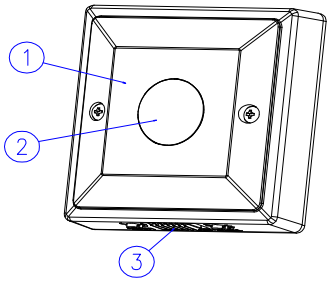
PMWS2W

SURFACE MOUNT 2-WIRE WALL SWITCH



① Main Body
② PIR Sensor / Red LED / Photocell Sensor
③ Slide Switch

INTRODUCTION

The PMWS2W 110 degrees Surface Mount 2-Wire Wall Switch is a fully automatic indoor controller capable of controlling up to 2000W incandescent lightings. It has been specifically designed to replace manually operated light-switches in so called 2-wire installation. It adopts 16A bistable relay of which nature is high switching power and longer expected life for electrical and uses a passive infrared (PIR) motion sensor which reacts to changes in temperature emitted by the motion of persons or objects passing through its detecting area. When you enter the room, it turns on automatically the light to which it is connected and the light remains lit as long as the wall switch senses any activity in the room. It however will automatically turn off the light after the preset turn-off time is expired. During the day, the built-in photocell sensor saves electricity by deactivating the light. When turning to AUTO position, the sensor will draw power from the battery and constantly monitor the battery voltage; whereas it is also a must to connect to AC mains supply, providing power source to connected light fixture when motion has been detected. Please take note that it is an automatic light switch which cannot be used in intrusion applications.

It is a very handy device, which affords you safety, security, convenience and energy saving. It is also easy to install and is suitable for the following places: living room, family room, stairway, entryway, garage and driveway etc.

With this wall switch 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

- Be sure to switch off power source before installing.
- Make sure that the power wiring comes from circuit with an external miniature circuit breaker not higher than 16A for the short circuit protection or a suitable fuse.
- The unit cannot be installed on the ceiling. (FIGURE 1)

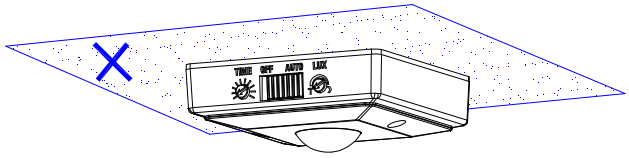


FIGURE 1

IMPORTANT

Installation must be performed by a skilled/competent person who is familiar with the appropriate standards and technical requirements of the appliance and its proper installation.

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

- For the best results, fix your sensor on a solid surface, at least 1.7m above the ground.
- For indoor installation, a location under eaves is preferable.
- Avoid aiming the motion sensor 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.
- Try to avoid pointing the unit at trees or shrubs or where the motion of pets may be detected.
- The motion sensor 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)

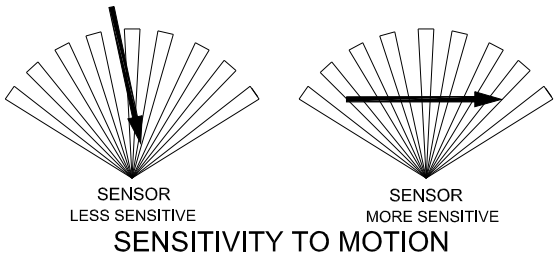


FIGURE 2

INSTALLATION

The unit has a sensing angle of approx. 110° and can detect up to 10 meters at the mounting height of 1.7 meters. (FIGURE 3)

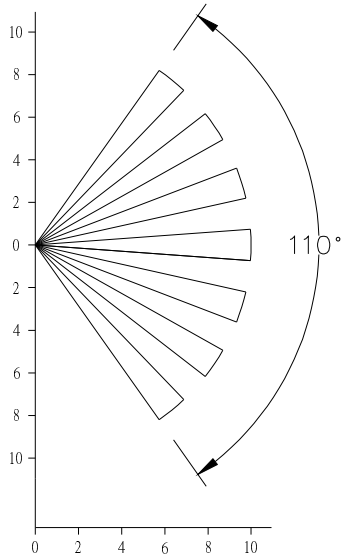


FIGURE 3

WIRING INSTRUCTION

Important Note: Only One PIR Sensor per lighting circuit to be used.

(1) Switch off the power source.

(2) Remove the battery cover by sliding and lifting it off. (FIGURE 4)

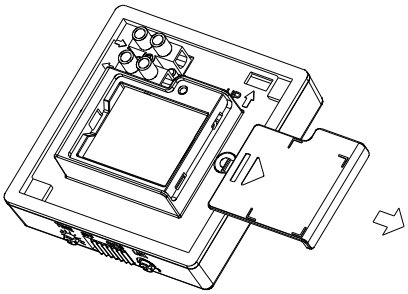


FIGURE 4

(3) Fit the 3.7V Lithium battery supplied to the battery compartment, ensuring that correct polarity is put. Refit the battery cover. (FIGURE 5)

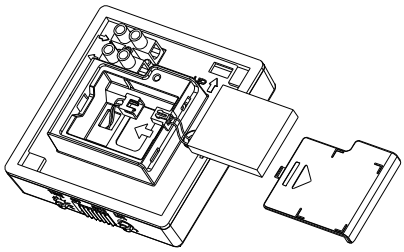


FIGURE 5

(4) Strip approximately 6-8mm insulating part of the wires from the power cord.

(5) Connect the BROWN wire (Live wire) of power cord to the terminal block "L" mark.

Connect the RED wire of lamp wire to the terminal block " L' " mark. (FIGURE 6)

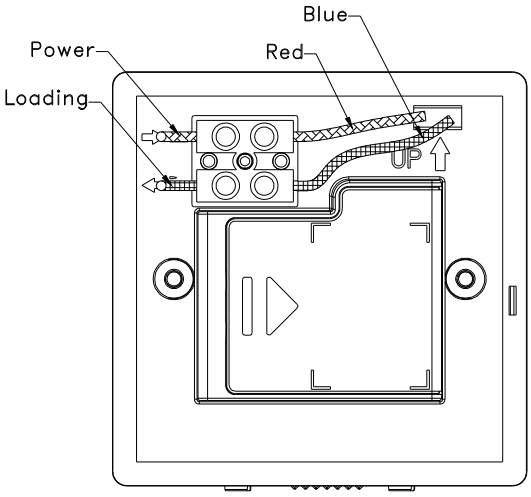


FIGURE 6

(6) Fit the main body to the wall box and secure it with two fixing screws provided. (FIGURE 7)

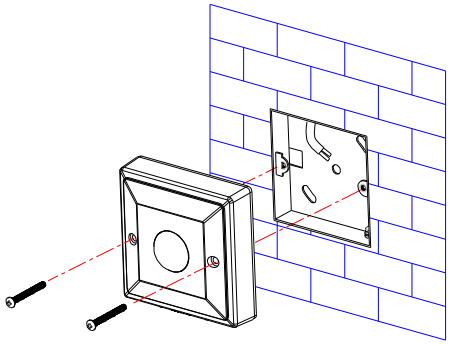


FIGURE 7

SETTING THE LIGHTING SYSTEM

(1) TEST MODE

Note: It is capable of detecting whether AC mains supply has been connected. If it is not connected to AC mains supply, it will enter sleep mode so as to conserve battery power.

Note: Ensure it is connected to AC mains supply and the battery is connected for a minimum of 4 hours to ensure the battery has adequate charge for testing. To Fully charge can take up to 10 hours.

- Turn the Lux control and the Time control counter-clockwise to the edge- the TEST position. (FIGURE 8)

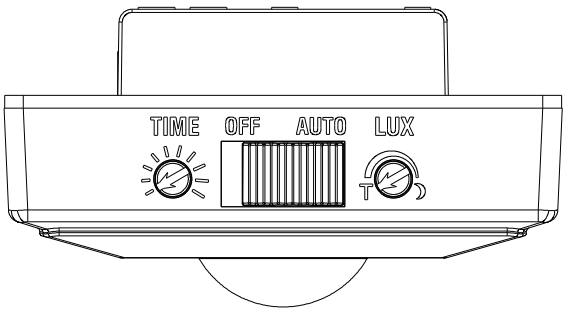


FIGURE 8

- Turn the slide switch to AUTO position, the unit starts checking the AC mains supply for about 2 minutes as maximum. After completion of AC mains supply check-up, it will start warming up for about 1 minute, during which red LED will stay on.
- Walk through the coverage area. The connected light fixture will turn on for about 5 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 sensor.

(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 (40 minutes maximum) or counter-clockwise to decrease the turn-off time (5 seconds minimum). The time adjustment knob has 10 settings, including 5, 10, 20, 40, 80, 160 seconds and 5, 10, 20, 40 minutes. (FIGURE 9)

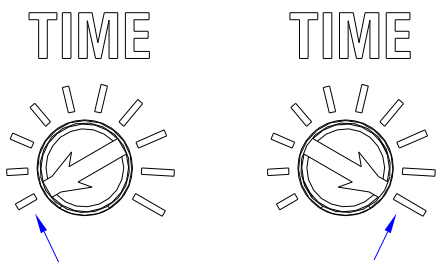


FIGURE 9

When setting the TIME adjustment to 1 minute, once motion has been detected, the connected light fixture will stay on for 1 minute. However, if continuous movement has been detected within 1 minute, the sensor will restart the time interval thus prolonging the illumination period.

- **LUX ADJUSTMENT**

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

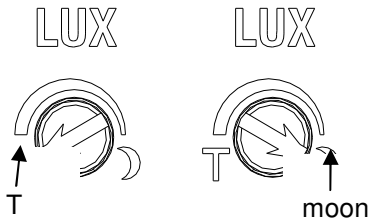


FIGURE 10a FIGURE 10b

Note: "T" means that the light will always switch on regardless of light levels in the area. (FIGURE 10a)

Provisionally turn the LUX control knob to the edge clockwise at the "moon" (dusk) position. (FIGURE 10b) 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**

There is a slide switch located on brim of the cabinet. Slide the switch to AUTO position. (FIGURE 11) When the sensor detects motion, the light automatically turns on for the preset length of time. After the elapse of each detection, the sensor will not react to any movement for 3 seconds. The built-in photocell turns the sensor off and on according to the light level selected by the LUX adjustment. When no movement has been detected, the sensor will consume less power thus saving battery power.

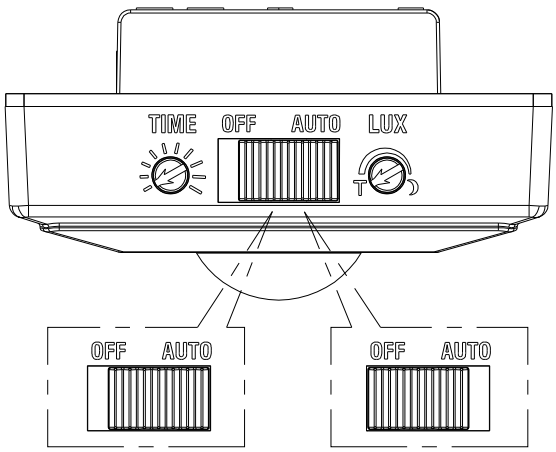


FIGURE 11

Automatic charging function

Note: When the unit warms up of which battery starts being charged simultaneously, its red LED will be on for 1 minute; whereas if the battery is being charged, its LED will flash three times every 30 seconds; if battery voltage drops to a defined low battery value, the LED will flash once every 30 seconds. The LED indication priority for different status is listed hereunder:

Priority	Status	LED Indication
1	Warm up and battery is being charged	On steadily 1 minute
2	Battery is being charged	Flash rapidly three time every 30 seconds
3	Low Battery	Flash rapidly once every 30 seconds

Note: The maximum charging period is 10 hours, ranging from low to half-full voltage, while 15 hours, from half-full to full voltage.

Upon first connecting to AC mains supply, the unit will start working according to one of the following scenarios:

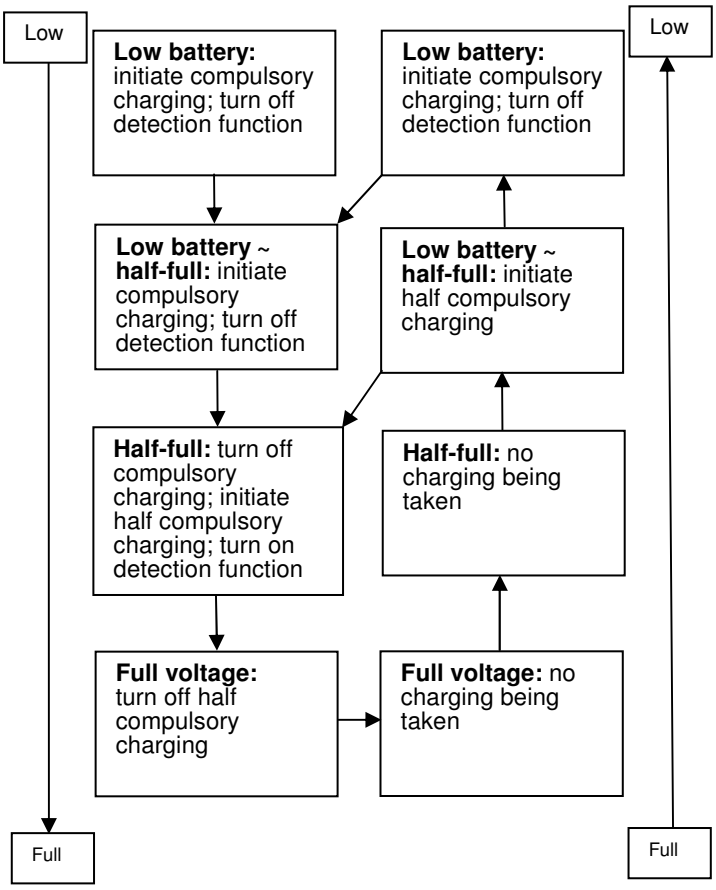
Scenario A: if and when the battery is sufficiently charged (at half-full voltage), the unit will start detecting after 1 minute.

Scenario B: if and when the battery level is lower than half-full and higher than low voltage value, the unit will start detecting after 1 minute. During PIR motion sensor detection, the unit will charge its battery to full voltage then turn off charging function.

Scenario C: if and when the battery drops to a defined low battery value, PIR motion sensor detection will not be initiated until the battery is charged to half-full voltage. During PIR motion sensor detection, the unit will charge its battery to full voltage then turn off charging function.

The following scenario will be applicable, subject to AC mains supply being connected (not the first time connection):

Scenario D: if and when the battery voltage is lower than half-full and higher than low battery value, during PIR motion sensor detection, the unit will charge its battery to full voltage then turn off charging function.



If unfortunately low battery occurs, PIR motion sensor detection will not be initiated until the battery level is charged to half-full voltage. During PIR motion sensor detection, the unit will charge its battery to full voltage then turn off charging function.

Scenario E: switching slide switch from “OFF” to “AUTO” position will start warming up for 1 minute.

■ **Manual Off**

Sliding the switch to OFF position will turn off the light fixture permanently. The detection function will also be turned off. The unit will enter sleep mode to conserve battery power.

Upon first connecting to AC mains supply, the unit will start working according to one of the following scenarios:

Scenario A: if and when the battery level is higher or equal to half-full voltage, the unit won't charge its battery.

Scenario B: if and when the battery level is lower than half-full voltage, the unit will charge its battery to full voltage.

The following scenario will be applicable, subject to AC mains supply being connected (not the first time connection):

Scenario C: if and when the battery level is lower than half-full voltage, the unit will charge its battery to full voltage.

TROUBLESHOOTING

Battery cannot be charged

- Replace a new lithium battery.

Red LED keep flashing three times every 30 seconds more than 2 days

- Replace a new lithium battery.
- Replace a new light fixture which meets product specifications.

Unit cannot control connected light fixture

- Setting the unit again according to the manual as instructed.
- Fit the lithium battery as supplied.
- Replace a new lithium battery.
- Send the unit for repair; do not try to take apart the unit.

Capacitor

For loads Below 40 Watt incandescent please fit the supplied capacitor across live and neutral in the light fitting.

If above 40w the capacitor is not required to be fitted.

SPECIFICATIONS

Power Requirement	AC 220 ~ 240V / 50Hz
Lighting Load	Max. Incandescent: 2000W Min. Incandescent : 40W Max. Halogen: 1000W Max. Fluorescent / Cos Θ =0.5: 1000W Max CFL/ PL/ LED : 10 pieces for low power lamps; the fitting quantity may reduce for high power lamps.
Battery Type	Lithium 3.7V
Detection Angle	Up to 110° at 25°C at 1.7m Height
Detection Distance	Up to 10m at 25°C at 1.7m Height
Mounting Height	Recommended at least 1.7m (5.57 Ft) Wall Mount
Slide Switch Control	Auto/Off
Time Adjustment	10 settings – 5, 10, 20, 40, 80, 160 seconds and 5, 10, 20, 40 minutes
Lux Adjustment	Approx. 30 ~ 200 Lux
Warm Up Time	About 1 min
Protection Class	Class II
Protection Degree	IP20
Safety	CE

Specifications are subject to change without notice.

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 once, the retailer is legally obligated to take back your old appliance for disposal at least for free of charge.

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