

### 5.3 Optional settings

Two parameters may be configured. They are **deactivated by default**. Note that these parameters use additional energy and are not recommended for low lit installations.

#### 5.3.1 Led blink

A red LED situated under the PIR lens blinks for each occupied telegram sent.

- To activate / deactivate blink signal, press **LRN** button during 3 seconds: **LRN** button's green LED blink one time to validate the setting.
- The new state is indicated by 3 blinks of green LED for the activation, and 3 blinks of red LED for the deactivation.

#### 5.3.2 Heartbeat

Unoccupied telegram is sent every hour.

- To activate / deactivate heartbeat signal, press **LRN** button during 5 seconds: green and red LEDs blink one time to validate the setting.
- The new state is indicated by 3 blinks of green LED for the activation, and 3 blinks of red LED for the deactivation.

### 5.4 Additional assistance (optional)

In locations where light level is low or in case of long time use in darkness, the use of a CR2032 battery or a 3 to 5V external power supply may be necessary in addition to solar cell.

- Remove the sensor from the mounting plate and chose the assistance
- Insert the coin battery in the battery holder, visible side is positive side of battery (+)
- Link the external 3 to 5V (DC) supply, respect (+) and (-) poles in screw terminals.
- Remount the sensor on the mounting plate. (see section 4.1 **Installation instruction**)

## 6. Troubleshooting

### 6.1 New or existing installation

- If the receiver functions at a shorter distance relative to the sensor, it is subject to interference or used outside the transmission range.
- Search the system environment for changes that could cause the interference (for example movement of metallic cabinets, furniture or partitions).
- Use the sensor or receiver in a more suitable location.
- Clear the receiver and perform a new learn process.

### 6.2 No telegram transmission

- Press **SET** button to transmit a telegram
- Verify that the LED blinks when a movement is detected while the coverage range test (see section 5.2.1 **Coverage range test**).
- Verify that sensor is enough charged.

### 6.3 Automatic activation of receiver

- The cause may be the activation of a sensor or transmitter that could be accidentally associated to the receiver.
- Clear the receiver and restart the association
- verify that there is at least 1.2m between sensor and heat sources to avoid detection disturbance.
- Reduce the sensibility changing switch from REG to LOW (see section 5.2.1)

### 6.4 No receiver activation or limitation of the range of the radio signals

- Transmitter/receiver used close to metallic objects or close to materials containing metallic elements. Observe a distance of at least 10 cm.
- Humidity in the materials.
- Devices emitting high frequency signals such as audio and video systems, computers, electronic ballasts or fluorescent tubes. Observe a distance of at least 0.5 m.

### 6.5 telegrams and heartbeat explanation:

- DB3: internal super cap voltage, 0 – 255 (% of 0-5V).
- DB1 : 0xFF (occupied) or 0x00 (unoccupied)
- DB2 : solar cell furnished current, from 0 to 127 µA.
- DB0 : 0x09 (wall mounted sensor)

### 6.6 Contacts

E-mail:..... [contact@trio2sys.fr](mailto:contact@trio2sys.fr)

## 7. Declaration of conformity

This product can be sold and operated in the countries of the European Union. **TRIO2SYS** hereby declares that the receiver **10020078** complies with the essential requirements and other relevant prescriptions of Directive 1999/5/EC R&TTE. For more details on the applied standards please consult website [www.trio2sys.fr](http://www.trio2sys.fr)

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O<sub>2</sub>LINE  
CONFORT

Installation and operating manual  
Wall mounting occupancy sensor



Ref. 10020078



## 1. General

### 1.1 Use

The sensors **O<sub>2</sub>LINE 10020078** are designed to detect the presence (or movement) of people.

It is a integral part of the **TRIO<sub>2</sub>SYS** radio system.

As the sensor is supplied by a solar cell, it is wireless and maintenance-free and it works without battery.

**Note:** Read the operating manual carefully before initial use.

### 1.2 Guarantee terms

This operating manual is an integral part of the device and our guarantee terms. It must always be delivered to the user.

We reserve the right to modify the technical design of these devices without warning. **TRIO<sub>2</sub>SYS** products are manufactured and their quality checked by making use of the latest technologies and taking into account the applicable national and international directives. If nevertheless a fault arises, **TRIO<sub>2</sub>SYS** undertakes to remedy the default as follows, without prejudicing the rights of the end customer that arise from the sales contract with his reseller:

If the event of exercising of a legitimate and regular right, **TRIO<sub>2</sub>SYS**, may at its sole discretion, rectify the device fault or supply a fault-free device. Any claim beyond this and all claims for consequential damages are excluded.

A legitimate fault exists if the device cannot be used at the time of delivery to the end customer because of a design or manufacturing defect or if its practical use is severely limited. The guarantee is void in cases of natural wear and tear, incorrect use, incorrect connection, where the device has been repaired or external influence. The period of guarantee is 24 months (from the date of invoicing). French law applies to the regulation of guarantee rights.

### 1.3 Recycling of the device



To recycle the device, conform to the legislation and standards in force in the country of use.  
The casing is made from recyclable plastic.

## 2. Safety

### Observe the following points:

- The laws, standards and directives in force.
- Best practice at the time of installation
- The device operating manual.
- An operating manual can only give general instructions. They must be interpreted in the context of a specific installation.

The device is intended solely for use conforming to its purpose. Any repairs or modifications by the user are forbidden! Do not use with other devices the operation of which could endanger people, animals or property.

## 3. Technical characteristics

### General characteristics

Transmission frequency	868,3 MHz
Power supply	Solar Cell (50-200 lux), CR2032 battery in option (<50 lux) or external power supply 3-5V (DC)
Minimum charging time	20 minutes (>500 lux) or 5min in a well-lit location with assistance
Time to full charge	9h at 200 lux

<b>Operating life in total darkness</b>	48h (after full charge)
<b>Motion sensing range</b>	15m (large range motion sensing) 30m (long range motion sensing)
<b>Additional battery lifetime</b>	(free working)
• <b>Standard luminosity</b>	20 years (200lux during 2h/ day, 5 days /week)
• <b>Low luminosity</b>	15 years (50lux during 5h/day, 7 days /week)
• <b>Total Darkness</b>	6.5 years
<b>EnOcean Equipement Profile</b>	A5-07-01
<b>Hauteur de montage</b>	1.8 to 2.5m (recommended)
<b>Environment</b>	-10° to 40°C, 20 to 95% relative humidity (non-condensing)
<b>Conformity</b>	CE and R&TEE directive 1999/5/CE
<b>Dimensions and weight</b>	148x64x45.7mm / 116g
<b>Range in buildings</b>	
<b>Masonry</b>	20m, through 3 walls at most
<b>Reinforced concrete</b>	10m, through 1 wall/ceiling at most
<b>Plasterboard / wood</b>	30m, through 5 walls at most

**Note:** The signal strength between the transmitter and the receiver decreases as the distance increases. Where there is a line of sight connection, the range is approximately 30 m in corridors and 100 m in large workshops or halls. The range can be increased with an **O<sub>2</sub>LINE** repeater.

#### 4. Installation and initial use



Take time to verify all the point hereunder to have an optimal functioning of the sensor with all other components of the installation.

##### 4.1 Installation instructions:

**⚠** Never mount the sensor in a metallic casing or close to a largely metallic object. Installation on the ground or close to the ground is not recommended

- Be sure that the place is well lit.
- Locate the sensor between 1.8 and 2.5m high.
- Consider the principal use of the place to watch over.
- Provide a minimum clearance of 1m away from any heat source (light bulb, ventilation system...)
- Secure the base by screwing.

The devices are supplied in an operational state but will probably require recharging, following storage of the radio sensors in the dark.

- Prior to first use, charge the sensor's power reserve using light with an illumination of at least 200 lux for 20 minutes. Eventually, insert a CR2032 battery during 5 minutes in a well-lit location.

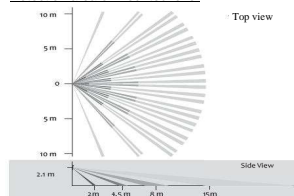
**Note:** The device is designed for internal use. To clean, use a damp cloth!

The occupancy sensor has a sufficient coverage for most of the locations, but for some applications several sensors may be needed.

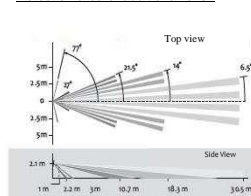
##### 4.2 Initial use:

The occupancy sensor can be mounted on the most of the walls with screws (supplied)

##### Detection area of mounted lens:



##### Detection area of additional lens :



1. Stick the sensor with the adhesive (non supplied) and use test modes (see section 5.2) to see if the chosen location is appropriated.
2. Remove the mounting plate off the sensor **(1)**
3. Use the mounting plate (1) to mark where to drill and drill the holes for 5mm wall anchors
4. Mount the support using the screws (supplied)
5. Place the sensor on the mounting plate

**Note:** It is often easier to associate sensor to its receiver before mounting it on the wall.

##### 4.3 Association:

To associate or clear the sensor:

1. Be sure that the receiver is in learn mode (see installation manual of the receiver)
2. Press one time the LRN button of the occupancy sensor.

#### 5. Controls and functions

**1002078** sensors transmit the measured occupancy using the frame described in the EnOcean Equipment Profiles EEP2.5 document §A5-07-01 (consultable under [www.enocean.com](http://www.enocean.com)).

##### 5.1 Occupancy detection:

The sensor is equipped with a permanently active PIR sensor. If a movement is detected, a radio telegram with the occupied status is sent immediately and a 2-minutes timer starts (no telegram will be sent during this time). At the end of these 2 minutes, the sensor has 2 possibilities of acting :

- a) If a movement is detected, a telegram is transmitted and the timer starts again.
- b) No movement is detected, the sensor transmit two telegrams to indicate that the place is unoccupied. The first one after 10minutes, and the second one 30minutes after the last occupied transmission. If a movement is detected during this state, an occupied message is transmitted **immediately**.

##### 5.2 Testing modes:

Before starting any test, be sure that the sensor is charged enough (see section 4.1 **Installation instructions**).

**Note:** - If the sensor is not charged enough, it will not enter the chosen test mode : it will red blink by using the SET button (it will green blink if sensor is enough charged)

- After pressing the button, the test mode will be activated during 3 minutes.
- To quit the test mode, press LRN button.

##### 5.2.1 Coverage range test

Use this test to determine the range coverage of the occupancy sensor.

1. Press SET Button for 5 seconds: a red LED will blink to confirm the entering in coverage range test.
2. Move in and out the range of the sensor to determine the coverage range. The sensor blinks when a movement is detected.
3. Do small hand movements just at the limit of the area to see if it is detected.

**Note:** Be sure that the sensor detects nothing because of activity outside the desired coverage area or because of heat sources. If there are inconvenient detections, change the switch from REG to LOW (back of the sensor near the additional battery placement).

##### 5.2.2 Light test

Use this test to measure the light level received by the sensor.

1. Press SET button during 10 seconds: green and red LEDs blink to confirm the entering in light test.
2. Look at LED blink sequences to determine the light level :
  - 5 blinks at most means a very good lightening (200lux or more)
  - 1 blink at least means a low lightening (less than 25 lux)
3. If more lightening is needed, change the location or the orientation.

**Note:** If there is no blinking, change the location of the sensor or add an additional CR2032 battery.

