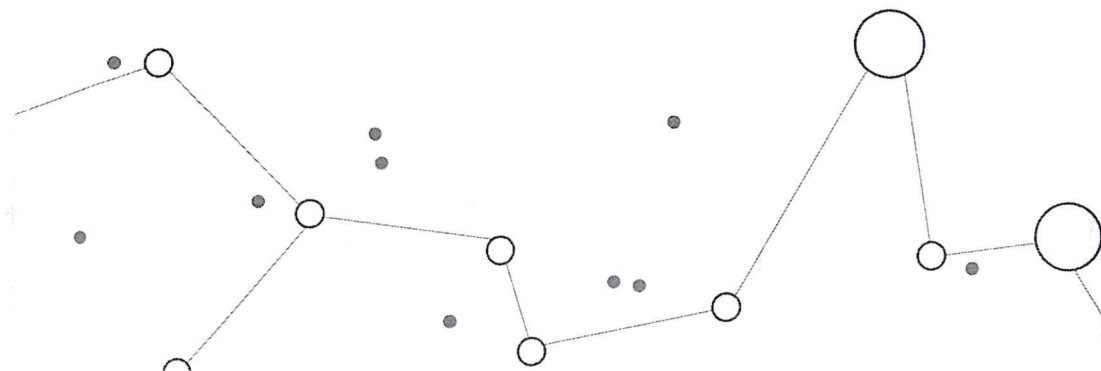


ENKŌA

User's Guide Motion Sensor

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DATE: 04/01/2022
RESPONSABLE: Enkoa



Read carefully the instruction given, before installing and using the motion sensor and hold it for future references.



GENERAL WARNINGS AND INSTRUCTION GUIDE:

In order to ensure the correct operation of the product in your installation is necessary to carry the following safety regulations out:

1. The installation and the use of the product must be done according to the technical operating conditions explained below.
2. The good use of the application is client's responsibility.
3. After reception of the goods, check the packaging and the existing material in case there is any damage. Check as well, that the reception is complete (accessories, papers, etc).
4. If packaging is damaged during delivery or it is suspicious of being damaged or having a failure, do not put the unit on. In that case please contact us.
5. The installation and handling of our product has to be done by authorized personnel. Mainly the electrical connections must be done only by qualified experts.
6. Do not try to repair any material after a failure or damage and put it working again. In this case it is highly important to contact us.
7. There will not be accepted any responsibility for damages caused by a wrong use.

Ensure that the top and the low caps are unified and correctly screwed before starting the unit up.

7. OPERATING PRECAUTIONS

Basic Principles

PaPIRs is a pyroelectric infrared sensor that detects variations in infrared rays.

However, it may not detect in the following cases: lack of movement, no temperature change in the heat source.

Besides, it could also detect the presence of heat sources other than a human body.

Efficiency and reliability of the system may vary depending on actual operating conditions:

1) Detecting heat sources other than the human body, such as:

- a) Small animals entering the detection area
- b) When a heat source for example sun light, incandescent lamp, car headlights etc, or strong light beam hit the sensor regardless inside or outside the detection area.
- c) Sudden temperature change inside or around the detection area caused by hot or cold wind from HVAC, or vapor from the humidifier, etc.

2) Difficulty in sensing the heat source

- a) Glass, acrylic or similar materials standing between the target and the sensor may not allow a correct transmission of infrared rays,
- b) Non-movement or quick movements of the heat source inside the detection area.

3) Expansion of the detection area

In case of considerable difference in the ambient temperature and the human body temperature, detection area may be wider apart from the configured detection area.

1. INTRODUCTION

1.1 Brief description

The MOTION SENSOR is a passiv infrared detector device that detects people movement through the room. In addition, it features a thermostat that measures room temperature. It has a wireless communication with the lswitch energy saver and sends movement information and the room temperature to the energy saver. The energy saver enables connect or disconnect the room devices depending on the information sent by the motion sensor.

The MOTION SENSOR is standalone and is operated by 3 batteries of 1.5 V LR3 AAA (non rechargeable).



1.2 Shipment content

- MOTION SENSOR
- Screw box (2 screws and 2 number five plugs to fix it in the ceiling. 1 side screw to close the cap.)
- User's and starting up user's guide.

4. MAINTENANCE AND CLEANING

For a long lasting device, please follow these instructions:

Make sure the optic is clean and there is no object glued to it.

Replace the batteries every two years or when the sensor asks by red blinking.

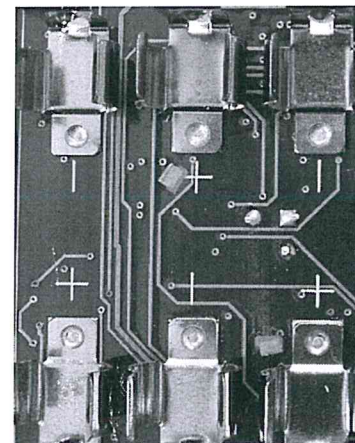
4.1 Battery replacement

When the batteries are about to run out, the sensor warns the users to change them.

The optic's pilot makes **three red blinkings every eight seconds showing low battery.**

In order to replace the batteries, please follow the next steps:

- Let loose the side screw that locks the sensor's cover.
- Hold the low part of the cover and turn it anticlockwise.
- Once you have the lower cover at your hand replace the 3 AAA batteries. Replace it with batteries of the same supplier. Caution: make sure that batteries with the same polarity are used.



- Place again the lower cover on the front cover by turning it clockwise. Keep in mind to coincide the holes for the side screw.
- Screw the side screw.

5. TECHNICAL DATA

DESCRIPTION	Wireless motion sensor for the energy saver
REFERENCE	SVOElxS
POWER SUPPLY	3 batteries of AAA LR3 1,5 V
AUTONOMY	4 years (Average consumption 30uA, max. 20mA)
COMUNICATIONS	Wireless 2,4 GHz , IEEE 802.15.4
COMMUNICATIONS COVERAGE	10m (Max. distance to the energy saver)
INTERFACE	Red led
TEMPERATURE RANGE	-10° to 50°
TECHNOLOGY	Infrared passive detector. Fresnel lens
DETECTION COVERAGE	Ø6m if 3m height mounted (coverage depending on the mounting height)
MOUNTING HEIGHT	Between 2,5 -4m
THERMOSTAT ACCURACY	±2° (-10° to 50°)
DIMENSIONS	Ø 111mm x 40mm
WEIGHT	120gr.

6. TIPPS FOR PROTECTING THE ENVIRONMENT



The batteries can be damaging if they are not disposed adequately. Protect the environment by throwing the run out batteries in an authorized collecting point.
For long lasting batteries, when low battery is detected, do change all the batteries.

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3. OPERATION

The MOTION SENSOR is connected wirelessly to the ISWITCH energy saver.
The operation modes are the following:

3.1 saving mode

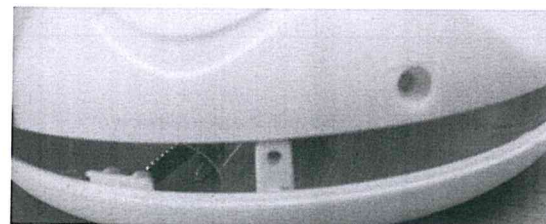
The MOTION SENSOR is detecting continuously movement inside the room. If during the configuration time no movement is detected within the room, the iswitch disconnects the relay 2 that is usually connected to the air conditioning or to other high consuming device.

2. INSTALLATION

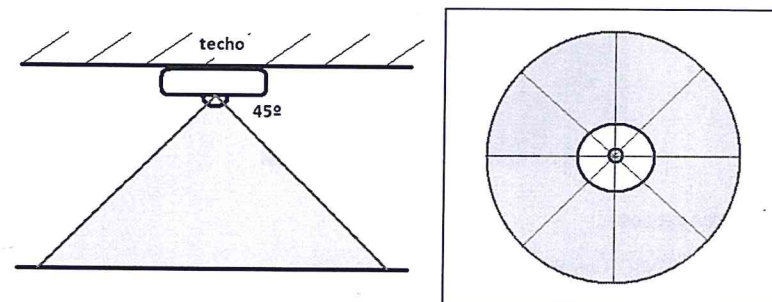
The MOTION SENSOR will be always overhead mounted.

The MOTION SENSOR'S installation is made through 2 screws and 2 plugs. It is required to drill 2 holes of 5 mm thick in the wall, introduce the plugs inside the holes and screw the top cover to the ceiling.

The sensor's cover is released by turning the lower part slightly anticlockwise.



The SENSOR installation position must be taken into consideration. Following is explained the detection coverage for locating it. It may require more that one sensor per room, depending on the room structure.



The shaded parts show the motion sensor's detection area.

It belongs to the round area on the floor with a diameter equal to the sensor installation Height.

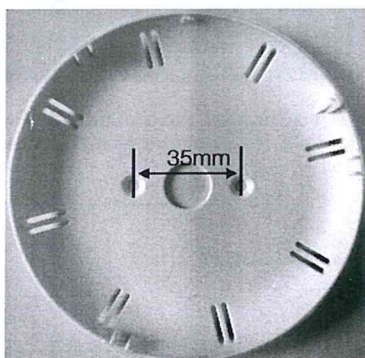
$$\text{Detection } \varnothing = \text{Mounting height} \times 2$$

Maximum Mounting Height = 4 meters

Mounting Height	Detection \varnothing
2.5 meters	5 meters
3 meters	6 meters
4 meters	8 meters

2.1 Dimensions

The dimensions and assembly points are shown in the picture below.



2.2 Installation process

The MOTION'S SENSOR installation must be done as follows:

1. Mark two holes on the ceiling with a 35mm distance between them.
2. Drill two holes of 5mm thick with M5 drillbit.

3. Place it including the plugs in the holes.
4. Dismantle the SENSOR by separating the top part from the lower part. Turn it slightly anticlockwise.
5. Place the top cover in the ceiling and screw it using two fixing screws.
6. **SENSOR AND ISWITCH SYNCHRONIZING (Energy saver)...**
To configure the iSwitch Energy Saver in Synchronization mode, refer to the corresponding manual for each energy saver.
While the iSwitch Energy saver is SYNC mode, push the inner button of the energy saver with the hand. The red pilot will go on.
Then the sensor and the energy saver will try to synchronize. The synchronizing will be correct when the sensor blinks red quickly that last around five seconds. Finally the red pilot must go off.
Repeat it with all the sensor of the same room that must be synchronized with the same energy saver.
7. Place back the lower sensor cover on the top cover turning it clockwise. Make sure that the holes for the side screw coincide.
8. Screw the side screw to lock the top and lower cover.

Note (Sensor desynchronization)

To perform the desynchronization or erasure of the sensors in the iSwitch Energy saver, refer to the corresponding manual of each energy saver. The energy saver deletes the list of the synchronized sensors.

The desynchronization will be necessary in the following situations:

- One it is desired to delete one of the room sensors.
- One a sensor is damaged and is changed by a new one.

After the desynchronization, it is always necessary to synchronize the room sensor with the new energy saver.

The desynchronization is NOT necessary in the following cases:

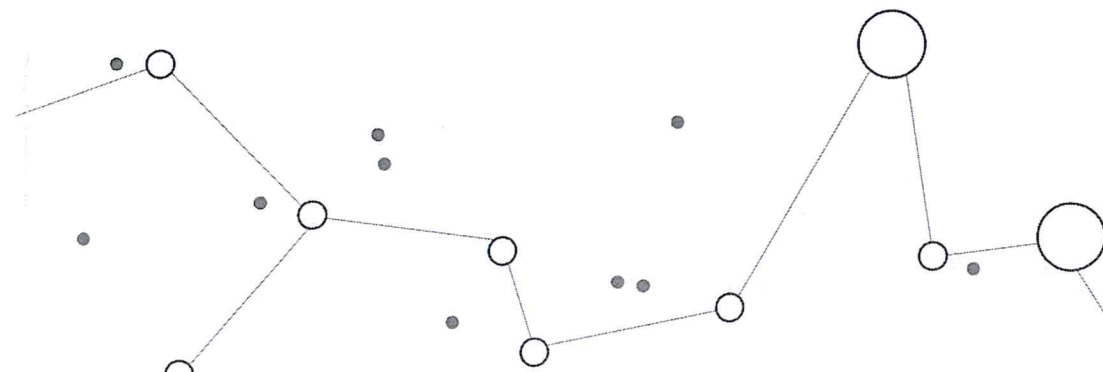
- When the sensor's batteries are changed.
- When a new sensor is added to the room.

ENKÖA

DOOR/WINDOW
SENSOR'S

INSTALLATION GUIDE

•



Read carefully the instruction given, before installing and using the Door / Window sensor and hold it for future references.



GENERAL WARNINGS AND INSTRUCTION GUIDE:

In order to ensure the correct operation of the product in your installation is necessary to carry the following safety regulations out:

1. The installation and the use of the product must be done according to the technical operating conditions explained below.
2. The good use of the application is client's responsibility.
3. After reception of the goods, check the packaging and the existing material in case there is any damage. Check as well, that the reception is complete (accessories, papers, etc).
4. If packaging is damaged during delivery or it is suspicious of being damaged or having a failure, do not put the unit on. In that case please contact us.
5. The installation and handling of our product has to be done by authorized personnel. Mainly the electrical connections must be done only by qualified experts.
6. Do not try to repair any material after a failure or damage and put it working again. In this case it is highly important to contact us.
7. There will not be accepted any responsibility for damages caused by a wrong use.
8. Ensure that the battery cover is closed and blocked-up before using the equipment.

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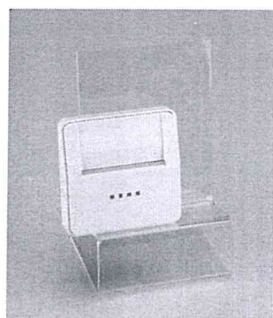
1. INTRODUCTION

1.1 Brief description

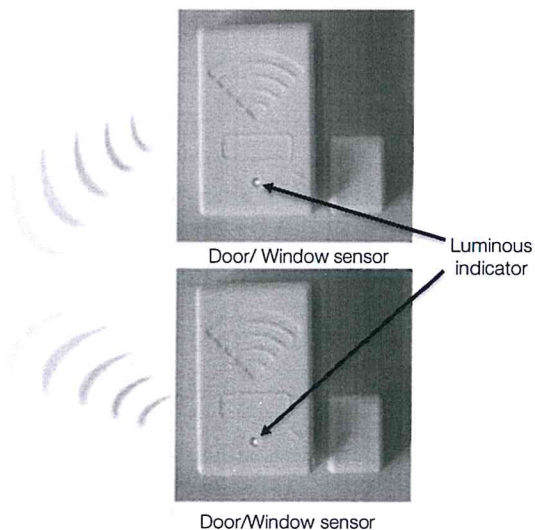
The sensor consists of:

- 1- Detector (Big box).
- 2- Magnet (Little box).

For the proper operation of the door- window sensor, an energy saver is needed, as it turns off the relay or relays configured when the sensor communicates that the window is opened.



Energy Saver



The product is designed to hang on doors or windows, so that the detector lays on the doorframe and the magnet on the door or Windows. When the door or window is opened, the magnet will be released from the detector and it will send a message to the energy saver to turn off the relay or relays configured (For example air conditioner).

7. TIPS FOR PROTECTING THE ENVIRONMENT

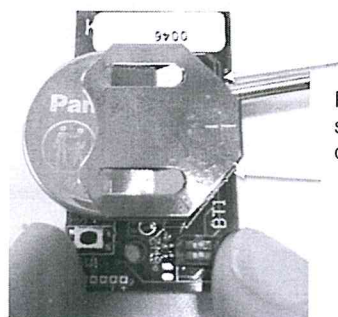


Batteries may be damaging if they are not disposed appropriately. Protect the environment by throwing the worn out batteries in an authorized collection point.

For a long lasting of the batteries, when the battery is low, replace all the batteries.

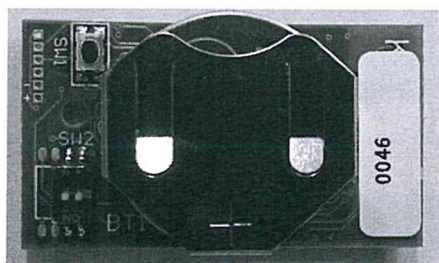
8. TECHNICAL DATA

DESCRIPTION	Door / Window sensor for the energy saver
REFERENCE	SPVxlXS
POWER SUPPLY	3V CR2354 lithium battery
AUTONOMY	4 years (13uA average consumption, 90mA at most)
COMMUNICATIONS	2,45 GHz wireless, IEEE 802.15.4
COMMUNICATION COVERAGE	20m (max. Distance to the energy saver)
INTERFACE	Red led
MATERIAL	"Fireproof material according to norm UL 94 V-0"
RANGO TEMPERATURA	-10° a 50°
TECHNOLOGY	Magneto resistive sensor + magnet
MAX. DISTANCE BETWEEN THE SENSOR – MAGNET	Recommendable to have a slight separation
DIMENSIONS (DETECTOR, MAGNET)	Detector (44,21mmx27mm) Magnet (18,30mmx13,34mm)
WEIGHT	14g



Push with a screwdriver in the direction of the arrows.

- Insert the new CR2354 battery by hand until it is the same way as before. Check if when inserting the battery the PCB makes initial flashes in red.



- Finally, mount the PCB in the box in the same way that you have disassembled it, put the bakelite washer on and finally the screw with the screwdriver.



CAUTION: make sure you are introducing a battery with the appropriate polarity.

- Once replaced the battery, put the detector cap on over the base and ensure that it's been correctly installed.

The detector works with a (CR2354) type watch battery, which has autonomy of approximately 4 years.

As long as the battery level is correct, there will be no blinking, otherwise if battery is low, it will blink one time every 32 seconds. In that case, battery must be replaced the battery as soon as possible. In addition, the saver / disconnecter is informed and to the IVEW system. In the IVEW system, the status of the door (open-closed) and the level of the batteries.

1.2 Shipment content

- DOOR/ WINDOW SENSOR (Detector box + magnet box)
- Starting up and user guide.

2. INSTALLATION

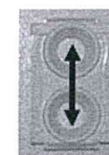
IMPORTANT! Please keep in mind that the Door / Windows sensor is designed for indoors.

2.1 Dimensions.

The size and location of the anchor points of each part are shown in the image below. The measures shown are from the midpoint of the holes to the other point through the holes.



36,77mm



7.92mm

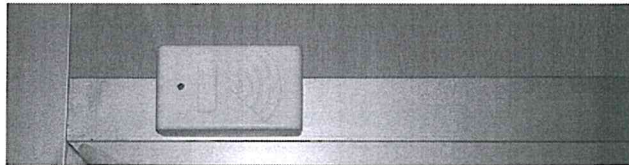
2.2 Installation step

First of all, it should be decided in which door or window must be installed, it is highly recommended to install it on door and windows with no looseness. The detector and the magnet should be as closed as possible, because the maximum distance between both parts is 1,2cm. If that distance is exceeding in any direction, it is probable that it no longer works.

The DOOR/WINDOW sensor installation must be done following these steps in order:

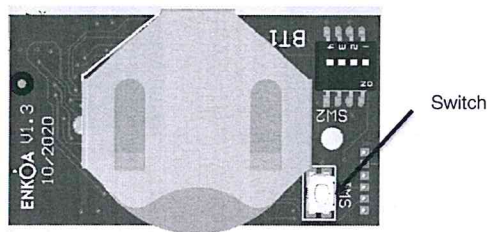


- IMPORTANT!**
1. STICK OR SCREW THE DETECTOR (BIG BOX) ON THE DOOR OR WINDOWS FRAME.



2. Synchronize the sensor and the iswitch (energy saver)

To enter the energy saver in **shinchronization mode** consult the manual of the corresponding energy saver. Once the energy saver is in synchronization mode, press once the inner button using a screwdriver. The red pilot will go on.

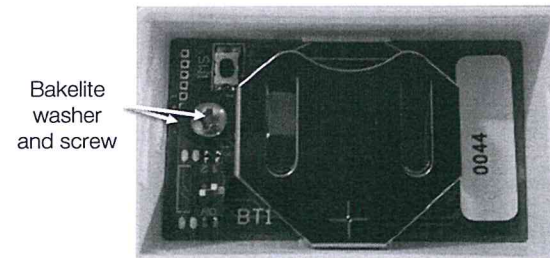


6.1 Battery replacement

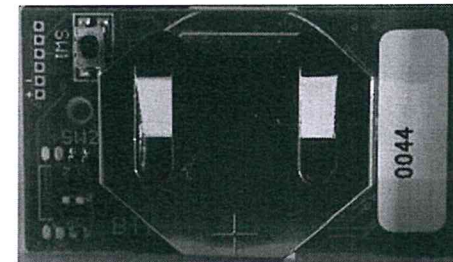
When batteries are about to run out the sensors warns the user, in order to be replaced. The detector blinks 1 time red every 32 seconds showing low battery.

For replacing the battery, the following steps must be followed:

- Let loose the detector's cap using the hand, if it is not possible, introduce a screwdriver between the base and the cap.
- Remove the screw and bakelite washer with a screwdriver and save.



- Then, take the PCB out of the box, Press on the side of the batteryholder for easy removal.



- Remove the CR2354 battery from the PCB by pushing the battery out of the PCB with a screwdriver.

4. OPERATION

The DOOR/ WINDOW sensor has a wireless Communication with the Iswitch energy saver and in turn maybe connected with the IVIEW system.

The different operating ways are the following:

The DOOR / WINDOW Sensor detects any opening or locking of the DOOR/ WINDOW sensor and sends energy saver status, till there is no opening detected the energy saver will not switch off the relay or relays. (For instance air conditioned)

4.1 Blinks summary

	State of the red Led	Number of blinks	During of the Blinks(seg)
Initial Blinks	Short Blinks	10	2
Test output	Short Blinks	10	2
Correct Synchronization	Short Blinks	25	5
Low Battery	Short Blinks	1	0.01

5. SWITCHING OFF THE RELAY OR RELAYS OF THE ENERGY SAVER

The switching off of the relay or the relays (Depends on configuration) when the window is opened will be configurable from 0 to 250 seconds in multiples of 5 seconds.

For instance if energy saver's relay 2 is temporized with 30 seconds and the window is opened after 30 seconds, the energy saver's relay 2 will turned off.

To configure this switching off time consult the manual of the corresponding saver.

6. CLEANING AND MAINTENANCE

For the long lasting of the device, please follow the following instructions:

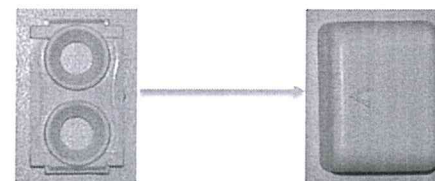
- Replace the battery from time to time every two years or when the sensor asks for that by 3 red blinking.

Then the sensor and the energy saver will try to synchronize. The synchronizing will be successful when the sensor blinks 25 times quickly for approximately 5 seconds. Finally the red pilot must go off.

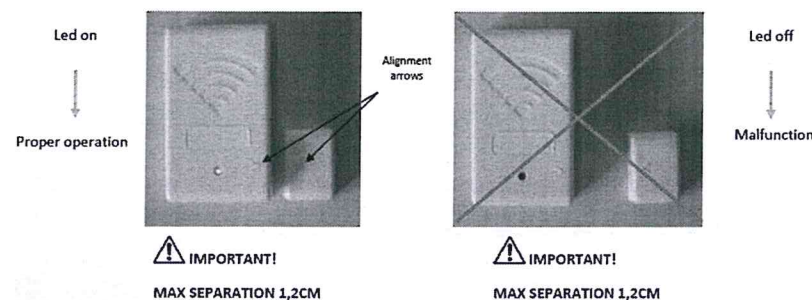
Repeat it with all the sensors of the same room that must be synchronized with the same energy saver.

It is highly important not to enter two energy savers at once in synchronization mode because the sensors can be synchronized with other room.

- Do stick or screw the magnet's base at the indicated point and introduce the cap on the base.



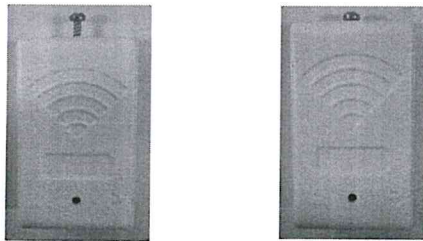
- Once the sensor is synchronized correctly, we will install the sensor in the window or door in the right way.
- To check that the sensor correctly detects the magnet, hold the sensor button pressed until the red light is turned off and the sensor makes a series of 10 quick flashes. Indicating that the sensor has been introduced into the Magnet Test mode.
- After those blinking, we will have 20 seconds to install the detector on the base, on a way that arrow pictures that have both caps match. (It is highly important that the cap's arrows match)



7. To ensure that the sensor is working properly after installing it, we must look to the red LED is ON during those 20 seconds. Once those 20 seconds run out. The LED will blink 10 times during 2 seconds indicating the output of the test mode and remaining the sensor ready to work.

In case both parts have been installed and the led sensor is not ON, the sensor won't be correctly installed.
If you want to re-enter the magnet test, you must perform the same step as explained in point 5.

8. Finally, for a better grip between the lid and the base of the sensor, it is recommended to insert a DIN7981 2.2mmx6.5mm screw through the hole located in the upper side of the box.



! IMPORTANT!

In case the battery is not introduced in the battery holder. We should introduce it and soon afterwards the led diode blinks 10 times during 2 seconds. Once those blinking are made, the sensor will be in TEST way, as a consequence we should wait 20 seconds before the led diode blinks 10 times during 2 seconds showing that there is no longer in TEST way. Once it is no longer in TEST way, we will proceed to the synchronizing as explained before.

Note (Desynchronization of sensors)

To perform the desynchronization or erasure of the sensors in the energy saver consult the manual of the corresponding saver.

The desynchronization will be necessary in the following cases:

- When one of the room sensors must be deleted.
- When a sensor is damaged and it is replaced by a new one.

After the desynchronization, it is always necessary to synchronize the room sensor with the new energy saver.

The desynchronizing will NOT be necessary in the following cases:

- When sensor battery is replaced.
- When a new sensor is added in a room.

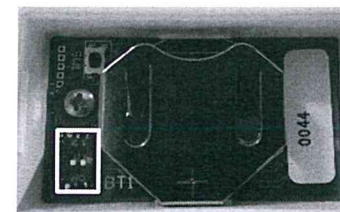
3. SENSOR CONFIGURATION

The configuration must be done only in exceptional occasions.

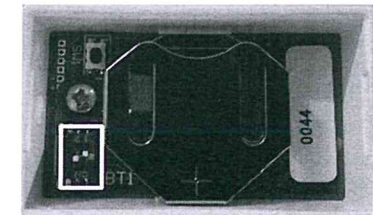
The Door/ Window sensor has four operating ways, one as Door sensor, Windows sensor, Minibar sensor and the other one as Twin Door, depending on which application it is used, it must be configured one way or another.

The sensor will be configured by default as Door sensor.

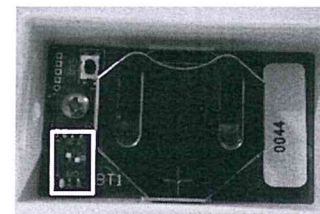
To configure the sensor in one way or another, we must move the DIP Switch in one way or another:



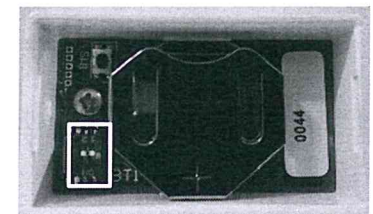
DOOR



WINDOW



MINIBAR



TWIN DOOR

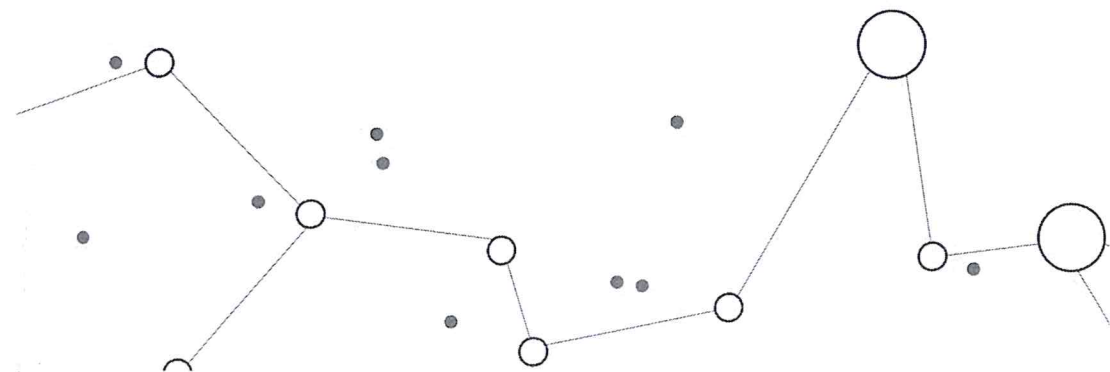


User's Guide Recessed Motion Sensor



DATE: 04/01/2022

RESPONSABLE: Enkoa



Read these instructions carefully before installing and using the Volumetric Sensor, and keep them safe to resolve any queries.



GENERAL WARNINGS AND INSTRUCTIONS FOR USE.

The following rules must be complied with to ensure correct operation of our product in your facility:

1. The acquired product must be installed and used in accordance with the technical operation conditions described in the relevant manual.
2. The customer is responsible for proper use of the application.
3. Once the material is received, inspect the packaging and the material for any sign of deterioration. Also check that the delivery is complete (accessories, documentation, etc.)
4. The material must not be used if the packaging has been damaged during transport or there is a chance that it is damaged or has a fault. Contact us if this is the case.
5. Our products must be installed and handled by authorised personnel. In particular, electrical connections must only be carried out by qualified specialists.
6. Do not attempt to repair any material after a failure or damage and start it again. It is essential that you contact us in such cases.
7. No liability will be accepted for damage caused as a result of misuse.
8. Make sure that the top and bottom covers are joined and bolted together correctly before operating the equipment.

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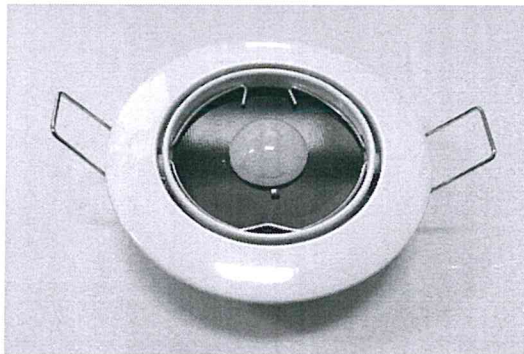
1. INTRODUCTION

1.1 Short description

The adjustable recessed volumetric sensor is a passive infra-red device that detects the movement of people inside the room. It is also fitted with a thermostat that measures the surrounding temperature and humidity.

The room's temperature and humidity movement information are sent wirelessly to the iSwitch energy saver. The energy saver connects or disconnects the different services in the room in accordance with the information provided by the recessed volumetric sensor.

The recessed volumetric sensor is self-contained and is powered by a 3V CR123A lithium battery (not rechargeable).



1.2 Shipment Contents

- Recessed volumetric sensor.
- Instructions and start-up manual

7. OPERATING PRECAUTIONS

Basic Principles

PaPIRs is a pyroelectric infrared sensor that detects variations in infrared rays.

However, it may not detect in the following cases: lack of movement, no temperature change in the heat source.

Besides, it could also detect the presence of heat sources other than a human body.

Efficiency and reliability of the system may vary depending on actual operating conditions:

1) Detecting heat sources other than the human body, such as:

- Small animals entering the detection area
- When a heat source for example sun light, incandescent lamp, car headlights etc, or strong light beam hit the sensor regardless inside or outside the detection area.
- Sudden temperature change inside or around the detection area caused by hot or cold wind from HVAC, or vapor from the humidifier, etc.

2) Difficulty in sensing the heat source

- Glass, acrylic or similar materials standing between the target and the sensor may not allow a correct transmission of infrared rays,
- Non-movement or quick movements of the heat source inside the detection area.

3) Expansion of the detection area

In case of considerable difference in the ambient temperature and the human body temperature, detection area may be wider apart from the configured detection area.

5. TECHNICAL DETAILS

DESCRIPTION	Wireless adjustable recessed volumetric sensor for energy saver
REFERENCE	SVExIxS
POWER	1 CR123A 3 V battery
BATTERY LIFE	5 years (Mean consumption 18uA, Maximum 20mA)
COMMUNICATIONS	Wireless 2.4 GHz, IEEE 802.15.4
COMMUNICATIONS COVERAGE	10m (Maximum distance to the energy saver)
INTERFACE	Red LED
TEMPERATURE/HUMIDITY RANGE	Temperature: -40° to 160° Humidity: 0 % rH to 100 % rH
TECHNOLOGY	Passive infra-red detector.
DETECTION COVERAGE	For a height of 12 m, an area of (32x28) m
ASSEMBLY HEIGHT	Maximum height 12 m
THERMOSTAT PRECISION	Temperature: $\pm 0.5^\circ$ (15° to 40°), $\pm 1^\circ$ (0° to 60°) Humidity: $\pm 3.5\%$ (20% to 80%), $\pm 3.5\%$ (20% to 80 %)
DIMENSIONS	\varnothing 85 mm x 37 mm
WEIGHT	90 g

6. TIPS FOR ENVIRONMENTAL PROTECTION



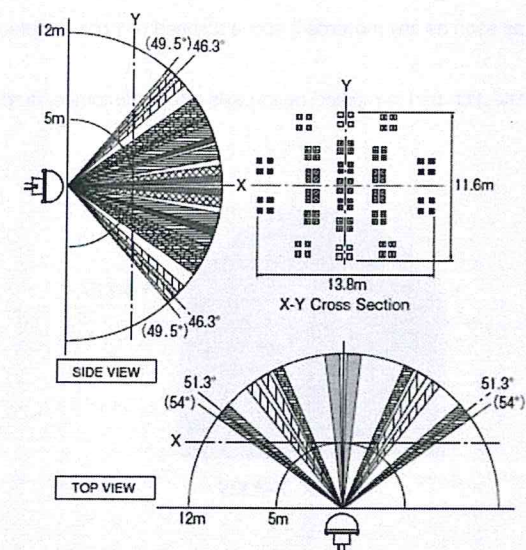
Batteries can be harmful if not properly disposed of. Protect the environment by disposing of used batteries at an authorised collection point.

Change all the batteries when the energy level is low, in order to prolong battery life.

2. INSTALLATION

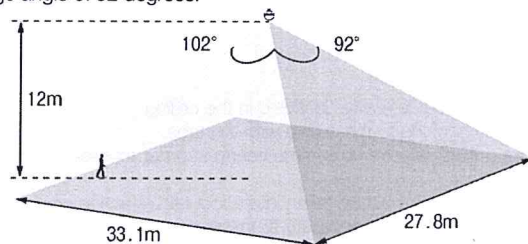
The recessed volumetric sensor is always installed in the ceiling of the room. The sensor is installed by hooking to the ceiling with the tabs. It is necessary to bore a 75-millimetre hole in the ceiling in order to insert the sensor.

The sensor's installation position must be taken into account. Detection coverage is shown below to help positioning. It may be necessary to install more than one sensor per room, depending on the its structure.



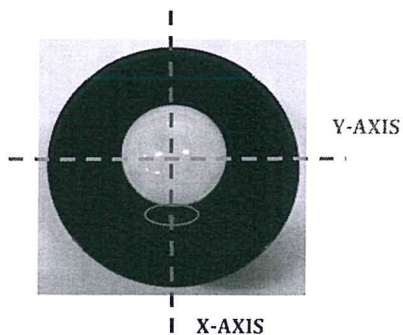
The dark part represents the sensor's movement detection zone.

The maximum range it is capable of detecting presence at when positioned at a height of 12 metres is (33x28) m; the X axis has a coverage angle of 102 degrees, and the Y-axis has a coverage angle of 92 degrees.



It detects presence as soon as any movement above a speed of 1 m/s is detected in the detection zone.

Note: The longest detection part is marked by the axis where the temperature sensor is located.



4. MAINTENANCE AND CLEANING

Follow these instructions to ensure a long working life for the device:

- Make sure the sensor optic is clean and there are no objects stuck to it.
- Replace the batteries every two years or whenever a red light flashes in the sensor.

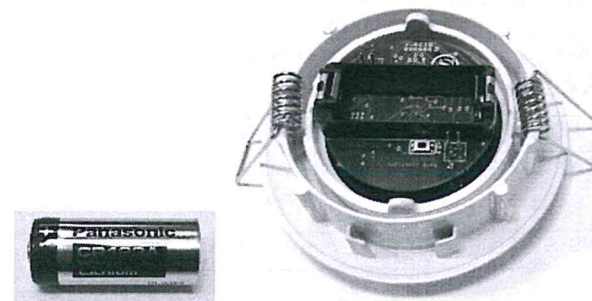
4.1 Replacing batteries

The sensor alerts the user whenever the battery is about to run flat.

The optic pilot light indicates low battery by giving out three red 8-second flashes.

Proceed as follows to replace the batteries:

- Only release the PCB, there is no need to release the entire sensor.
- Replace the CR123A battery once you have the PCB in your hand. Always replace using batteries of the same manufacturer. Caution: make sure you are connecting with the correct polarity.



- Put the PCB back in the spotlight that will be recessed in the ceiling, and finally attach the wire to hold the PCB.

Note (Sensor resynchronisation)

It is not necessary to release the entire sensor, we recommend removing the wire which holds the PCB; remove just the PCB, resynchronising the sensor by pressing the internal pushbutton.

3. OPERATION

The recessed volumetric sensor connects wirelessly to the iSWITCH energy saver.

The system's different operating modes are:

3.1 Savings option

THE VOLUMETRIC SENSOR continuously detects movement in the room. If no movement is detected in the room during a configurable time period, the iSWITCH disconnects the relay or the relays, which will normally be connected to the air conditioning or other high-consumption loads.

3.2 Room comfort option

The energy saver must be pre-configured in this mode for the system to work correctly. In Comfort mode, the volumetric sensor acts by sending the room's temperature and humidity information to the iSwitch energy saver. The iSwitch enables or disables the configured relay or relays whenever there is no presence in the room, maintaining the pre-set comfort temperature.

3.3 Security Option

If the iSwitch energy saver is configured in Security mode, it is possible to know if there has been any intrusion while the client is not in the room. If there is no card inserted in the energy saver and the volumetric sensor detects movement, the iSwitch enables one or several relays as the intrusion alarm signal.

Installation without taking into account the position of the sensor

If you do not want to take into account the position or orientation of the sensor, you can make an approximation of the detection area. The following table shows the approximate coverage:

Detection diameter = mounting height x 2.4 meters
 Maximum detection height = 12 meters

Mounting height	Detection diameter
2.5 meters	6 meters
3 meters	7.2 meters
3.5 meters	8.4 meters
4 meters	9.6 meters
5 meters	12 meters
12 meters	28.8 meters

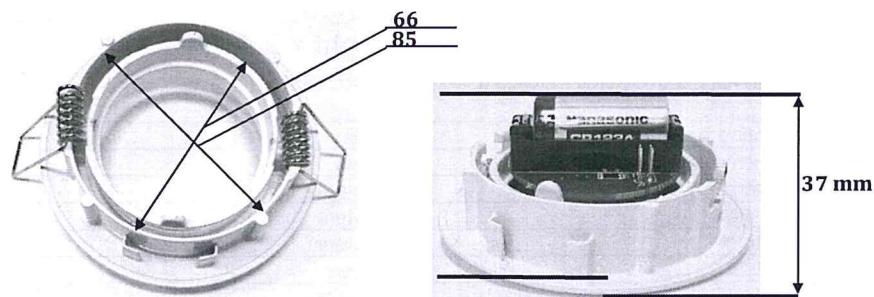
Adjustable ring

The sensor is mounted on an adjustable ring. This allows the sensor to rotate slightly in order to modify the detection coverage according to the client's preferences.



2.1 Dimensions

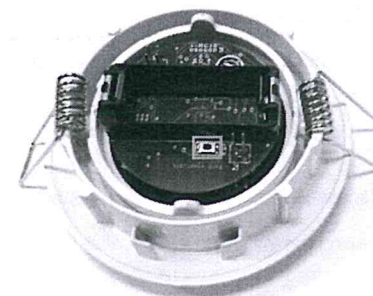
The diameter and height dimensions of the recessed volumetric sensor are shown in the following images.



2.2.- Installation process

The recessed volumetric sensor should be installed in the following order:

1. Mark where the hole will be drilled.
2. Drill a hole with a 75mm crown.
3. **SYNCHRONISING THE SENSOR and ISWITCH (energy saver)**
To configure the iSwitch Energy Saver in Synchronization mode, refer to the corresponding manual for each energy saver.
Press the Sensor's internal pushbutton with your hand while the iSwitch Energy saver is SYNC mode. The red pilot light will come on.



The sensor and the energy saver will then try to synchronise. Synchronisation is correct when the red sensor flashes very quickly for about five seconds. The red pilot light must go off at the end.
Repeat with all sensors in the same room that must be synchronised with the same energy saver.

4. Position the recessed volumetric sensor in the ceiling and secure it using the two tabs.

Note (Sensor desynchronisation)

To perform the desynchronization or erasure of the sensors in the iSwitch Energy saver, refer to the corresponding manual of each energy saver. The energy saver deletes the list of all synchronised sensors.

Desynchronisation is necessary in the following cases:

- When one of the sensors is to be removed from the room.
- When a sensor fails and needs to be replaced.

The room's sensors must always be resynchronised with the energy saver after desynchronising.

Desynchronisation is **NOT** necessary in the following cases:

- When changing the sensor batteries.
- When adding a new sensor to the room.

7. TECHNICAL DETAILS

DESCRIPTION	Wireless Recessed Door/ Window Sensor for energy saver
REFERENCE	SPEIxS
POWER	AAA LR03 PREMIUM alkaline battery
BATTERY LIFE	4 years (Mean consumption 14uA, Maximum 20mA), with 20 openings and closing per day.
COMMUNICATIONS	Wireless at 2.45GHz, IEEE 802.15.4
COMMUNICATIONS COVERAGE	10m (Maximum distance to the energy saver)
INTERFACE	Red LED
MATERIAL	Poliamida PA6 – Latamid_6_H2_G_30-V0CT1
TEMPERATURE RANGE	-10° to 50°
TECHNOLOGY	Magnetoresistive sensor + Self-adhesive Magnet
MAXIMUM DISTANCE BETWEEN SENSOR – MAGNET	A minimum gap is recommended Maximum gap 20mm
DIMENSIONS (SENSOR, MAGNET)	Sensor (20mm x 55,5mm) Self-adhesive Magnet (D=25mm H= 2mm)
WEIGHT	17g

8. TIPS FOR ENVIRONMENTAL PROTECTION

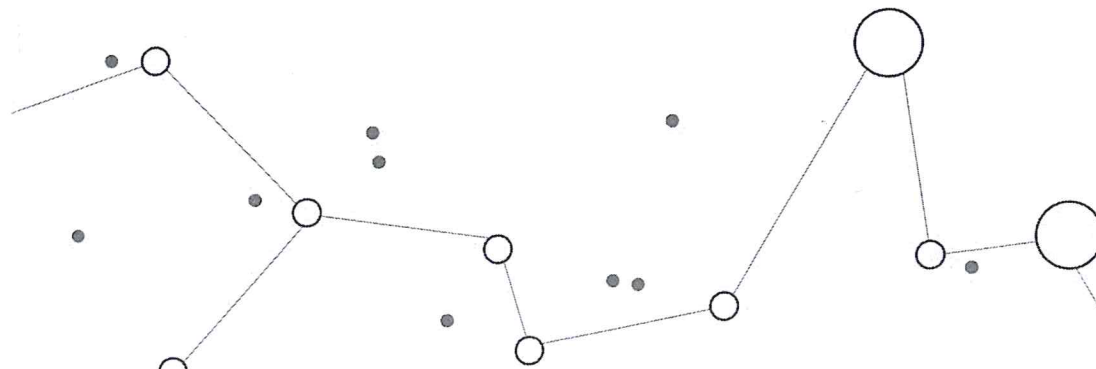


Batteries can be harmful if not properly disposed of. Protect the environment by disposing of used batteries at an authorized collection point.

Change all the batteries when the energy level is low, in order to prolong battery life.

INSTALLATION AND START-UP MANUAL

RECESSED DOOR/WINDOW SENSOR



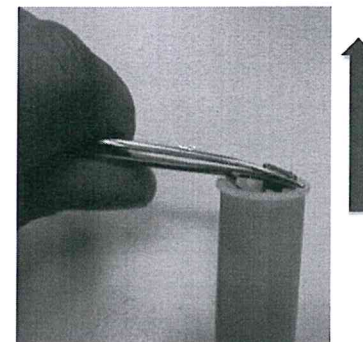
Read these instructions carefully before installing and using the recessed Door/Window Sensor, and keep them safe to resolve any queries.



GENERAL WARNINGS AND INSTRUCTIONS FOR USE.

The following rules must be complied with to ensure correct operation of our product in your facility:

1. The acquired product must be installed and used in accordance with the technical operation conditions described in the relevant manual.
2. The customer is responsible for proper use of the application.
3. Once the material is received, inspect the packaging and the material for any sign of deterioration. Also check that the delivery is complete (accessories, documentation, etc.)
4. The material must not be used if the packaging has been damaged during transport or there is a chance that it is damaged or has a fault. Contact us if this is the case.
5. Our products must be installed and handled by authorized personnel. In particular, electrical connections must only be carried out by qualified specialists.
6. Do not attempt to repair any material after a failure or damage and start it again. It is essential that you contact us in such cases.
7. No liability will be accepted for damage caused as a result of misuse.



3. Replace the battery, always using batteries from the same manufacturer. Caution: make sure you are connecting with the correct polarity. Polarity is shown on the PCB silkscreen.



Note: The battery should be inserted carefully, taking care that the battery pack is not too tight. The box should hold the battery.



Caution: make sure you are inserting the battery in the correct polarity.

4. Insert the PCB inside the sensor box, as mentioned above.
5. Please the sticker on the outside of the sensor, as mentioned above.

For example, if the energy disconnecter's relay 2 disconnection is timed for 30 seconds and the window opens, the disconnecter's relay 2 will disconnect after 30 seconds.

This disconnection is configured when initializing the room door/window detection time using the IVEW system.

Check that the set disconnection time is correct.

6. MAINTENANCE AND CLEANING

Follow these instructions to ensure a long working life for the device:

- Replace the batteries every three years or whenever a red light flashes 3 times in the sensor. Battery level can also be checked using IVEW.

Replacing batteries

The sensor alerts the user whenever the batteries are about to run flat.

The Detector indicates low battery by giving out three red 8-second flashes.

Proceed as follows to replace the batteries:

1. First remove the sticker from the sensor, proceeding with care so it does not bend.



2. Then remove the PCB from inside the sensor, it is not necessary to release the sensor box from inside the door or window.
Take care not to damage any PCB component when removing the PCB from the sensor box. Gently pulling the top battery pack out with tweezers is recommended, as shown in the following image.

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1. INTRODUCTION

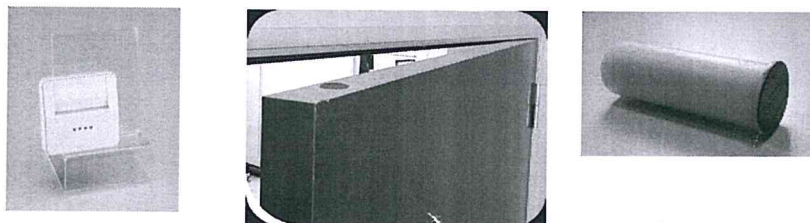
1.1 Short description

The recessed door/window sensor consists of two parts:

- Sensor which is recessed in the door or window.
- Self-adhesive magnet for door or window frames (*).

(*) There is the option of buying a magnet that can be screwed to door and window frames.

An energy saver and a disconnecter are absolutely necessary for the recessed door/window sensor to work correctly.



This product is designed to be fitted discreetly inside doors and windows, so its presence will go unnoticed.

When the door or window opens, the magnet will separate from the sensor; the sensor will then connect wirelessly to the energy saver, which is in charge of disabling the configured relay or relays (e.g. air-conditioning).

The sensor is powered by an AAA LR03 alkaline battery, with a battery life of approximately 3 years.

The detector will not emit any kind of light signal if the battery level is correct. If the battery level is low, the light indicator will flash quickly three times every 8 seconds. It also informs the energy saver/disconnector, which in turn informs the IVEW system. The door status (open-closed) and battery level can be checked at any time in the IVEW system.

If this happens, replace the battery as soon as possible.

3.2 Window sensor mode.

To configure as a window sensor:

- The pushbutton should be pressed for approximately 10 seconds. The LED will remain on as long as the pushbutton is pressed.
- When the LED goes off and there is a series of flashes, this means it has switched to window mode.
- The pushbutton should be pressed for 10 seconds to return to door option. The LED will remain on as long as the pushbutton is pressed. When the LED goes off and there is a series of flashes, this means it has switched to window mode.

3.3 Ascertaining sensor configuration mode.

The sensor's mode can be ascertained as follows:

- 1) Remove the battery from the sensor.
- 2) Wait for 5 seconds and start it up again.
- 3) If the LED stays on for 3 seconds and then flashes quickly when the battery is replaced, the sensor is in window mode.
- 4) If the battery is inserted and the LED flashes quickly, it is in door mode.

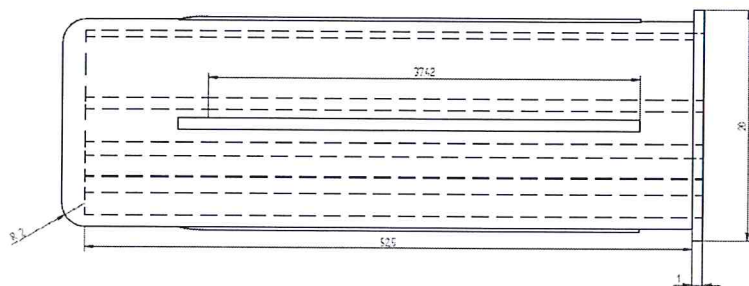
4. OPERATION

The recessed door/window sensor connects wirelessly to the iSWITCH energy saver. It can also connect to the IVEW system.

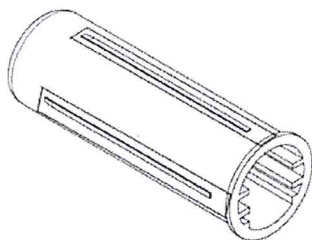
The recessed door/window sensor detects any door window opening or closing, sending the status to the energy saver wirelessly. The iSwitch will not disconnect the configured relay or relays (e.g. air-conditioning) if there is no opening.

5. ENERGY SAVER RELAY OR RELAYS DISCONNECTION TIMER

The energy disconnector's relay or relays will disconnect when the DOOR/WINDOW is open; this is configurable in 5-second multiples from 0 to 250 seconds.



There are four ribs on the outside of the sensor to ensure optimal attachment inside the door when inserting in the corresponding hole.



3. SENSOR CONFIGURATION

This configuration should be carried out in exceptional cases. The Door/Window sensor has two operation options: as a window sensor and as a door sensor, configuring the sensor in accordance with the application used.

By default, the sensor will be configured as a door sensor.

3.1 Door sensor mode.

By default, the sensor will be configured as a door sensor, as this is the most commonly used option. Synchronization with the disconnecter is as explained above.

1.2 Shipment Contents

- RECESSED DOOR/WINDOW SENSOR (Door/window sensor + Self-adhesive magnet + extra-adhesive sticker).
- Instructions and start-up manual.

2. INSTALLATION

The recessed door/window sensor will always be fitted discreetly inside the door or window (in accordance with the sensor's configuration). The steps to follow to install the recessed door sensor are detailed further below.

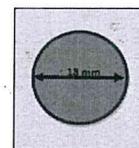
IMPORTANT! Remember that the recessed door/window sensor is designed for indoor use.

IMPORTANT! Installing in non-metal doors or windows is recommended.

2.1 Installation process in door or window

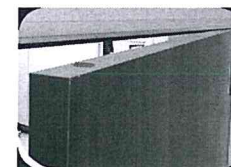
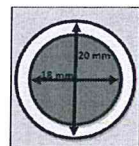
FITTING THE SENSOR

First bore a hole with an 18-millimetre bit and a depth of 55 mm in order to insert the sensor, proceeding as follows: the hole should be made in the top part of doors, or in the top part of the inside frame in the case of a window.



Solution

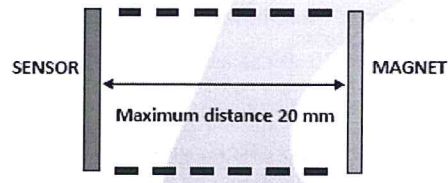
Making a one-millimeter-deep hole with a 20 mm bit is recommended to prevent the sensor from protruding when fitted in the window or door. Then drill the second hole with the 18 mm bit with a depth of 55 mm.



This will solve the problem of the sensor protruding when fitted in the door or window; these two steps can be skipped if it does not matter that the sensor protrudes once fitted.

FITTING THE MAGNET:

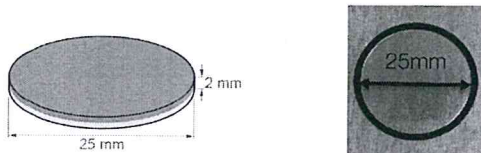
The position of the magnet and the sensor must be aligned for optimal operation. The following image shows the linearity that must be maintained between the magnet and the sensor, and also the maximum distance between them.



Note: Exceeding the 20 mm limit between the door and frame may result in loss of operation.

SELF ADHESIVE MAGNET INSTALLATION:

If you have a self-adhesive magnet, drill a hole in the frame with a 25 mm drill bit and a depth of 2 mm, so that the magnet can be inserted as follows:



The magnet itself has a self-adhesive to stick it into the hole. Before gluing the magnet, the gluing surface must be cleaned so that the magnet sticks as well as possible.

If it is not important that the magnet protrudes two millimetres from the frame, it could be glued directly to the frame, although it is advisable to make the hole, because it is more discreet, and in this way it is better attached to the surface.

Note (Sensor desynchronization)

To perform the desynchronization or erasure of the sensors in the energy saver consult the manual of the corresponding saver.

Desynchronization is necessary in the following cases:

- When one of the sensors is to be removed from the room.
- When a sensor fails and needs to be replaced.

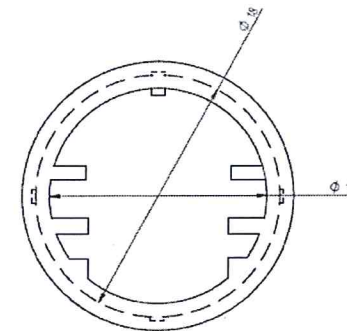
The room's sensors must always be resynchronized with the energy saver after desynchronizing.

Desynchronization is NOT necessary in the following cases:

- When changing the sensor batteries.
- When adding a new sensor to the room.

2.2 Dimensions

The sensor dimensions are detailed in the following images:



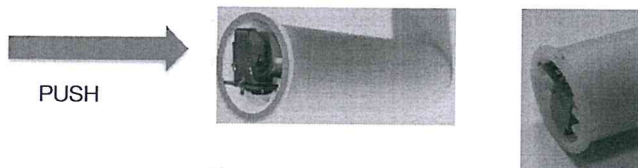
The label also has an arrow indicating the direction to insert the PCB inside the sensor box.



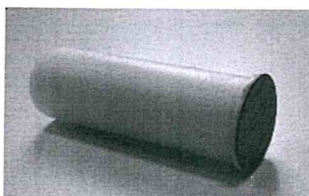
IMPORTANT! ENSURE CORRECT ORIENTATION, OTHERWISE THE SENSOR WILL NOT DETECT THE MAGNET

4. Place the sticker on the outside of the sensor.

Before positioning the sticker, push the battery pack with your finger so it does not protrude above the cover.



The sticker is 20 mm in diameter, the same as the diameter of the sensor where it is to be attached, meaning the sticker should be perfectly positioned on the sensor. See the following image.



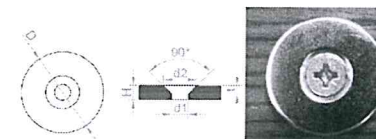
5. Fit the sensor in the door or window frame, taking into account the notes above.
6. Fit the magnet in the door or window frame, taking into account the notes above.

(*) There is the option of buying a magnet that can be screwed to door and window frames.

CHARACTERISTICS OF THE SCREW-ON MAGNET:

This magnet will not be supplied with the product unless purchased separately.

Diámetro D	23 mm
Alto H	4 mm
Taladro d1	4,5 mm
Taladro d2	9,46 mm
Avellanado t	2,48 mm



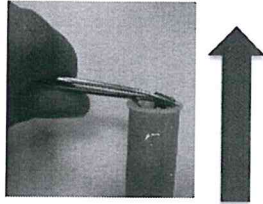
The RECESSED DOOR/WINDOW sensor should be installed in the following order:

1. Remove the PCB from the sensor box.

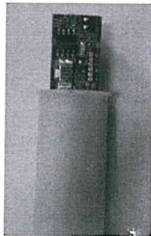
First remove the sticker from the sensor, proceeding with care so it does not bend and lose its adhesive. There is a second extra-adhesive sticker which can be used if the first one becomes deteriorated.



Take care not to damage any of the PCB's components when removing it from the sensor box. Gently pulling the top battery pack out with tweezers is recommended, as shown in the following image.



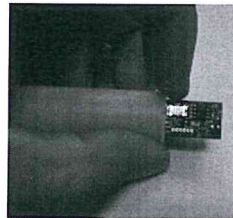
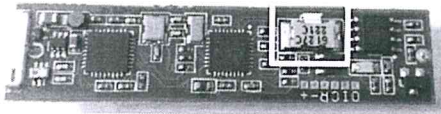
It is not necessary to remove the whole PCB from the box, just enough to be able to press the pushbutton.



2. Synchronizing the sensor and iSwitch (energy saver).

Note: Check which operation mode the sensor is configured in before synchronizing. See section 3 (SENSOR CONFIGURATION).

To enter the energy saver in **synchronization mode** consult the manual of the corresponding energy saver. Once the energy saver is in synchronization mode press the internal pushbutton from the side with your finger. The red pilot light will come on. See the following image.



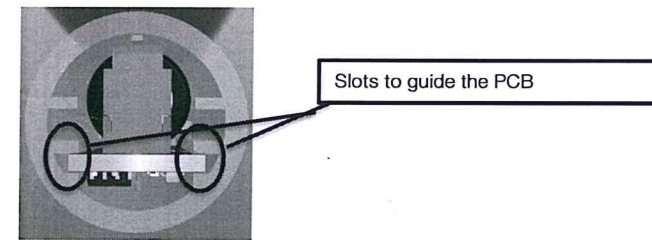
The sensor and the energy saver will then try to synchronize. Synchronization is correct when the sensor makes 25 short flashes for about five seconds. The red pilot light must go off at the end.

Repeat the steps above with all the sensors to be synchronized with the same energy saver. It is highly important not to enter two energy savers at once in synchronization mode because the sensors can be synchronized with other room.

Hold the battery when pressing the pushbutton, otherwise it may come loose from its battery pack; the battery is held most firmly inside its box.

3. Insert the PCB inside the sensor box.

There is a series of guides to introduce the PCB. See the following image.



The antenna should be located at the bottom of the box, see the image below:

