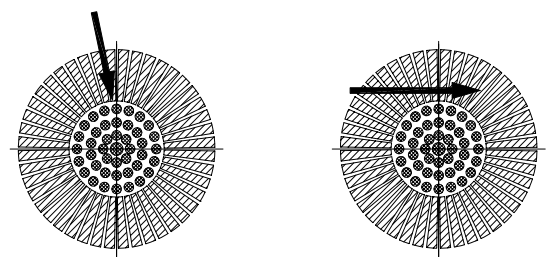
Installation must be performed by skilled technicians who are informed about the standards and technical requirements of the appliance and its proper installation.

Do not attempt installation unless you have some experience with household wiring.

Before proceeding with the installation, **TURN OFF THE POWER TO THE LIGHTING CIRCUIT AT THE CIRCUIT BREAKER OR FUSE BOX TO AVOID ELECTRICAL SHOCK.**

CHOOSING A MOUNTING LOCATION

- Avoid aiming the occupancy detector at pools, heating vents, air conditioners or objects which may change temperature rapidly.
- Do not allow sunlight to fall directly on the front of unit.
- The occupancy detector is more sensitive to objects moving across its field of view. It is less sensitive to an object moving directly towards the sensor head. (FIGURE 2)



SENSOR LESS SENSITIVE SENSOR MORE SENSITIVE

FIGURE 2

INSTALLATION

The unit has a sensing angle of 360° and can detect up to 3 meters radius for micro motion and up to 5 meters radius for walk toward motion at the mounting height of 2.5 meters. (FIGURE 3)

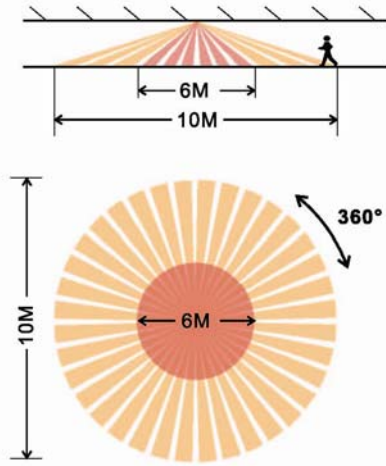


FIGURE 3

Install an external wall switch adjacent to the power source (FIGURE 4). This helps you operate the light with ease. See OPERATION for further information.

WIRING INSTRUCTION

- (1) Switch off the power source or wall switch.
- (2) The connection of all power cords is at your disposal. The power cord of “LS” and “N” mark is to be connected to any light fixture you have. (FIGURE 4)

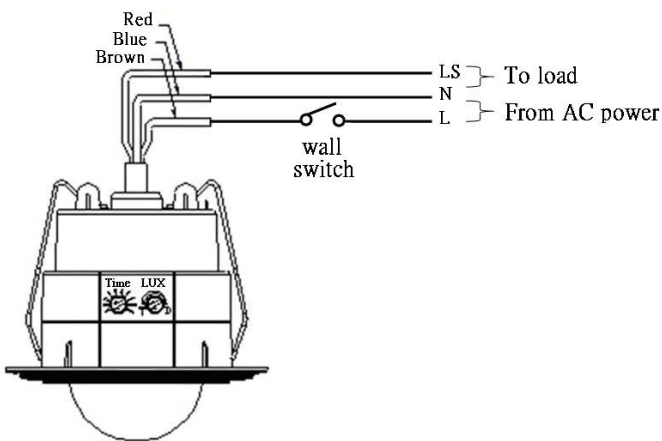


FIGURE 4

- (3) In order to install the detector to the ceiling, drill a diameter of 68mm round hole on the ceiling. Wedge the main body into the round hole directly. (FIGURE 5)

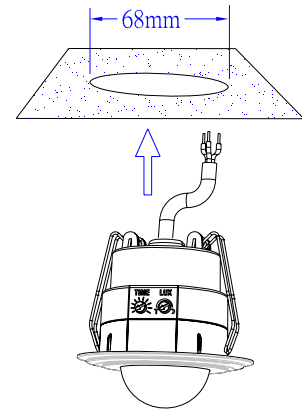


FIGURE 5

SETTING THE LIGHTING SYSTEM

(1) TEST MODE

- Turn the Lux control and the Time control counter-clockwise to the edge-the TEST position. (FIGURE 6)

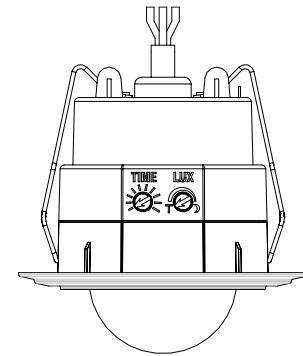


FIGURE 6

- Turn the wall switch on, the light will turn on immediately and wait for about 1 minute to warm up the unit. After warming-up time is expired and the light goes off, you may make a walk test and the light will turn on. This confirms that the wiring was done properly and that the light is working.
- Walk through the coverage area. The light will turn on for about 3 seconds when motion is detected and turn off shortly after motion stops. Wait for the light to turn off before moving again to test the detector.

(2) SETTINGS

■ TIME ADJUSTMENT

The TIME adjustment controls how long the light will stay on after motion has been detected.

Adjust the TIME Control Knob clockwise to increase the turn-off time (about 40 minute

maximum) or counter-clockwise to decrease the turn-off time (about 5 second minimum). There are ten scales for time adjustment (from Min. to Max.) – 5, 10, 20, 40, 80, 160 second and 5, 10, 20, 40 minute. (FIGURE 7)

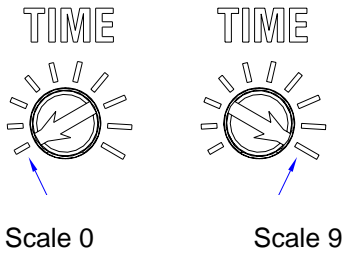


FIGURE 7

Scale	Time Interval	Scale	Time Interval
0	5 second	5	160 second
1	10 second	6	5 minute
2	20 second	7	10 minute
3	40 second	8	20 minute
4	80 second	9	40 minute

LUX ADJUSTMENT

The LUX adjustment determines at what light level the light will start operating when you set the detector to the AUTO MODE.

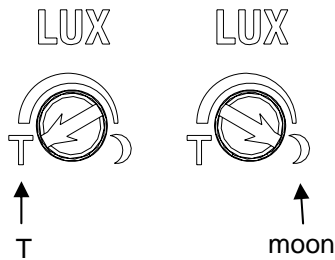


FIGURE 8a FIGURE 8b

Note: “T” means that the light will always switch on regardless of light levels in the area. (FIGURE 8a)

Provisionally turn the LUX control knob to the edge clockwise at the “moon” (dusk) position. (FIGURE 8b) Wait until the ambient light level reaches the level of darkness at which you wish to turn the lights on. Slowly rotate the knob anti-clockwise until the light turns on.

At this position the unit should become operative at approximately the same level of darkness each evening. Observe the operation.

If the unit starts to operate too early, adjust the knob slightly clockwise. If the unit operates too late (i.e.

dusk), adjust the knob slightly anti-clockwise.

OPERATION

Automatic Operation

When the sensor detects motion, the light automatically turns on. The built-in photocell turns the detector off and on according to the light level selected by the LUX adjustment.

TROUBLESHOOTING

<p>Light does not turn on</p> <ul style="list-style-type: none"> ● Confirm that you have made a correct “wiring connection”. ● Make sure that the bulbs have not burned out.
<p>Light remains on</p> <ul style="list-style-type: none"> ● Make sure the wiring connection is correct. ● Check if the TIME setting is correct.
<p>Others</p> <ul style="list-style-type: none"> ● The specification of protective shield shall consult to local service agent.

SPECIFICATIONS

Power Requirement	AC 220 ~ 240V / 50Hz
Resistive Load	Max. 2000W
Lighting Load	See below setup criteria
Detection Angle	Up to 360° at 25°C at 2.5m Height
Detection Distance	Micro motion: up to 3m radius Walk toward motion: up to 5m radius
Mounting Height	Recommended 2.5 ~ 5m (8.2 ~ 16.4 Ft) Ceiling Mount
Sensor Operation	Auto
Time Adjustment	5 sec. ~ 40 min. (5, 10, 20, 40, 80, 160 seconds and 5, 10, 20, 40 minutes)
Lux Adjustment	Approx. 30~200 Lux / test mode
Warm Up Time	About 1 min
Protection Class	Class II
Protection Degree	IP20
Safety	CE
Smart relay patent number	M399426 / 202010012599.5 / CN201780930U

**Specifications are subject to change without prior notice.*

A501111794R



Warning:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal at least for free of charge.

SETUP CRITERIA

Bulb Type	Maximum Lighting Load
Incandescent	8 q'ty parallel connection 2000W/8.3A (@240VAC)
Halogen	8 q'ty parallel connection 2000W/8.3A (@240VAC)
Fluorescent T8	1500W/6.3A (@240VAC)
LED	8 q'ty parallel connection 300W/1.25A (@240VAC)
Setup Condition	Number of fittings
Fluorescent T5 Loading=Ax(BxC) Max. 1200W	12x(14Wx1) 12x(14Wx2) 12x(14Wx3) 12x(14Wx4) 10x(21Wx1) 10x(21Wx2) 10x(24Wx1) 10x(24Wx2) 10x(28Wx1) 10x(28Wx2)
A=Ballast Q'ty B=Watt C=Lamp Q'ty	
CFL & PL Loading=AxB Max. 1200W	5Wx12 9Wx12 11Wx12 13Wx12 19Wx12 20Wx12 23Wx12 24Wx12 26Wx12 27Wx12 32Wx12 36Wx12 38Wx12 42Wx10 50Wx10 55Wx10 80Wx10
A=Watt B=Lamp Q'ty	