**CDVI** WIRELESS

## 1 Introduction



Fig. 1

**F1001000094**

## RECEIVER SEL128R433-WPL

ERONE THE SMART LIVING

The type SEL128R433-WPL (Fig. 1) is a very high security superheterodyne receiver with GFSK demodulation.

The high degree of security is ensured by a 128-bit serial number, with a AES128 encryption and by a proprietary "rolling code algorithm" that avoids the risk of the scan and the subsequent retransmission of the code copied. A special system keeps aligned transmitter and receiver.

An innovative feature allows to set up the autostore capability of a new transmitter using a remote control already in memory, which enables it by proximity.

This avoids to access the receiver for memorizing a new remote control.

*The equipment is manufactured in accordance with the European Directives 2014/53/EU and to the Standard EN 60950-1.*

*The full text of the EU declaration of conformity is available at the following internet address: www.erone.com*

## 2 Technical Specifications



Fig. 2

123

81,5

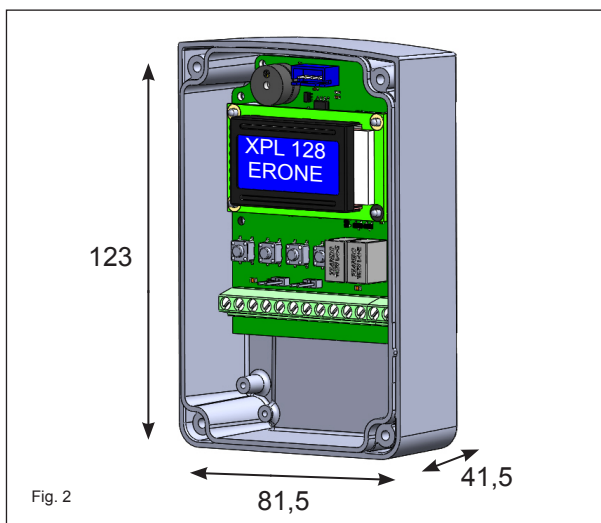41,5

XPL 128 ERONE

Operating frequency ..........................................433,92 MHz
Demodulation ...................................................GFSK
Sensitivity ( for good signal ) .............................-115 dBm
Power supply: ..................................................12/24 Vac/dc
Current consumption ( @12 Vdc ).....................from 25 to 50 mA (max)
Encryption.......................................................AES128 bit
Wiegand protocols supported...........................26 - 30 - 44 bit
Memory capacity ...............................................500 s/n
Relays..............................................................2 x 24 VA - max 48Vdc
Relay operating mode .....................................pulse , step, delayed
Delay ..............................................................from 1 sec. to 23 h : 59 min
Retransmission period over wiegand bus...........from 100 mS to 2 Sec.
Relay pulse .....................................................300 mS
Operating temperature: ....................................-10 ÷ +60°C
Enclosure IP protection: ...................................IP55
Dimensions:......................................................120 x 80 x 40 mm
Weight .............................................................65 gr.

## 3 Mounting



Drill the placing surface with ø6 tool and insert the 2 plugs

Then fix the support with the screws provided

Option A ) make a hole ( ø11 mm ) on the bottom of the box and pass the cables throught

Option B ) Use of PG7 cable glands (not provided )

XPL 128 ERONE

Fig. 3

**CDVI**
*WIRELESS*
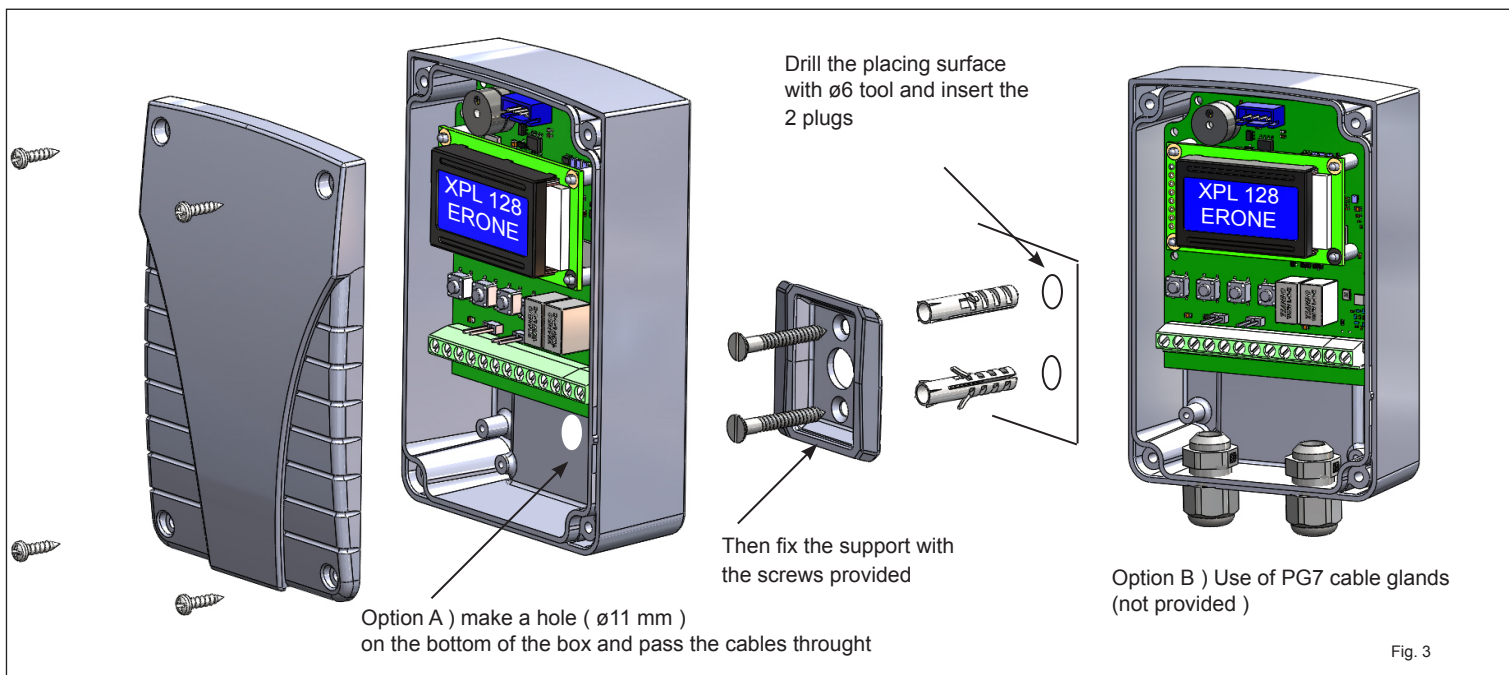
## 4  Layout ,Wiring & Display Legend

Buzzer

**P3 : enter the menu ( 4 sec.) or confirm the choice**

**P1, P2 : navigate the menu**

**P4 : back to upper level**

Connector for backup memory

Backlit LCD Display

XPL 128
ERONE

*Pull-UP Wiegand*

**J2 ON = 9V**

**J2 OFF = 5V**

P1  P2  P3  P4

+12/24 Vac/dc

GND

*Wiegand*  GND  D0  D1  R1  R2  **RG58**  Fig. 4
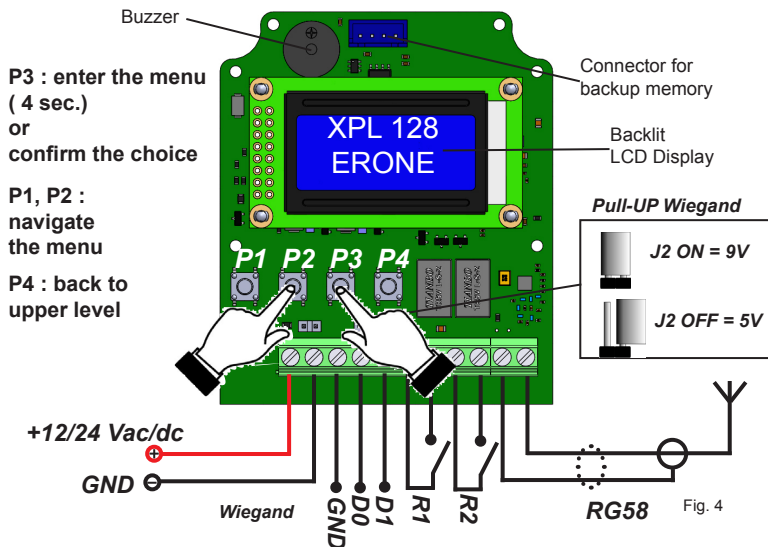
**Example 1: TX reception**

| 5 | 5 | 6 | 7 | 1 | 4 | 3 | 5 |
|---|---|---|---|---|---|---|---|
| R | 1 | a | b | c | d | R | 2 |

← **TX Serial number**

**Button activated a, b, c or d**      **Relay activated**

**Example 2 : Status of the relays**

| R | 1 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| P | U | L | S | E | | | | | |

**Relay 1 : Pulse**

| R | 1 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| S | T | E | P | | | | | | |

**Relay 1 : Step**

| R | 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | : | 0 | 1 | : | 0 | 5 | | |

**Relay 2 : Timed**

| R | 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| D | I | S | A | B | L | E | D | | |

**Relay 2 : Disabled**

**Delay setting**

| h | h | | m | m | | s | s |
|---|---|---|---|---|---|---|---|
| 0 | 0 | : | 0 | 0 | : | 0 | 1 |

**The factory value for the timing is 1 sec. Use P1 to scroll the digits and P2 to confirm**
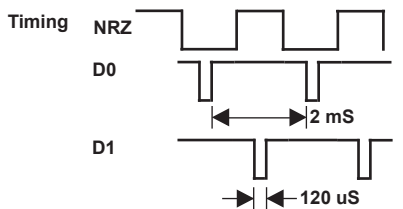
## 5  Compatible transmitters

Erone - S3TR128E2, S3TR128E4

## 6  Warnings

The receiver allocation is very important for the best operation of the system. Place the receiver far from interference sources such as big magnetic fields or radio emissions. The installation and the positioning of the antenna is very important as well. Before installing the antenna it's advisable to make some tests on the site.
- The equipment must be powered from a device that provides a safety extra low voltage (SELV) type LPS ( Low Power Source);
- There must be a suitable disconnecting device to the current drawn by the receiver (90 mA max @ 12Vdc).

## 7  Wiegand protocol

Timing  NRZ

D0

2 mS

D1

120 uS

**TX Button encoding**

| Button A | 0001 |
|----------|------|
| Button B | 0010 |
| Button C | 0100 |
| Button D | 1000 |

**Frame architecture 30 bit**

| P1 | Button | TX serial number | P2 |
|----|--------|------------------|----|

P1 = Parity even calculated over the first 14 bit : First bit coming out
Button = 4 bit; Serial Number = 24 bit
P2 = Parity odd calculated over the last 14 : Last bit coming out

**Frame architecture 26 bit**

| P1 | Button | TX serial number | P2 |
|----|--------|------------------|----|

P1 = Parity even calculated over the first 12 bit : First bit coming out
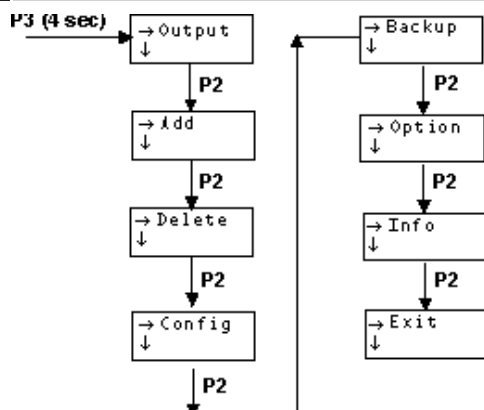Button = 4 bit ; Serial Number = 20 bit.
P2 = Parity odd calculated over the last 12 bit: Last bit coming out

**Frame architecture 44 bit**

| 0000 | Button | TX serial number | CRC |
|------|--------|------------------|-----|

Button = 4 bit;
Serial Number = 32 bit
CRC = 4 bit

## 8  Programming / Navigation menu

P3 (4 sec)
→ Output ↓
P2
→ Add ↓
P2
→ Delete ↓
P2
→ Config ↓
P2

→ Backup ↓
P2
→ Option ↓
P2
→ Info ↓
P2
→ Exit ↓

**Output**: select the type of output : relay or wiegand

**Add**: Add transmitters s/n to relay individually or by block

**Delete TX** : Delete a single transmitter, the button of a transmitter, a transmitter from a list , all transmitters, reset the receiver to factory default.

**Config:**
- Set relay operating mode  ( pulse , step, timed, disable )
- Set relay delay time
- Set wiegand format, delay & button filter

**Backup to** : data backup to an external memory
**Restore from** : data restore from an external memory

**Option :**  Autoinstalling function
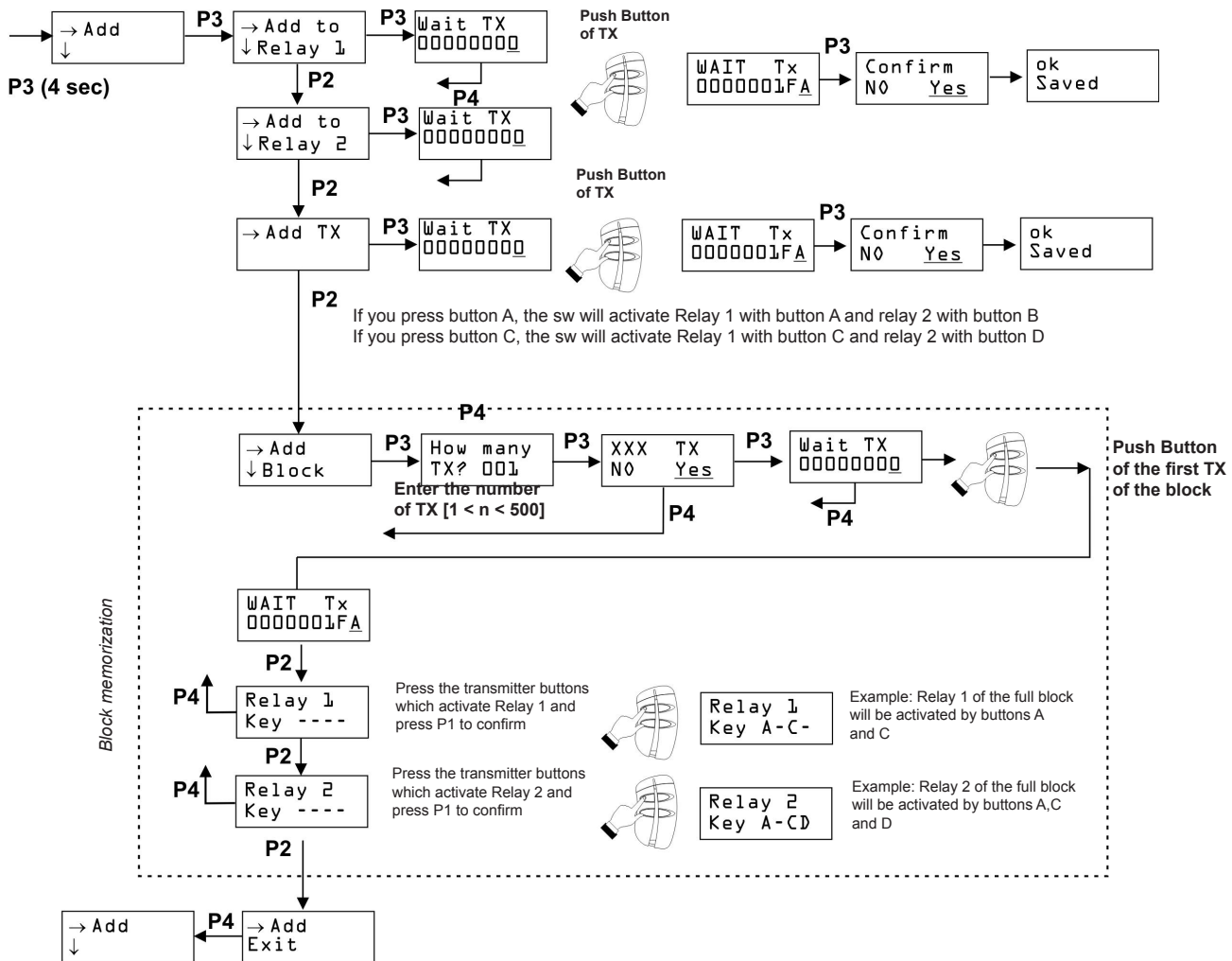**OFF** : Autoinstalling disabled
**ON** : Autoinstalling limited to 15 attempts ( see chapter 13 )
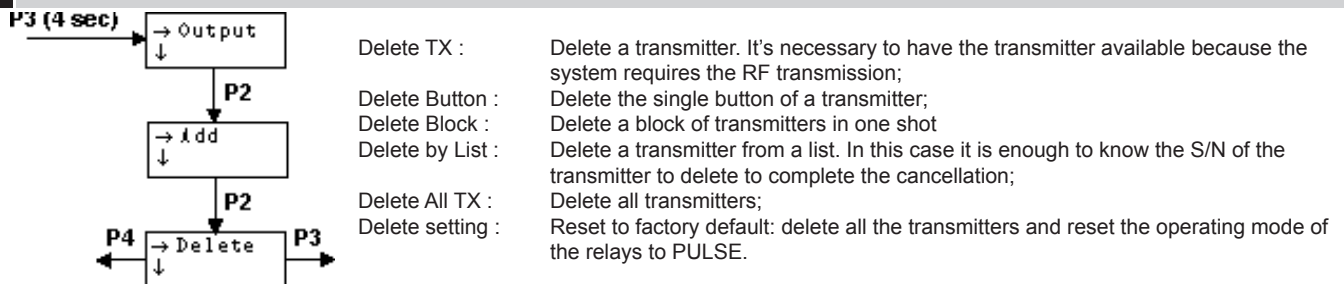
**Info relays** : Display operating mode of the relays, number of Tx memorized, the of Transmitters, the SW release.
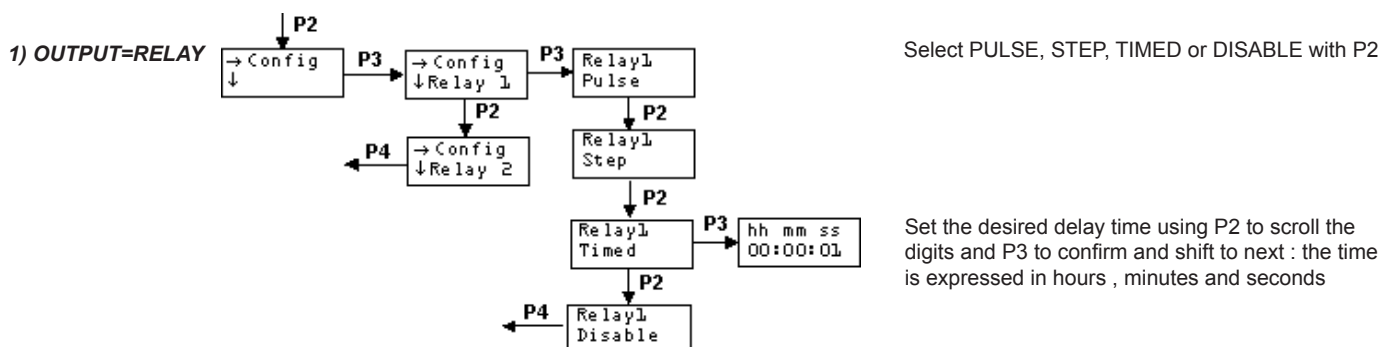**Info wiegand**: display the bit architecture and the delay, the TX button filter

*For all the options, use P3 to confirm P2 / P1 to scroll (down / up) and P4 to return to upper level*

**CDVI**
*WIRELESS*

## 9  Menu Add

→Add ↓ —**P3**→ →Add to ↓Relay 1 —**P3**→ Wait TX 0000000□

**P3 (4 sec)**

**P2** ↓

→Add to ↓Relay 2 —**P3**→ Wait TX 0000000□

**P4**

**Push Button of TX**

WAIT Tx 00000001FA —**P3**→ Confirm NO  Yes —→ ok Saved

**P2** ↓

→Add TX —**P3**→ Wait TX 0000000□

**Push Button of TX**

WAIT Tx 00000001FA —**P3**→ Confirm NO  Yes —→ ok Saved

**P2** ↓

If you press button A, the sw will activate Relay 1 with button A and relay 2 with button B
If you press button C, the sw will activate Relay 1 with button C and relay 2 with button D

*Block memorization*

**P4**

→Add ↓Block —**P3**→ How many TX? 001 —**P3**→ XXX  TX NO  Yes —**P3**→ Wait TX 0000000□ —→ **Push Button of the first TX of the block**

**Enter the number of TX [1 < n < 500]**

**P4**        **P4**

WAIT Tx 00000001FA

**P2** ↓   **P4**

Relay 1 Key ----

Press the transmitter buttons which activate Relay 1 and press P1 to confirm

Relay 1 Key A-C-

Example: Relay 1 of the full block will be activated by buttons A and C

**P2** ↓   **P4**

Relay 2 Key ----

Press the transmitter buttons which activate Relay 2 and press P1 to confirm

Relay 2 Key A-CD

Example: Relay 2 of the full block will be activated by buttons A,C and D

**P2** ↓

→Add ↓ ←**P4**— →Add Exit

## 10  Menu Delete

P3 (4 sec) → →Output ↓

**P2** ↓

→Add ↓

**P2** ↓

←**P4**— →Delete ↓ —**P3**→

Delete TX :          Delete a transmitter. It's necessary to have the transmitter available because the system requires the RF transmission;
Delete Button :      Delete the single button of a transmitter;
Delete Block :       Delete a block of transmitters in one shot
Delete by List :     Delete a transmitter from a list. In this case it is enough to know the S/N of the transmitter to delete to complete the cancellation;
Delete All TX :      Delete all transmitters;
Delete setting :     Reset to factory default: delete all the transmitters and reset the operating mode of the relays to PULSE.
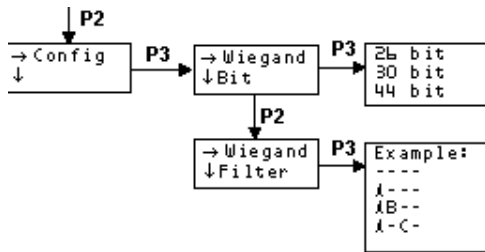
## 11  Menu Config

It changes options according to the first choice : **OUTPUT=RELAY** or **OUTPUT=WIEGAND.** It allows to set the operating mode of the relays R1, R2, as Pulse, Step or Timed. In case of Timed it's possible to set the delay time from 1 sec. to 24h: 59 min.

**P2** ↓

*1) OUTPUT=RELAY*   →Config ↓ —**P3**→ →Config ↓Relay 1 —**P3**→ Relay1 Pulse

**P2** ↓

←**P4**— →Config ↓Relay 2

Relay1 Step

**P2** ↓

Relay1 Timed —**P3**→ hh mm ss 00:00:01

**P2** ↓

←**P4**— Relay1 Disable

Select PULSE, STEP, TIMED or DISABLE with P2

Set the desired delay time using P2 to scroll the digits and P3 to confirm and shift to next : the time is expressed in hours , minutes and seconds

# 11 Menu Config ( follows )

**2) OUTPUT= WIEGAND**



**Bit**: Set the desired bit number of the wiegand architecture 26, 30 or 44 bit

**Filter:** If this parameter is not specified ( value shown = "- - - -" ) the wiegand signal exits always, for any button of the remote control activated.
If a value is entered, example ("A - - - "), the signal wiegand exits only if has been pressed the button A of the remote control. In this way the receiver acts as a filter, accepting only the buttons selected of the transmitter. Entering ("A B C D") all the buttons are enabled.
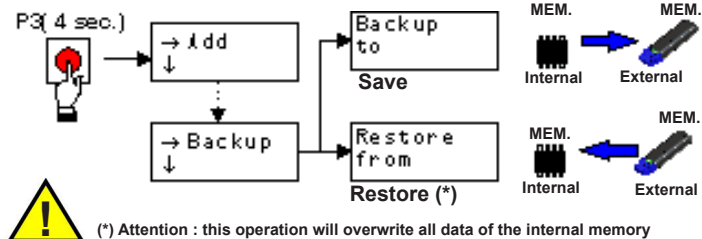
**NOTE** : The S/N of the transmitter ( and the button information ) is forwarded on the wiegand bus <u>only</u> if the transmitter has been memorized ( ref. ADD option in the menu) . ***Without any memorization the wiegand signal is disabled.***

# 12 Backup / Restore

Plug-in the memory in the proper receiver connector

**SEL128-MXPL**
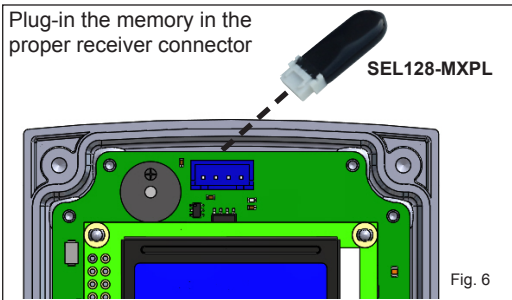
Fig. 6

Allows to create a backup of the memory data base and save it onto an external memory ( fig. 6). ***The data-base saved or restored includes the configuration settings.***
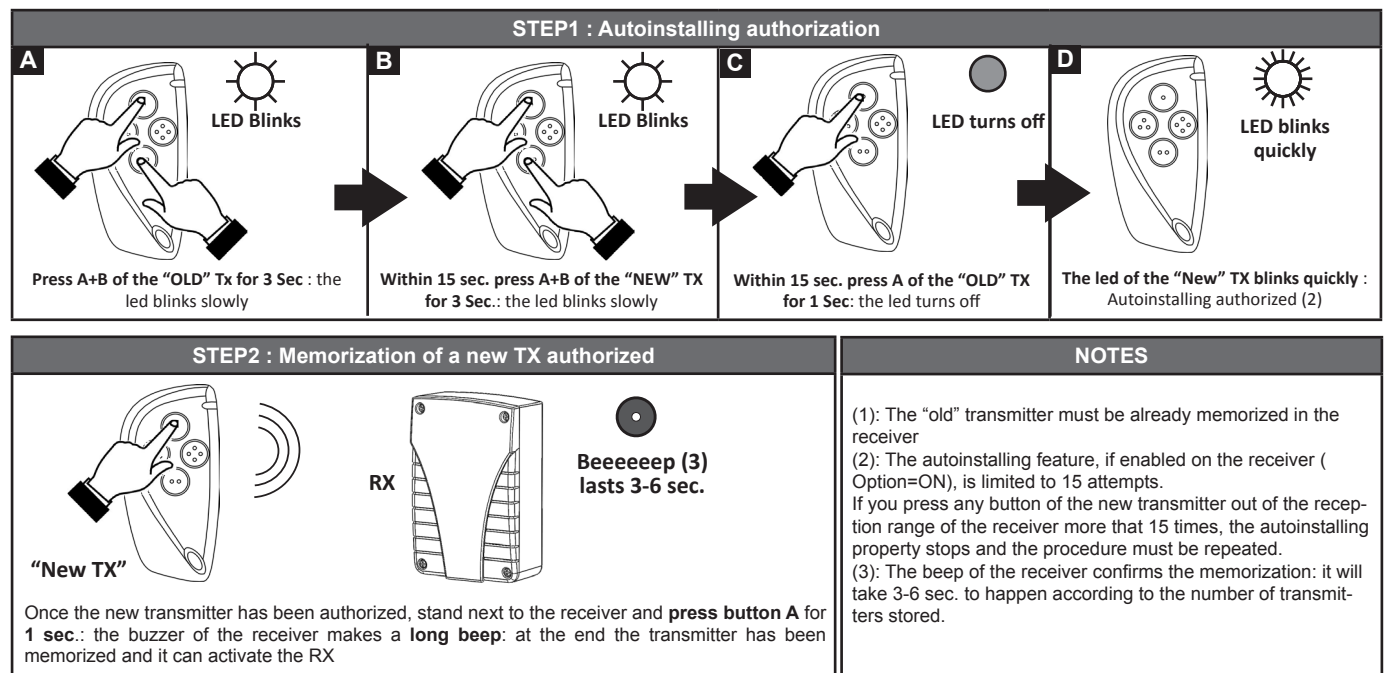
P3( 4 sec.)

→ Add
↓

Backup to — **Save**

MEM. Internal → MEM. External

→ Backup
↓

Restore from — **Restore (*)**

MEM. Internal → MEM. External

⚠ **(*) Attention : this operation will overwrite all data of the internal memory**
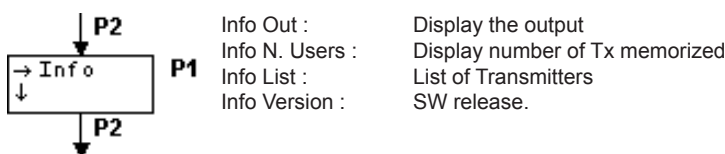
# 13 Option

The menu Option allows to enable ( ON ) or disable (OFF) the "Autoinstalling feature" **:** adding a new transmitter without accessing to the receiver.
You need to use a transmitter already memorized for authorizing the autoinstalling function on a new unit.
NOTE : At least one transmitter must be memorized in the receiver.
Take 2 transmitters ( "old" and "new" ) and hold next each other. (1)

## STEP1 : Autoinstalling authorization

**A** LED Blinks

**B** LED Blinks

**C** LED turns off

**D** LED blinks quickly

Press A+B of the "OLD" Tx for 3 Sec : the led blinks slowly

Within 15 sec. press A+B of the "NEW" TX for 3 Sec.: the led blinks slowly

Within 15 sec. press A of the "OLD" TX for 1 Sec: the led turns off

The led of the "New" TX blinks quickly : Autoinstalling authorized (2)

## STEP2 : Memorization of a new TX authorized

**RX**

**Beeeeeep (3) lasts 3-6 sec.**

**"New TX"**

Once the new transmitter has been authorized, stand next to the receiver and **press button A** for **1 sec**.: the buzzer of the receiver makes a **long beep**: at the end the transmitter has been memorized and it can activate the RX

## NOTES

(1): The "old" transmitter must be already memorized in the receiver
(2): The autoinstalling feature, if enabled on the receiver ( Option=ON), is limited to 15 attempts.
If you press any button of the new transmitter out of the reception range of the receiver more that 15 times, the autoinstalling property stops and the procedure must be repeated.
(3): The beep of the receiver confirms the memorization: it will take 3-6 sec. to happen according to the number of transmitters stored.

# 14 Info



| | |
|---|---|
| Info Out : | Display the output |
| Info N. Users : | Display number of Tx memorized |
| Info List : | List of Transmitters |
| Info Version : | SW release. |

According to the first choice you can get the following information:

| OUTPUT = RELAY | OUTPUT = WIEGAND |
|---|---|
| Rx = Mode | Wiegand = N° Bit |
| Rx = Delay ( if delayed ) | Wiegand = filter |

CE

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