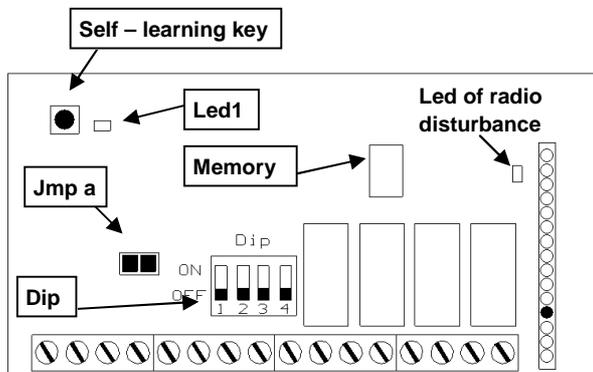


# B.RO 44 ROLLING CODE RADIO RECEIVERS



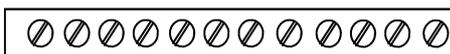
## Description

The B.RO44 are radio receivers which allow the activation at distance of any electronic device. These devices are available in three different typologies: super - heterodyne (with SAW narrow band filter), super – reactive and quartzed, with digital ROLLING CODE codification. This codification offers more than 18 billion of combinations, granting the safety and the absence of undesired activations. The receiver system reckons the handling of 4 different relays. It is possible to memorize up to 1000 different transmitters in one single receiver, equipped with an extractable memory module. According to their configuration, each relay can operate in three different modalities: IMMEDIATE – STEP BY STEP and TIMINIG. Each relay output allows to pilot loads up to 0,5A-120Vac, or 1A – 30Vdc.



## Electrical connections

1 2 3 4 5 6 7 8 9 10 11 12



- 1 = p. supply + 12/24Vdc 12/24Vac
- 2 = p. supply 0 Vdc 12/24Vac
- 3-4 = contact relay 1 (NO)
- 5-6 = contact relay 2 (NO)
- 7-8 = contact relay 3 (NO)
- 9-10 = contact relay 4 (NO)
- 11 = earth of the antenna
- 12 = antenna signal



JUMPER CLOSED: 12 Vac/dc

JUMPER OPEN: 24 Vac/dc

## Installation

Carry out the connections as per scheme.

If more receivers are necessary, put them at 3 – 4 meters one from each other to avoid reciprocal interferences.

If you dispose of a good quality earth, connect it to the terminal board nr. 11 of the screw connector. Put the antenna far away from obstacles and from metallic structures, or above them, if they are connected to the earth. Connect the antenna signal to terminal 12 and the braiding to the terminal nr. 11. The antenna is necessary to get the maximum performance of the device, in contrary case the range would reduce at a few ten of meters.

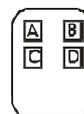
If the cable supplied with the antenna is too short, do not carry out connections, but entirely substitute the cable self with one of the necessary length and a 50ohm impedance (type RG 58). The cable do not have to exceed in any case the 10 mt. of length.

## How to memorize the code of a transmitter

1. Connect the receiver to the terminals 1 and 2, paying attention to correctly select the selection jumper of power supply tension.
2. To activate the learning modality it is possible to follow three different procedures (the led 1 will switch on):
  - a: press for an instant the self – learning key of the control unit;
  - b: press the hidden key of a transmitter already memorized (UP + DOWN for the B.ROT12W)
  - c: transmit the opening memory signal of an already present channel
3. Press the key of the transmitter whose code you need to learn, the led carries out 2 blinks, then turns off; The key of the transmitter which is first pressed, will be memorized on the first receiver relay (relay 1). Having at disposal a 2 or 4 keys transmitter it is possible to activate another function: really, pressing contemporarily two keys of the transmitter, for example A and B, these are learned in the first free channel of the receiver. Like this, a high immunity to the undesired activations is granted, because the contemporaneously pressure of two keys rarely happens in involuntary way, following at a casual movement.
4. To memorize the successive key of the transmitter repeat the procedure from the point 2.  
The learning of the successive keys of the same transmitter happens in sequence on the relays 2,3,4.
5. Repeat the sequence of the operations from the point 2 to the point 4 for all the transmitters to learn.

## How to memorize the codes of more transmitters (multiple learning)

1. Connect the receiver to the terminal 1 and 2.
2. Press the self learning key for 3 seconds, then release the key. The receiver signals the entry in multiple self – learning with two blinks, after then it remains permanently turned on.
3. Press the key of the 1° transmitter to memorize, for example on the sequence A, B, C, D as on figure. The first key which is pressed, in this case "A", will control the relay of the 1° channel. The second key of the transmitter which will be pressed, in this case "B" will be associated to the second channel of the receiver and so on. The led of the receiver signals the correct learning of the pressed key blinking 2 times.
4. Pressing the keys of the remaining transmitters to be recorded, on the desired sequence, the learning of the respective codes will be carried out.
5. To exit from the multiple learning procedure press for an instant the key of the receiver. The led 1 turns off.



**WARNING:** if the led 1 does not blink on memorization phase, the code has not been memorized. In this case it is advisable to check what follows:

- the transmitter must have the same frequency of the receiver
- the code of the transmitter has already been memorized; press the key checking to what of the 4 relays it corresponds;
- the memory is full: in this case the maximum number of transmitters has been learned

## How to cancel all the codes of the transmitters

1. Cut off power supply to the receiver's card
2. Keep pressed the self – learning key and give again power supply to the receiver: the led 1 turns on after about three seconds
3. Release the key of the receiver
4. When the led turns off, all the codes are erased.

## Modality of functioning: immediate, step – by step and timing

The functioning modalities of the relative outputs to the relays 1- 2 and 3 can be selected in independent way:

- IMMEDIATE: the relay remains excited until the radio signal persists, or rather the relay exit remains closed until the transmitter's key is being pressed.
- STEP BY STEP: the relay remains active until a successive control, or rather when the key of the transmitter is pressed again.
- TIMING: the relay, once activated, remains excited for a programmable time from 3 seconds up to 2 hours.

## Functions setting

Each of the 4 relay is associated to a dip – switch (figure 2). If the dip – switch is on OFF position, the respective relays enter in immediate/timing modality function (if the product reckons this functioning). If the dip – switch is on ON position, the respective relays work in step by step modality.

## Modality of timing functioning

1. Cut off the power supply from the receiver card
2. Set all the dip – switch on OFF position (immediate functioning), then give power supply to the card.
3. Press the receiver's key for a time higher than 5 seconds, then release the key.
4. The led 1 signals the entry in programming with a sequence of two blinking and one pause. In order to determine the beginning of the time calculation, activate the relay that you want to time by a transmitter previously learned.
5. To determine the end of the counting time, press shortly the receiver's key.

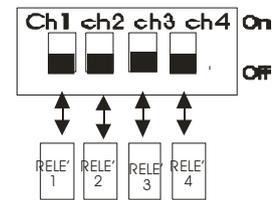


fig 2

## Cancellation of the timing modality

To cancel the timing functionality on one or more relay, proceed like this:

1. Cut off power supply from the terminals 1 and 2 of the receiver
2. Set on ON position the relay's dip – switch whose you want to cancel the timing functionality and then connect the receiver to the terminals 1 and 2.
3. Press the learning key of the receiver for a time higher than 5 seconds, then release the key
4. The led 1 signals the entry in programming with a sequence of two blinking and one pause. Press briefly the receiver's key.

## Cancellation of the series B.RO transmitters

1. To cancel these transmitters, press and keep pressed the hidden key of the transmitter that you want to cancel.
2. Press the key 1 at the same time as of the hidden key already pressed. The led 1 carries out 4 blinking to indicate the happened cancellation of the transmitter.

## Cancellation of a single transmitter B.ROT12W

1. Select a memorized channel and press contemporarily the keys UP and DOWN. The receiver's led will turn on in continuous way indicating the entering in modality of "memory opening".
2. So select the "d" channel (letter "d" on the display) and press the key UP or DOWN. The led 1 carries out 4 blinking to indicate the happened cancellation of the transmitter.

## Diagnosis of the radio

The receiver is provided with a led for the diagnosis of the radio: the installer can immediately detect if any radio disturb which can negatively influence the maximum range of the radio are present.

Verify the presence of disturbs between a transmission and the other considering the following table:

- led switched off = absence of disturbs
- -led blinking = light disturb
- -led always switched on = presence of a strong disturb

### WARNINGS AND SUGGESTIONS

Before giving power supply to the receiver, set the supply tension by the jumper selector. In case of missed functioning verify:

- the power supply of the receiver and the battery state of the transmitter
- the correct installation of the antenna, verify that the radio receipt led is not always switched on. This led always switched on indicates the presence of a radio signal (disturb) very strong.
- verify that the led 1 is not blinking in a continuous way with about 1 blinking/second. This means that the memory module is not connected or is damaged.

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