

# 2 - 4 RELAY DIP-SWITCH RECEIVER



MANUAL  
INSTALLATION

**RCS**

**RCS-433DSR2**  
**RCS-433DSR4**

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

## 1 - DESCRIPTION

### 1A - Introduction

The receiver RCS mod. RCS-433DSR2 is a component of the radiocontrol RCS-433, designed for the control of automatic closing systems and anti-burglar systems, thanks to its high security coding system. The operating frequency is 433,92 MHz.

The product fully complies with the EMC European Regulations (CE).

The security code of the transmitter is composed with a 9-ways three-state dip-switch ( see the right transmitter type on paragraph 7.

The receiver has up to 2 or 4 output relays ( depending upon

the model, with NO and NO/NC contacts, and can be connected to many types of mechanics ( gate, rolling shutters, awnings, anti-burglar appliances, lighting, etc.).

The programming can be done in self-learning mode by means of one button.

The housing protection of IP65 allows external installations. The receiver is produced in 2 versions, with 2 or 4 output relays.

The appliance full complies with the European Regulations 89/336/EEC, 73/23/EEC and EN 60335-1 .

## MODELS

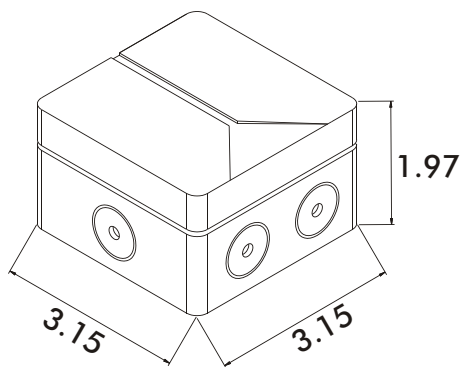
The receiver is produced in the following models:

RCS-433DSR2 : 2 Relay Dip-Switch receiver

RCS-433DSR4 : 4 Relay Dip-Switch receiver

## 2 - TECHNICAL SPECIFICATIONS

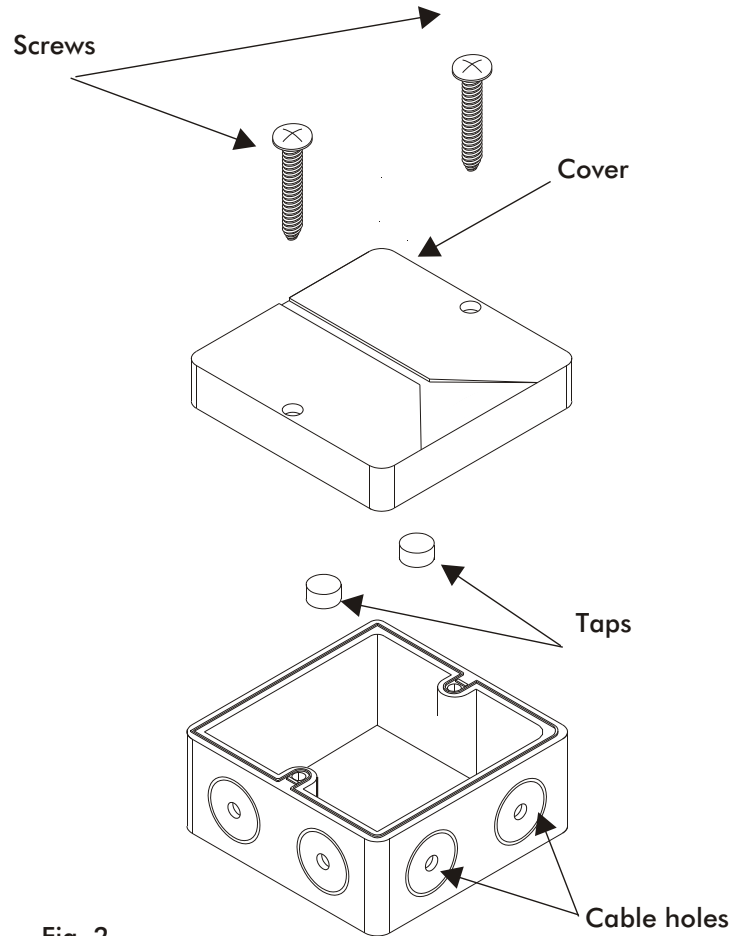
Receiver type	Supereheterodyne
Carrier frequency	433.92 MHz
Local oscillator frequency	6.6128 MHz
Demodulation	AM/ASK
Local Oscillator	VCO / PLL
Channel width	> 25 KHz
Intermediate frequency	10.7 MHz
Input sensitivity	-115 dBm
Local oscillator spurious emissions	< -57 dBm
Input load:	50 Ohm
Power supply:	12 / 24 Vac/dc
Consumption:	
Steady / 12 Vdc ( 2 relays excited)	15 mA / 49 mA
Steady / 24 Vdc ( 2 relays excited)	19 mA / 55 mA
Max applicable power	24VA
Relay number	1, 2 or 4
Contacts	NO, NO/NC
Memory capacity	see chapter 6.2
Security code	fixed code
Max code combination number	3 <sup>9</sup>
Operating temperature	-20° ÷ +70°C
Housing protection	IP65
Weight (oz.)	28.35
Overall dimensions (in.)	3.15 x 3.15 x 1.97



## 3 - COMPOSITION

The receiver is composed by :

- 1 box with electronics
- 1 cover
- 2 screws
- 2 gumm taps
- 1 antenna net
- 2 screws with plugs



## 4 - INSTALLATION

### 4.1 - Positioning

The receiver allocation is very important for the best operation of the system. Place the receiver far from interference sources as big magnetic fields, informatic systems, radio emissions. The installation and the antenna positioning is very important for the best receiving as well.

## 4.2 - Fixing

Remove the receiver cover. Fix the box by using the screws and the plugs supplied.

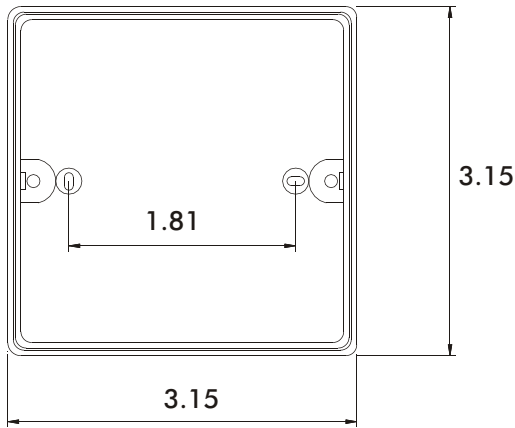


Fig. 3

At the end place the taps supplied over the holes to protect the screws head.

## 5 - LAYOUT AND CONNECTIONS

NOTE : The layout below shows the connections of the 4 relay dip-switch receiver.

In the 2 relay version, the relays K1 and K2, with the corresponding terminals ( T1 - T5 ) are not present.

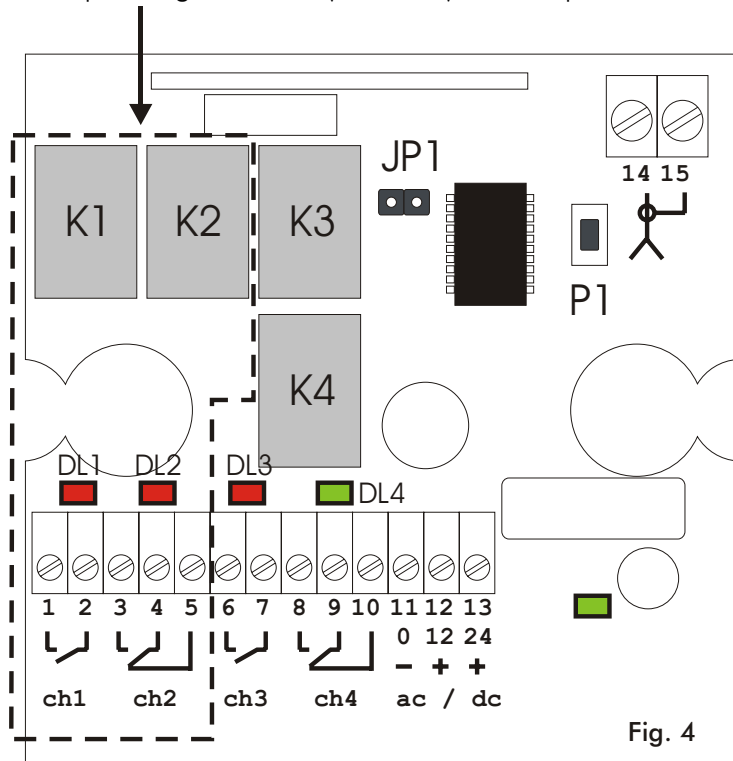


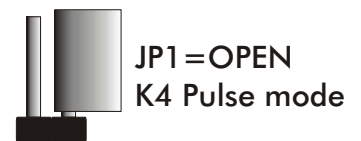
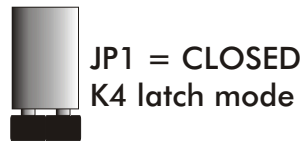
Fig. 4

## 5.1 - Contacts

terminal 1 =	Contact NO Relay1	<b>4 relay only</b>
terminal 2 =	Contact C Relay1	
terminal 3 =	Contact NO Relay2	
terminal 4 =	Contact C Relay2	
terminal 5 =	Contact NC Relay2	
terminal 6 =	Contact NO Relay3	
terminal 7 =	Contact C Relay3	
terminal 8 =	Contact NO Relay4	
terminal 9 =	Contact C Relay4	
terminal 10 =	Contact NC Relay4	
terminal 11 =	Input supply Common	
terminal 12 =	Input supply +12 Vac/dc	
terminal 13 =	Input supply +24 Vac/dc	
terminal 14 =	Pole Antenna	
terminal 15 =	GND Antenna	

## 5.2 - Relay K4 Configuration

The relay K4 can be configured in latch mode. Close the jumper JP1, as shown below.



## 6 - TX PROGRAMMING

### 6.1 Memorizing

The receiver makes the memorization of the transmitters buttons in sequential way.

Keep the button **P1** pressed down until the first red led **DL1** ( or **DL3** in the 2 relay version) switches on , release **P1** and push the key "A" of the transmitter ; after, push again **P1**, the second red led **DL2** ( or **DL4**) switches on , release **P1** and push the key "B" of the transmitter. After a while both the leds will switch off and the procedure will be finished. In this way the keys "A" and "B" of the transmitter activate the relays K1 and K2 of the receiver.

The procedure to follow for the keys "C" and "D" is the same as above. For the memorization of the "C" key on **K3** ( only for 4 relay version ) push **P1** 3 times, and for the memorization of the "D" key on **K4** push **P1** 4 times.

## 6.2 Memory capacity

Each memory cell can store up to 2 transmitter button. So The receiver can store :

- either 102 transmitters with 1 or 2 buttons
- or 51 transmitters with 3 or 4 buttons.

Example1: a 2 button transmitter occupies 1 memory cells  
a 4 button transmitter occupies 2 memory cells.

Example2: The memory is organized as follows:

Cell n° 1	Button A TX1	Button B TX1
Cell n° 2	Button A TX2	Button B TX2
Cell n° 3	Button C TX2	Button D TX2
Cell n° ..	.....	.....

## 7 - USABLE TRANSMITTERS

The receiver type RCS-433DSR2-4 can be used with the following types of RCS transmitters:

- RCS-433DT2
- RCS-433DT4

## 8 - TX ERASURE

### 8.1 Single transmitter erasure

- 1) activate the transmitter key to cancel and verify the relay excited ( K3 or K4 in the 2 relay version or K1, K2, K3 or K4 in the 4 relay version).
- 2) keep the button **P1** pressed down until the first red led switches on (LD1 or LD3).
- 3) select the right relay by pushing again P1 until the corresponding led switches on;
- 4) push the key of the transmitter to cancel : at the end of the operation both the leds **DL3** and **DL4** blink 2 times to confirm.

## 8.2 Complete erasure

Keep the button **P1** pressed down until the first red led (**DL1** or **DL3**) switches on, release it and keep it pushed down again until 3 blinks of the red led **DL3** and green led **DL4** occur.

In this way the memory is completely cancelled.

## 9 - USED MEMORY CELLS DISPLAY

It is possible to display the number of memory cells used. Push 2 times **P1**: at this point a sequence of 7 flashes of **DL3** and **DL4** commences: this sequence represents the number of memory cells used, expressed in binary notation. Referring to the table below and to the next example it is possible to find the corresponding decimal number:

Led on	1°	2°	3°	4°	5°	6°	7°
value DL4	1	2	4	8	16	32	64
value DL3	0	0	0	0	0	0	0

### Example :

Led sequence: DL3, DL3, DL4, DL4, DL3, DL3, DL3.

Number:  $0 + 0 + 4 + 8 + 0 + 0 + 0 = 12$

Than the receiver has 12 memory cells used .

### MEMORY FULL

In case of full memory, that means **102** 2-button transmitters or **51** 4-button transmitters are already stored, if one try to store an extra transmitter, a sequence of 3 blinks of **DL3** and **DL4** occurs and the operation fails.

## GUARANTEE

The guarantee period of all RCS products is 6 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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