

## Installation and operating manual Modular switch receiver 1 channel 5A

Ref. 10020070



### 1. General

#### 1.1 Use

The 1 channel modular switch receiver 0<sub>2</sub>LINE 10020070 is used to receive radio signals from switch transmitters or sensors 0<sub>2</sub>LINE (see compatibility table §6.1). It is used for switching loads, e.g. incandescent, halogen, power contactor or small motors. Thanks to its output changeover contact, it enables, through simple cabling, the changeover (of the power supply) of the load for applications such as switching the heating off upon opening of the windows.

Before any use, the transmitters must be allocated to a receiver. Each sensor or transmitter 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. 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 guarantee period 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) The device contains live internal components. Risk of wounds or injuries if contact occurs! All work on the mains supply network and the 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
Category receiver	2
Power supply	230V ~ / 50 Hz
Terminal capacity	1x1,5 <sup>2</sup> to 2,5 <sup>2</sup> max rigid
Output (zero potential)	max 5A/1100VA resistive (cos φ=1) ⊗ 400W incandescent/halogen ⊙ 150W inductive (cos φ= 0,4 à 0,6)
1 changeover contact micro distance (μ)	
opening contacts, I <sub>min</sub> =100mA	
Ambient temperature	from -10°C to +45°C
Storage temperature	from -20°C to +80°C
Ambient humidity	from 0 to 75%hr (without condensation)
Degree of protection	IP20 with plastron
Installation altitude	2000m max.
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

**Remarque:** 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 30m in corridors and 100 m in large workshops or halls.

The range can be increased with a 0<sub>2</sub>LINE repeater.

### 4. Installation and initial use

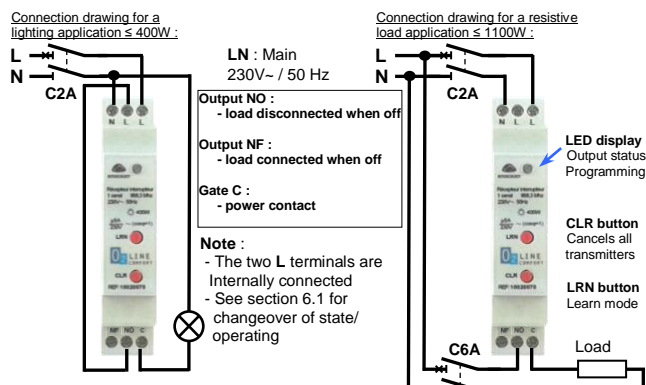
#### 4.1 Safety instructions

The installation and initial use must only be performed by authorised qualified electricians. The electrical installation must be placed off-load before connection it to the mains (230V~/50Hz). Conform to the legislation and standards in force in the country of use.

#### 4.2 Installation

- This product is designed for indoor use. It is maintenance free.
- This product is intended for installation only on horizontal DIN rail, in an electrical panel (mounted on a vertical wall) with compulsory installation of a plastron which will be connected to the ground of the installation if it is metallic.
- For compliance with the standard reference, height of the plastron (compared to the above DIN rail) must not exceed 48mm with a minimum thickness of 1mm.
- NEVER install the receiver in a metal casing or in the immediate vicinity of large metallic objects.

- Installation on the ground or close to the ground is not recommended. Thank you to refer to the installation standards of each country.
- The receiver has one zero-volt changeover output: **NF-C** is the open contact, **C-NO** is the close contact.
- Protect the supply line with a circuit breaker **2A curve C** adapted to the installation place.
- For the controlled power over 400W, the output contact must be supplied with the same supply line as the product, but protected separately with a circuit breaker **2A curve C** adapted to the installation place.



#### 4.3 Initial use

- Connect power to the electrical installation after it has been installed.
- Program the transmitter on the receiver (see § 5).

### 5. Programming

For programming the receiver must be connected to the mains. The programming is conserved during a power failure.

A small insulated screwdriver shall be used on the unit to activate the LRN or CLR buttons.

#### 5.1 Programming mode or transmitter deletion mode



**N.B.!** A transmitter must not be further away than 5 m from receiver in learn mode. The receiver has a limited range !

To enter the programming mode, short press (approximately 0,5s) the LRN button. This mode is confirmed by the regular flashing of the LED.

a) To associate a transmitter simply press on one of the switches or press the LRN button (see §6.2). The receiver will acknowledge its recording in memory by maintaining the LED on for 4 seconds. As soon as flashing LED starts again, another transmitter can be associated or cleared.

b) To clear a transmitter simply press on one of the switches or press the LRN button of the desired sensor (see §6.2). The receiver will acknowledge its clearing off the memory by maintaining the LED off for 4 seconds. As soon as flashing LED starts again, another transmitter can be associated or cleared.

To exit programming mode, short press (approximately 0,5s) the LRN button. The output is confirmed by the stopping of regular flashing of the LED.

#### Notes:

- No transmitter is programmed in the receiver as supplied state.
- When using BMS products, mono or multi-channel, programming must be performed alone and channel by channel: you must exit the programming mode between each channel, by short press the LRN button and within 5 seconds after the start of LED acquittal.
- Up to 32 switch, transmitters and sensors can be allocated to each channel.
- If the memory is full, the receiver exits programming mode upon an additional association attempt.
- The transmitters are alternatively programmed or cleared in the event of several activations!
- If no button is pressed, learn mode stop automatically after 30 s.

#### 5.2 Clearing off all the programmed transmitters

Press the CLR button for approximately 2s. Clearing is confirmed by the regular flashing of LED. The receiver returns automatically to programming mode.

To exit programming mode, short press (approximately 0,5s) the LRN button. The output is confirmed by the stopping of regular flashing of the LED.

### 6. Control and functions

Each receiver can receive up to a maximum of 32 transmitters, switches or sensors. Upon allocating on the selected output the first transmitter or sensor, the operating mode is defined. The operating mode cannot be changed until all the transmitters (the two outputs) have been cleared using the CLR button.

**Switch mode:** Each transmitter can be used to change the switching state, of the associated output of the receiver. It is possible to switch ON (button I) with a switch and OFF (button O) with another switch.

**Window contact mode (D5-00-01):** If at least one of the window contacts is open, this activates ON the associated output of the receiver. If all possible window contacts are closed, the associated output of the receiver is OFF. The window contacts transmit a signal approximately every 15 minutes. 60 minutes after receipt of the last signal received, the receiver considers this contact closed.

#### 6.1 Compatible transmitters







The following transmitters can be associated with the receiver 0<sub>2</sub>LINE 10020070:

Designation	0 <sub>2</sub> LINE reference	EEP Profile *
Switch	10020001, 10020019, 10020022	F6-02-01
Key card	10020067	F6-04-01
Window Handle	10020011	F6-10-00
Window contact	10020032, 10020042	D5-00-01
Dry contact sensor	10020047, 10020057	D5-00-01
Occupancy Sensor	10020051	A5-07-01

(\*) frame description is described in the EnOcean Equipment Profiles EEP2.6 document (available on <http://www.enocean.com>).

## 6.2 Transmitter associated functions (switch mode)

The functions associated with different sensors are determined during learning. The learning process (Cf § 5.1) is to do before activating the transmitter.

designation	Learning	Function obtained*
	Button 1 (2, 3 or 4) : pressed <u>and</u> released <u>before</u> visual acknowledge	Button 1 (or 3) : ON Button 2 (or 4) : OFF
	Button 1 (2, 3 or 4) : pressed <u>and</u> released <u>after</u> visual acknowledge	Button 1 (2, 3 or 4) : Transition from ON to OFF and vice Versa (Switch mode only §6)
	Button 1 (2, 3 or 4) : pressed <u>and</u> released <u>before</u> visual acknowledge followed by, pressed <u>and</u> released <u>after</u> visual acknowledge	Button 1 (2, 3 or 4) : pressed : ON released : OFF
	Card inserted <u>before the entry into</u> learning mode, <u>removed</u> (in learning mode) <u>then</u> reinserted	Card inserted : ON
		Card removed : OFF
	Closed to opened <u>or</u> opened to closed	Tilt to opened : no change
		Opened to tilt : no change
		Closed to opened : OFF
		Opened to closed : ON
	Press the LEARN button	Magnet away : ON
		Magnet near : OFF
	Press the LEARN button	Contact closed : OFF
		Contact open : ON
	Press the LEARN button	Detection (PIR = On) : ON
		Detection (PIR = OFF) : OFF

Note \*: The ON state corresponds to the lighting of the LED (on the front of the product), contact closure output NO and the opening of the output contact NF.

## 7. Troubleshooting

### 7.1 New or existing installation

- Check the circuit breaker, the electrical supply and the load connected to the receiver associated with this sensor (qualified electricians).
- Check the connected load and the connecting cables (qualified electricians).
- 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 locations.
- Clear the receiver and perform a new learn process.

### 7.2 Automatic activation of the receiver

- The cause may be the activation of a sensor external to the system which has by chance been programmed on the receiver.
- Clear the receiver and perform a new learn process.

### 7.3 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 10cm.
- Humidity in the materials.
- Device emitting high frequency signals such as: audio and video systems, computers, electronic ballasts or fluorescent tubes. Observe a distance of at least 0,5m.

### 7.4 Contacts

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

## 8. Declaration of conformity

This product can be marketed and distributed in the countries of the European Union. Hereby **TRIO<sub>2</sub>SYs** declares that the receiver **10020070** conforms to the essential requirements and other applicable requirements of the directive 1999/5/CE referred to as R&TTE.

More details about the applied standards on website: [www.trio2sys.fr](http://www.trio2sys.fr).

D.Girard