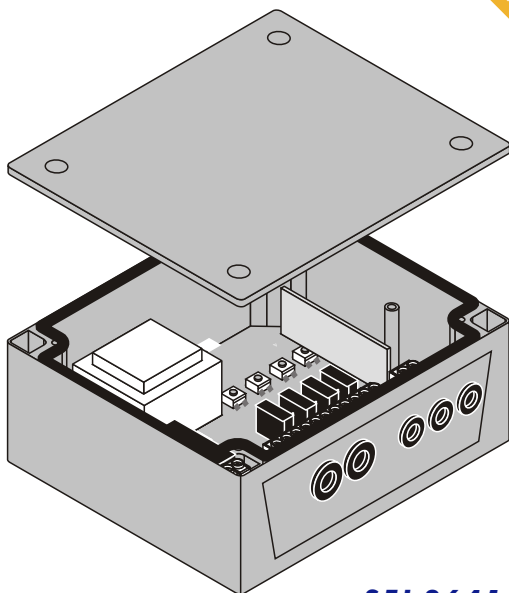


ERONE 433 - 4 CH RECEIVER

MANUAL
INSTALLATION



SEL 2641 R433C4
SEL 2641 R433V4

Thank you for choosing a product Erone. You are recommended to read carefully this manual before installing the product.

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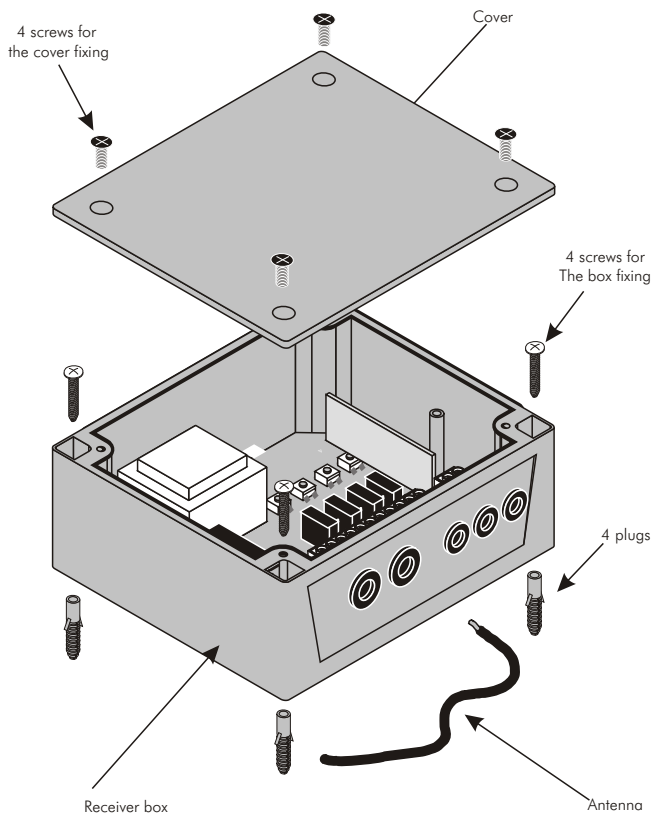
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1- PRODUCT OVERVIEW



2 - INTRODUCTION

ERONE 433 mod. SEL2641 R433 C4 is a superheterodyne receiver of the series ERONE 433. It has been designed for the control of automatic closing systems and anti-burglar systems, thanks to its very high security coding system (KeeLoq ® Hopping code). The operating frequency is among the European harmonised frequencies; the product fully complies with the EMC European Regulations (CE). The code sent by the transmitter changes at every activation, avoiding any scanning and copying risk.

A special algorithm allows to keep synchronised transmitter and receiver. The receiver which makes the activation, once received the transmitter code, has to be connected during the installation to the device to control (gate, garage door, rolling shutters, awnings, anti-burglar appliances, lighting, etc.).

The receiver has 4 output relays, 3 with NO (Normally open) and one with NO/NC (Normally open and normally closed) contacts. It can be connected to any type of appliance as gates, garage doors, rolling shutters, lighting, etc.)

The user codes can be memorised both with the receiver buttons and, via radio, in self-learning, using the transmitter keys. All the receivers of Erone 433 Series can manage the serial number and the synchronisation algorithm of many transmitters.

Types

Erone 433 - SEL 2641 R433 C4: 4 Channels receiver with 12 / 24 Vac/dc power supply

Erone 433 - SEL 2641 R433 V4: 4 Channels receiver with 230 Vac power supply

Erone 433 - SEL 2641 F433 C4: 4 Channels receiver FM with 12 / 24 Vac/dc power supply

Erone 433 - SEL 2641 F433 V4: 4 Channels receiver FM with 230 Vac power supply

Usable transmitters

Erone 024A Mod. S2TR 2641 E2 : 2 channels transmitter;

ASK Version Erone 024A Mod. S2TR 2641 E4 : 4 channels transmitter;

Erone 024A Mod. S2TR 2641 E2M : 2 channels Master transmitter.

Erone 024F Mod. S2TR 2641 F2 : 2 channels transmitter;

ASK Version Erone 024F Mod. S2TR 2641 F4 : 4 channels transmitter;

Erone 024F Mod. S2TR 2641 F2M : 2 channels Master transmitter.

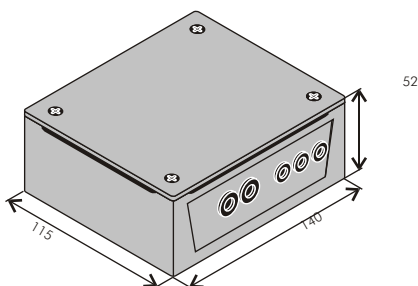


Figura 1

3 - TECHNICAL SPECIFICATIONS

Characteristics	Types	
	SEL 2641R433V4 SEL 2641F433V4	SEL 2641R433C4 SEL2641F433C4
Receiver type:	Superheterodyne	Superheterodyne
Carrier frequency:	433.92 MHz	433.92MHz
Local oscillator frequency:	433.42 MHz	433.42MHz
Demodulation:	AM/ASK	AM/ASK
Input load:	50 Ohm	50 Ohm
Channel width:	> 25 KHz	> 25 KHz
Intermediate frequency:	500 KHz	500 KHz
Input sensitivity:	-107 dBm	-107 dBm
Local oscillation emissions:	< -57 dBm	< -57 dBm
Power supply:	230 Vac	12/24 Vac/dc
Output relays:	4	4
Outputs :	3NO +1NO/NC	3NO +1NO/NC
Max power commutable:	24 VA	24 VA
Consumption		
(4relays at rest/excited)	11/ 18.5 mA	56/ 118 mA @24Vac
Memory capacity:	255 user codes	255 used codes
Operating temperature:	-20°/+60°C	-20°/+60°C
Housing protection:	IP44	IP44
Weight:	380 gr.	280 gr.
Overall dimensions:		140 x 115 x 52 mm

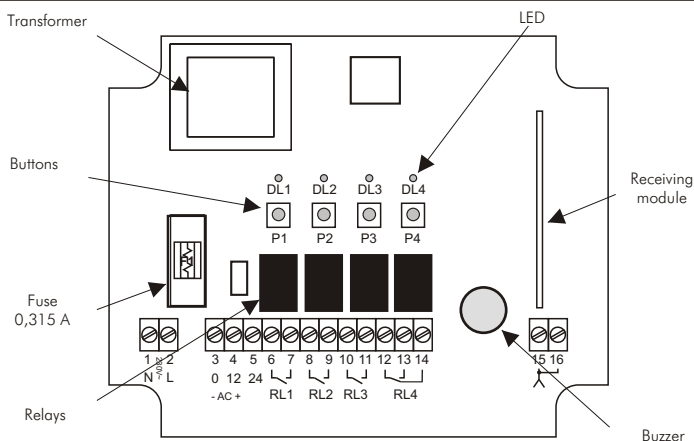


Fig. 2

4 - MAIN FEATURES

- # Selflearning and cancelling of the transmitter codes without accessing to the receiver;
- # 255 transmitter keys storable;
- # Stored transmitter number display;
- # Display of the last received transmitter code;
- # Replacement of a stored code;
- # Total memory erasure;
- # Relay operating mode programmable: pulse, step , delayed, with reduced range;
- # Programmable relay release time from 1 sec. to 17 hours;
- # Reduced range mode programmable for each relay.

5 - INSTALLATION

The appliance has been designed in full compliance with the European Directives 89/336/CEE, 73/23/CEE and according to the specifications of the Regulation EN 60335-1.

Positioning

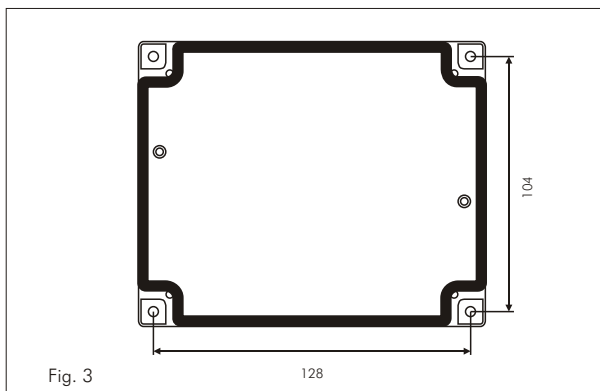
The location choice is very important for the best result of the installation.

The following conditions have to be followed:

- Fix the receiver far from interference sources as informatic systems, alarm systems or other radio emissions.
- *the distance between 2 receivers should be more than 1.5 m.*

Fixing

Remove the cover of the receiver; fix the box in each corner by using the screws and the plugs supplied.



Connections

1 - Power supply (fig.4)



ATTENTION: The connections differ upon the type.

Mod. SEL 2641 R433 V4

Connect the Mains 230 Vac to the following terminals (fig. 4):

terminal 1 = Neutral (230 V~)

terminal 2 = Phase (230 V~)

ATTENTION :



Connect the appliance to the building electric plant through a magnetothermic switch with minimum contact distance of 3 mm.

Mod. SEL 2641 R433 C4

Connect the power supply 12/24 Vac/dc to the terminals 3,4,5.

terminal 3 = 0

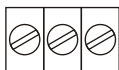
terminal 4 = +12 Vac/dc

terminal 5 = +24 Vac/dc



1 2
N L

SEL 2641 R433 V4



3 4 5
0 12 24

SEL 2641 R433 C4

Fig. 4

2 -Fuse (fig. 5)

The fuse F1 of 315 mA it is used for the electronic card protection.



Fig 5

3 - Relay outputs (fig. 6)

terminal 6 = C relay1

terminal 7 = NA relay1

terminal 8 = C relay 2

terminal 9 = NA relay2

terminal 10 = C relay 3

terminal 11 = NA relay 3

terminal 12 = C relay 4

terminal 13 = NA relay4

terminal 14 = NC relay4

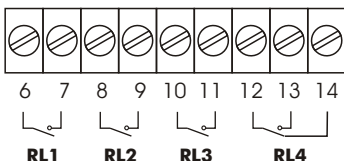


Fig. 6

4 -Antenna (fig. 7)

- if you connect an antenna (not provided) fix the net to the terminal 15 and the shield to the terminal 16; if you use a piece of net (16,5 cm) connect it to the terminal 15.

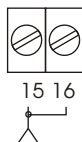
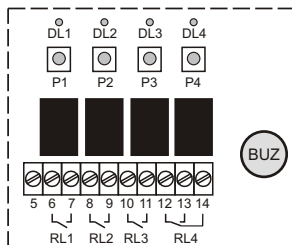


Fig. 7

6 - RECEIVER LAYOUT



- DL1(Red Led):** Displays the **Pulse** mode (of the selected relay);
- DL2(Green Led):** Displays the **Step** mode (of the selected relay);
- DL3(Red Led):** Displays the **Timered** mode (of the selected relay);
- DL4(Red Led):** Displays the operating mode in **Reduced range** (of the selected relay);
- P1, P2, P3, P4:** Push buttons needed for the transmitters memorising and for the relay operating mode setting;

BUZ : Signalling buzzer : sounds 4 different “beep” depending upon the relay: “Beep1”, “Beep2”, “Beep3”, “Beep4”;

RL1, RL2, RL3 : Normally Open contacts relays (NO);

RL4 : Both normally Open (NO) and Normally Closed contacts relay (NC).

7 - TRANSMITTER CODE MEMORISATION

7A) : Transmitter memorising using P1, P2, P3, P4 buttons.

The memorization develops in 2 phases

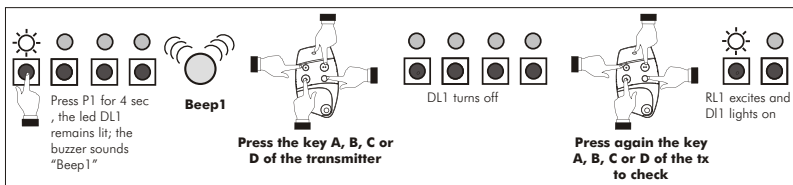
- 1): Memorization of the keys transmitters into the memory with association key-relay;
- 2): Relay operating mode configuration .

The receiver is predisposed for an pulse operation mode of the relay;

The change of the operation mode effects subsequently, as explained in the chapter 8 of the present manual

Relay RL1

Keep **P1** pressed down for 4 sec. - DL1 remains lit - The buzzer sounds the bip type “Beep1”- Before the end of the beep , press the key A or B or C or D of the transmitter. - DL1 turns off - Press again the key A or B or C or D to confirm and verify the activation of RL1 and the lighting of DL1.



Memorisation the transmitter into the relays RL2, RL3, RL4

The procedure is similar to that used for RL1 , using the buttons **P2, P3** or **P4** instead of **P1**.

NOTE2 : In case of memorisation of many transmitter keys , keep pressed the key of the receiver related to the relay and press in sequence the keys of the transmitters to memorise.

7B) : Memorisation of transmitters without accessing to the receiver

The memorization effects using only the transmitter keys

There are 2 cases:

- 1) the receiver is virgin and you need to memorise the first transmitter;
- 2) in the receiver it is already present in memory a transmitter and you have to memorise the following transmitters.

First transmitter memorisation

1 - Keep pressed down the keys A+B simultaneously until the buzzer sounds a Beep and the 4 leds remain lit,

2 - Choose the relay to activate pressing the button of the transmitter according to the following table:

Key A ---> Relay RL1 activation
Key C ---> Relay RL3 activation

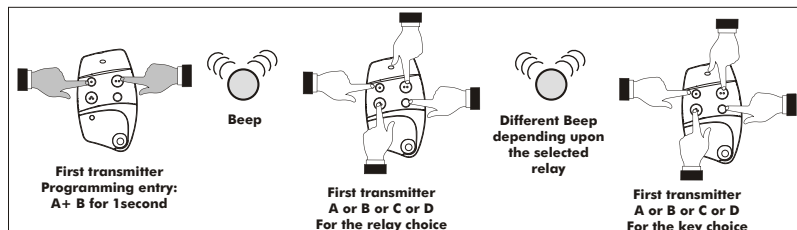
Key B ---> Relay RL2 activation
Key D ---> Relay RL4 activation

Tab. 1

Keep the transmitter key pressed down until the buzzer sounds a beep. The buzzer sounds different beeps depending upon the selected relay.

3 - Activate the transmitter key which has to be memorised (A, B, C or D) before the end of the beep

4 - Check the selected relay activation and the corresponding led lighting.



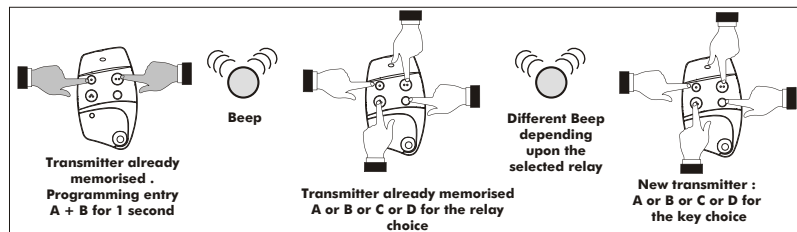
Next transmitters memorisation

1 - Press down for 1 second the buttons A + B simultaneously of a transmitter already present in the memory, until the buzzer sounds a beep;

2 - Select the relay to activate pressing down the key always of the above transmitter according Tab.1 The buzzer will sound a different beep depending upon the selected relay.

3 - Press down the transmitter key to memorise (A or B or C or D)

4 - Check the relay activation and the corresponding led lighting.



7C) - Memory full

The memory has a 256 transmitter keys capacity.

If you try to memorise the 256th, through the procedures 7A or 7B, a simultaneous flash of the 4 leds occurs.

8 - RELAYS OPERATING MODE SETTING

The relays can be programmed in 3 different modes: Impulsive (pre-planned), Bistabile (or step), Delayed. For each of these possibilities it is possible besides to plan the range reduction function that decreases the sensitivity of the receiver, preventing the receipt from great distance.

The configuration of each relay is displayed by the lighting of the corresponding led:

- DL1 points out that the relay is planned in impulsive mode;
- DL2 points out that the relay is planned in bistabile mode;
- DL3 points out that the relay is planned in delayed mode;
- Besides DL4 points out that for the relay the range reduction has been activated.

While for the first 3 the three functions are in exclusive, the range reduction is an additional functionality.

8A) Relay operating mode display

Procedure:

Keep pressed down, for 4 seconds, the receiver button corresponding to the selected relay, up to the acoustic signal; subsequently press for an instant **P4**, within 2 sec.; then still **P4** and check the lighting of the leds.

Example : RL1 relay operating mode display

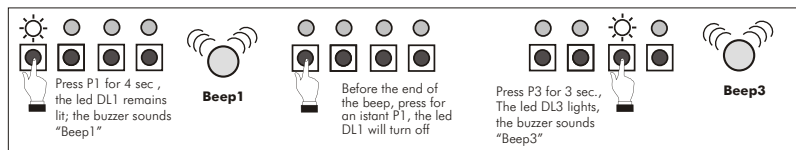
Press for 4 sec. the button P1, for an instant P4, then still P4: the lighting of the leds gives the operating mode set for RL1.

	DL1	DL2	DL3		DL1	DL2	DL3
Impulsive				Impulsive with reduction			
Bistabile				Bistabile with reduction			
Delayed				Delayed with reduction			

8B) Change of the relays operating mode

Procedure:

Keep pressed down for 4 sec. the button corresponding to the selected relay up to the acoustic signal; the corresponding led will light; within 2 sec. press the button **P1** and subsequently press the button (**P1, P2 or P3**) according to the new configuration to be planned: the first led will turn off and the second will light on. Example: Change of the relay RL1 from impulsive to delayed:

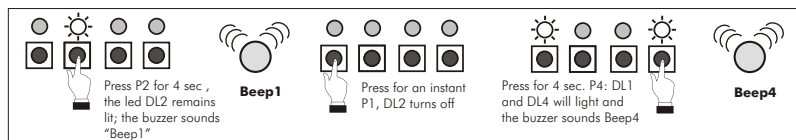


8C) Range reduction programming

Procedure:

Keep pressed down for 4 sec. the button corresponding to the selected relay up to the acoustic signal; the corresponding led will light; within 2 sec. press the button **P1** and subsequently press the button **P4**. Besides the corresponding led will light also the led **DL4**.

Example: Range reduction of RL2 already programmed as impulsive.



8D) Range reduction removal

Repeat the above procedure and verify that the led DL4 turn-off at the end.

8E) Relay release time programming

The release time after which the relay programmed as delayed releases is programmable. The value of the time can be introduced making use of the buttons P1 and P2. Through 8 pressures on P1 and P2, to which correspond as many lightings of the leds DL1 (Red) and DL2 (Green), it is possible to introduce a number in binary coding that gives the value of the delay.

Procedure:

- Press for 4 sec. the button corresponding to the relay to which you want to modify the delay time; The configuration led lights on; subsequently press P3: the leds lit will turn off; after begin the sequence of 8 pressures off P1 and P2 in base to the desired time and according to Tab.2. An acoustic signal points out the end of the procedure

Pressioni tasti	1°	2°	3°	4°	5°	6°	7°	8°
Secondi	1	2	4	8	16	32	P1	P1
Secondi	10	20	40	80	160	320	P2	P1
Minuti	2	4	8	16	32	64	P1	P2
Minuti	20	40	80	160	320	640	P2	P2

Tab. 2

One pressure on P1 has weight 0 while one pressure on P2 has weight 1. So, once finished all the pressures concerning to the chosen value, it isn't necessary to effect the remaining pressures on P1

Example 1 = 8 sec. delay : introduce the sequence : P1 - P1 - P1 - P2 - P1 - P1 - P1 - P1.

Example 2 = 2 min. delay: introduce the sequence : P2 - P1 - P1 - P1 - P1 - P1 - P1 - P2.

9 - MEMORY MANAGEMENT

9A) - Transmitter memory position display

It is possible to display the memory position of the last received transmitter.

Procedure:

Activate the transmitter ; then press in sequence : the button **P4** for 4 sec., **P4** again for one instant and then **P1**. The receiver begins a sequence of 8 lightings of DL1 (red) and DL2 (green), following pointed out for simplicity as LR and LV: referring to that it is possible to find the memory position occupied by the code just received. The number pointed out by the sequence of lightings is calculable by the following table:

Led lit	1°	2°	3°	4°	5°	6°	7°	8°
Green led weight	1	2	4	8	16	32	64	128
Red led weight	0	0	0	0	0	0	0	0

Tab. 3

Esempio:

Led lighting sequence: LR, LV, LV, LV, LR, LR, LR, LR

Result number: $0 + 0 + 4 + 8 + 0 + 0 + 0 + 0 = 12$

Then the transmitter occupies the 12th position of the memory.

9B) - Display of the programmed delay of each relay

It is possible to display the delay time planned on the relay programmed as delayed.

Procedure:

Press for 4 sec the button corresponding to the relay which has to be check; press then in sequence: **P4** for 1 sec. and then **P3** for one instant. At this point a sequence of 8 lightings of the leds LD1 and LD2 commences: referring to that it is possible to calculate the planned delay. The number shown by the sequence is given by the Tab.2.

9C) - Used memory space display

It is possible to display the memory positions occupied

Procedure:

Press in sequence : **P4** for 4 sec., After **P4** and then **P2** for an instant. At this point a sequence of 8 lightings of the leds LD1 and LD2 commences: referring to that, it is possible to calculate the planned delay. The number shown by the sequence is given by the Tab.2.

9D) - Total memory erasure:using the receiver buttons

It is possible to cancel all the transmitter codes memorised by using the receiver buttons.

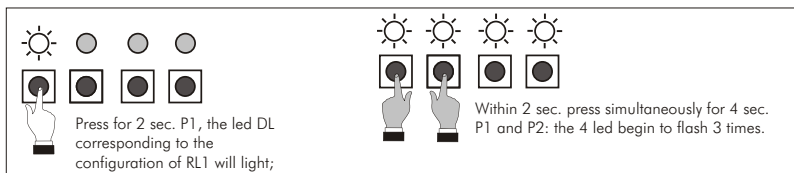
Procedure:

Keep **P1** pressed down until DL1 remains lit and release it. - Within 2 sec. Keep **P1 + P2** pressed down simultaneously until the 4 leds DL1, DL2, DL3, DL4 start flashing .



ATTENTION:

At the end of the sequence the memory will be totally erased and all the present codes will be lost!



9E) - Total memory erasure:using the transmitter keys

It is possible to cancel all the transmitter codes memorised even by using a transmitter keys.

Procedure:

Keep the keys **A + B** simultaneously of a transmitter already present in the memory until occurs the acoustic signal. - Release both the keys and, within 2 sec. Press the key **A** until the acoustic signal, then release and press **A + B** simultaneously until the buzzer sounds 3 "beep".

9F) - Replacement of a stored transmitter

Through this procedure it is possible to overwrite a memory location occupied by a transmitter with a new transmitter code.

Procedure:

Entry in programming mode by pressing down the button corresponding to the relay to which the transmitter, which has to be replaced, is associated. Press **P2** and then, making use of **P1 and P2**, set the number of the memory cell to overwrite, composing the sequence referred at table 3. At the end, within 4 sec (during the acoustic signal) press the key of the new transmitter.

GUARANTEE

The guarantee period of all Erone products is 24 months, beginning from the manufacturer date. During this period, if the product does not work correctly, due to a defective component, the product will be repaired or substituted at the discretion of the producer. The guarantee does not cover the plastic container integrity. After-sale service is supplied at the producer's factory.

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