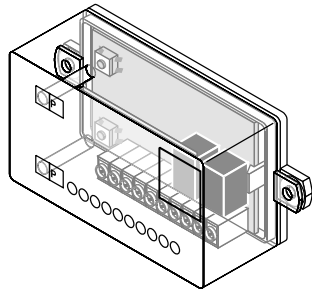# BASIC RECEIVER RCS433-BR2

INSTALLATION MANUAL

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Made in
China
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RCS-433BR2

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

SUMMARY

1- PRODUCT SPECIFICATIONS

1A - Introduction

This receiver, type RCS-433BR2 is a 2 relay output receiver, operating at 433,92 Mhz in AM/ASK modulation.
It is designed for automatic closing systems and anti-burglar systems.
The operating frequency is among the European harmonised frequencies; The antenna is connected with a F- type connector.
There are 2 relay outputs : K1 with contacts C-NO and K2 with contacts C NC or NO according to the selection of J2 (see par. 1H).
The operating mode can be Pulse or Latch for K1 or K2.
The power supply is 12 or24 Vac/dc (see par. 1F).
The IP grade of 2X allows only indoor installations.
The product fully complies with the EMC European Regulations (CE) and FCC Part 15 Regulations.

1B - Usable Transmitters

- RCS-433MDT2 : 2 button transmitter
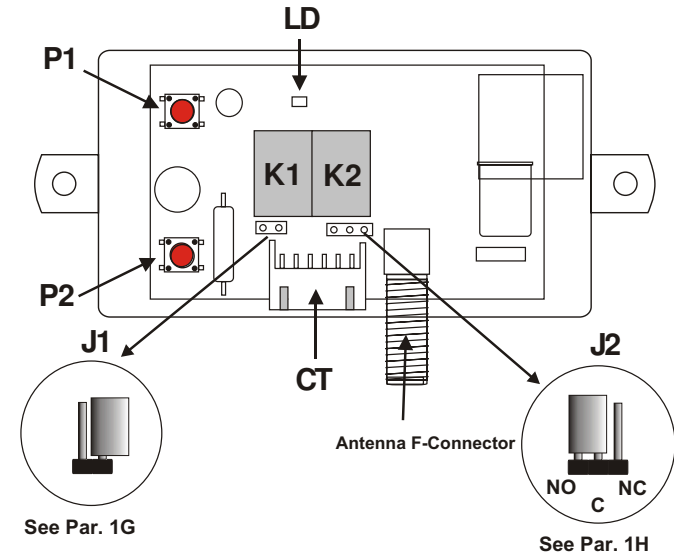- RCS-433CKPD : Wireless Keypad

1C- Technical specifications

Receiver type:	Superheterodyne.
Demodulation:	AM / ASK.
Operating frequency:	433,92 MHz.
Local oscillator frequency:	6,6128 MHz.
Intermediate frequency:	10,7 MHz.
Sensitivity (for good signal):	-115 dBm.
Input impedance:	75 Ohm.
Supply voltage :	12 / 24 Vac/dc (± 10%).
Current absorbtion:	
at rest:	11 mA
with 1 relay excited:	30 mA
Number of relays:	2 (1NO , 1NO / NC).
Relay operating mode	Pulse / Latch
Commutable max power:	24W or 24VA .
Memory capacity (tx keys):	42.
Operating temperature:	-4 ÷ + 158 °F.
Dimensions:	4.13 x 1.77 x 1.1 in
Weight:	2.29 oz
IP Protection grade:	2X

1D - Receiver overview

LEGEND :

P1 :	Push button P1	J2 :	K2 output type Jumper
P2 :	Push button P2	K1 :	Relay K1
LD :	LED GREEN	K2 :	Relay K2
J1 :	Power selection Jumper	F :	F-type antenna connector

1- PRODUCT SPECIFICATIONS

See Par. 1G

Antenna F-Connector

NO   NC
C

See Par. 1H

1E - Wiring diagram

CT

1 — 6
2 — 5
3
4

Tuned antenna with male F-Connector

6 pole connector
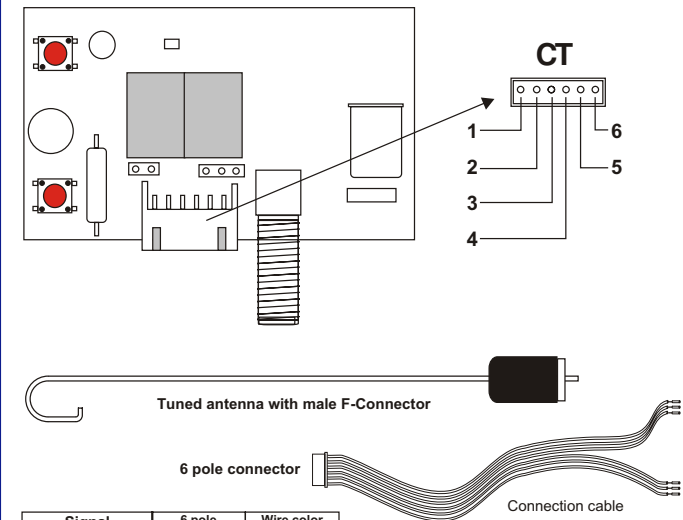
Connection cable

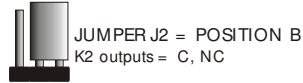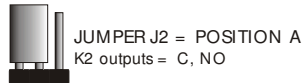| Signal	6 pole connector	Wire color
GND	1	BLACK
+12 / 24 Vac/dc	2	RED
K1 C Contact	3	GREEN
K1 NO Contact	4	GREEN
K2 C Contact	5	ORANGE
K2 Contact : according to J2 selection	6	ORANGE

1F - Main features

- 42 storable transmitter keys
- Single transmitter key or Full memory erasure
- Programmable operation mode of the K2 relay: pulsing, latching
- Easy transmitter memorization

1G - Power selection

JUMPER J1 = CLOSED
Supply = **12** Vdc

JUMPER J1 = OPEN
Supply = **24** Vdc
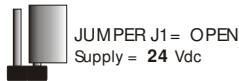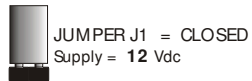
1H - K2 Output type selection

JUMPER J2 = POSITION A
K2 outputs = C, NO

JUMPER J2 = POSITION B
K2 outputs = C, NC

2- TRANSMITTER CODE MEMORIZATION

2A - "K1" Output

1) Keep **P1** pressed down until the green Led **(LD)** switches on, release **P1** and push the key of the transmitter;
2) The K1 relay makes a pulse
3) **LD** will remain lit for 4 seconds.

2B - "K2" Output

1) Keep **P2** pressed down until the green Led **(LD)** switches on, release **P2** and push the key of the transmitter;
2) The K2 relay makes a pulse
3) **LD** will remain lit for 4 seconds.

3- RELAY PROGRAMMING (PULSE / LATCH)

It is possible to set the operating mode of K1 or K2 relay: pulse or latch.

- *In pulse mode the relay remains excited as long as the transmitter key remains activated.*
- *In latch mode , the relay is activated at the first pulse of the transmitter and releases at the next pulse.*

K1 can be Pulse or Lathcing mode.

K2 can be pulse or lathcing mode.
The default operating mode for K1 or K2 is Pulse.

Programming K1 or K2 to Latch mode
1) Keep P1 or P2 pressed down until LD switches on.
2) Release P1 or P2 and then push P2 once and release .
LD will blink quickly for 2 seconds and then switches off.
When the LD blinks quickly the relay K1 or K2 is set to latch mode.

In order to restore the previous mode, repeat the same sequence:
1) keep P1 or P2 pressed down until LD blinks quickly,
2) Release P1 or P2 and then push P2 once and release.
LD will remain lit solid for 2 seconds and then switches off.
At this point the pulse mode has been restored.

4- MEMORY CAPACITY

The receiver can store the single keys of each transmitter.
For example a 4 key transmitter needs 4 memory cells .
The total memory space is **42** .
That means that the receiver can store up to 10 transmitters with 4 keys or 21 transmitter with 2 keys.
In case of full memory, if one tries to store an extra transmitter, a sequence of 3 blinks of **LD** occurs and the operation fails.

5- MEMORY ERASURE

It is possible to delete either the single transmitter key or the complete memory.

Single transmitter key erasure

1) Select the relay on which the transmitter key has been memorized.
2) Keep **P1** or **P2** pressed down until the green Led **LD** switches on (it will blink if the relay is in latch mode);
3) Release the button and push the key of the transmitter to erase;
4) The led **LD** switches off for a while, then switches on and remains lit again for 4 seconds.
At the end the transmitter key has been erased.

Full memory erasure

1) Keep **P1** pressed down until **LD** switches on.
2) Release **P1** and then press **P1** and **P2** down simultaneously until **LD** flashes 3 times.
At that point the memory has been completely erased.

6- TRANSMITTER NUMBER DISPLAY

It is possible to display how many transmitter keys are stored in the memory.
The number is displayed, in binary notation (0 or 1), by a sequence of led flashes.

A short flash (½ second) of LD gives a binary "0".
A long flash (1 second) of LD gives a binary "1".
The complete sequence is composed by 6 flashes and by a final longer flash (2 seconds).
According to its position, each flash has a different "weight".

First flash :	$2^0 = 1$
Second flash :	$2^1 = 2$
Third flash :	$2^2 = 4$
Fourth flash :	$2^3 = 8$
Fifth flash :	$2^4 = 16$
Sixth flash :	$2^5 = 32$

Procedure
1) Keep **P1** or **P2** pressed down until **LD** switches on.
2) Release the button and then push **P2** for a while before **LD** switches off.
At this point begins the sequence of flashes.
Take a note of the sequence to calculate the corresponding decimal number, as shown in the following examples.

Es. N° 1 : Memory empty

Weights	1	2	4	8	16	32	End Sequence
Sequence :	_	_	_	_	_	_	_____

Final number : 0 + 0 + 0 + 0 + 0 + 0 = **0**

Es. N° 2 : 5 transmitter keys

Weights	1	2	4	8	16	32	End Sequence
Sequence :	_	_	_	_	_	_	_____

Final number : 1 + 0 + 4 + 0 + 0 + 0 = **5**

Es. N° 3 : 12 transmitter keys

Weights	1	2	4	8	16	32	End Sequence
Sequence :	_	_	_	_	_	_	_____

Final number : 0 + 0 + 4 + 8 + 0 + 0 = **12**