

5. Controls and functions

10020057.xx detectors transmit the state of the dry contact using the frame described in the document EnOcean Equipment Profiles EEP §D5-00-01 (consultable under www.enocean.com).

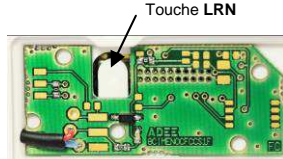
5.1 Detection:

Each time the dry contact changes state, open to closed or vice-versa, a radio signal is immediately transmitted. Moreover a signal containing the state of the contact will be sent approximately every 15 minutes.

5.2 Programming and LRN button:

Switch the receiver to learn mode and by pressing the **LRN** button placed behind the sensor, initiate the sending of an association frame.

Where the sensor is located on its base, it must first of all be unplugged from the base to allow access so that it can be placed closed to the matched receiver during the identification or association phase (the receiver having reduced sensitivity during this phase).



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 use 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 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.

6.3 Contacts

E-mail:..... contact@trio2sys.fr

7. Declaration of conformity

These products can be marketed and distributed in the countries of the European Union,

Switzerland, Iceland and Norway. **TRIO₂SYs** hereby declares that the sensors **10020057.xx** conform to the base requirements and other applicable requirements of the directive 1999/5/CE referred to as R&TTE.

TRIO₂SYs sarl – 8 grande rue le village 21160 FLAVIGNEROT



Installation and operating manual Wired dry contact sensor



Ref. 10020057.xx

1. General

1.1 Use

Sensors **O₂LINE 10020057.xx** are designed to detect any changes in state of equipment having a dry contact output, normally open (preferred) or normally closed. They are used to connect any products reporting an On-Off state to the EnOcean protocol where it is either not desired or not possible to connect them via a wired connection.

The sensor is equipped with a wire that can be connected to the dry contact. The sensor is supplied by a solar cell and consequently is maintenance-free. As soon as the dry contact changes state (open to closed or vice-versa) a radio signal is immediately transmitted. Moreover the signal is retransmitted every 15 minutes.

Before any use, the sensor must be associated with a receiver (maximum 2 sensors). Each sensor can control an unlimited number of receivers.

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. **TRIO₂SYs** 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, **TRIO₂SYs** 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 **TRIO₂SYs**, 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.

2. Safety



WARNING! Risk of electric shocks! (See UTE C18-150) Where a connection is made to an equipment item which is not connected to a very low safety voltage (TBTS) or via an autonomous power supply, a fault in or lack of insulation of the latter could cause injuries in the event of accidental contact; this includes contact with our sensor! All work on the mains supply network and the connected device must only be carried out by authorised professional technicians.

- Before carrying out any work, switch-off and isolate the device.
- Secure the device to prevent it being switched back on.
- Check the device is in a zero-volts state.
- Carefully reclose the casing before reconnecting to mains power.

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.

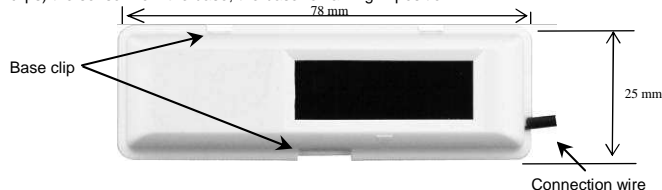
3. Technical characteristics

General characteristics	
Transmission frequency	868.3 MHz
Transmission power	10 mW max.
Detection frequency	0.5 Hz max.
Detection current	1µA max.
Distance Equipment/Sensor	1 meter maximum
Dry contact resistance	Open 5MΩ min. - Closed 1KΩ max.
Wire length	0.5m
Ambient temperature	from -10°C to +60°C
Storage temperature	from -20°C to +60°C
Illumination	>100 lux on average per day
Conformity	CE
Degree of protection	IP40 (socket and connector in place)
Range in buildings	
Masonry	20m, through 3 walls at most
Reinforced concrete	10m, through 1 wall/ceiling at most
Plasterboard / wood	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 **O₂LINE** repeater.

4. Installation and initial use

The sensor is supplied on a base which as well as installation allows a learn process to be performed close to the matched receiver by separating (using a small screwdriver to depress the clips) the sensor from the base; the base remaining in position.



4.1 Installation instructions:



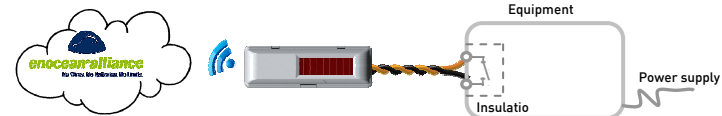
Never mount the sensor in a metallic casing or close to a largely metallic object. Installation on the ground or close to the ground is not recommended

- Secure the base of the sensor by gluing or screwing.
- Place the sensor on its base until it engages.
- Crimp the connection wires to the dry contact on the connector.

4.2 Connection:

The sensor is designed for connection to equipment having a dry contact output, normally open (preferred) or normally closed. Indeed, wiring connected to a normally closed dry contact, requires a continuous detection current for detection of a change in state of the contact and consequently results in a considerable reduction in autonomy.

For equipment not classified class 3 in the sense of the standard IEC 60950-1 (electrical protection class for equipment operating at a very low safety voltage, TBTS 50V max.) the contact output must have insulation of at least 3800V relative to the equipment power supply lines.



4.3 Initial use:

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 illuminance of at least 200 lux for 5 minutes or more.
- Ensure that averaged across the day, the mean illuminance is 100 lux/d.
- The sensor's operating power reserve (when fully charged) in conditions of total darkness is 7 days (normally open dry contact).

Note: The device is designed for internal use. Do not install it in locations that could be sprayed by water! To clean, use a damp cloth!