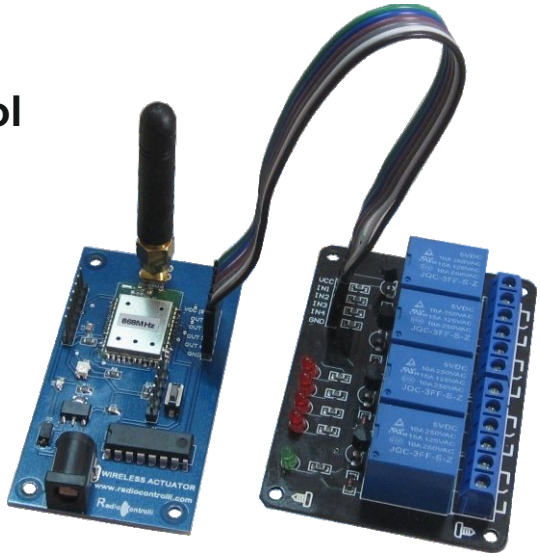
TBLO-915

Long Range Bidirectional Remote Control
915MHz

Radio Controlli
Wireless Modules

Long Range Bidirectional Remote Control
Frequency : 915MHz



Long range bidirectional system, composed by a bidirectional remote control (TX unit) and a RX unit with the possibility of switching 4 relays.
This bidirectional control system has been designed for the various needs of installers and electricians, it can be used to activate all types of lighting, as well as other applications such as water games, electric gates and automatic doors.

The remote control (4 keys) has both the ability to transmit and receive (bidirectional), a feature that makes it unique compared to other radio controls, it allows the user to check the status of the relay even remotely (green indicator, relay switched, indicator red relay not switched) and even to switch the single relay.

Each time a relay activation command is sent, there is a visual confirmation as to whether the activation operation was successful or not (**return receipt**).

Distance: About 1000 meters in open field.

Applications :

- *Lighting*
- *Home automation systems*
- *Access control*
- *Industrial automation*
- *Alarm systems*

Characteristics:

- *Confirmation sent command (return receipt).*
- *Possibility to interrogate the RX unit and check the status of the 4 channels.*
- *GFSK modulation 19.2Kbps - Frequency 915MHz*
- *Distance: About 1000 meters in open field.*

Radiocontrolli s.r.l refuses any responsibility for irregular uses of the devices and for any possible lack or inaccuracy of the data and reserves the right to change in whole or in part these information without notice.

TBLO-915

Long Range Bidirectional Remote Control 915MHz

Radiocontrolli Wireless Modules

PART NUMBER : TBLO-915-4-K

system composed by:

- N. 1 RCAT-915 Receiving unit (4 channels).
- N. 1 Commercial Sheet 4 Relay
- N. 2 Bidirectional remote controls (4 buttons)
- N.1 Antenna 915MHz
- N. 1 Power supply 5 Volt
- N. 1 Connection cable

PART NUMBER : TBLO-915-4-E

system composed by:

- N. 1 RCAT-915 Receiving unit (4 channels).
- N. 1 Commercial Sheet 4 Relay
- N. 1 Bidirectional remote controls (4 buttons)
- N.1 Antenna 915MHz
- N. 1 Power supply 5 Volt
- N. 1 Connection cable

Bidirectional Remote Control

Power Supply 5Volt

RCAT-915 Receiving Unit with 915MHz Antenna

Commercial Relay card with connection cable

Technical Characteristics					
Parameter	Symbol	Min.	Typ.	Max.	Units
Power Supply Remote Control	V_{CC}	1.8	3.00		Vdc
Power Supply RX Unit	V_{CC}		5.00		Vdc
Operative Frequency (*)	F_{of}		915		MHz
RF Power Output 50ohm	P		+10.0		dBm
Type of Modulation	2-GFSK				
Data Rate	F_{pp}		2.5		kbps
Deviation	P_{oo}		5		kHz
Remote control Degree of protection	IP66				
Type of battery	3 Volt - Litio - tipo CR2450				
Operative Temperature	T_1	-30.0		+75.0	°C

(*) On request is possible to change/modify the operative frequency (step of 100KHz).

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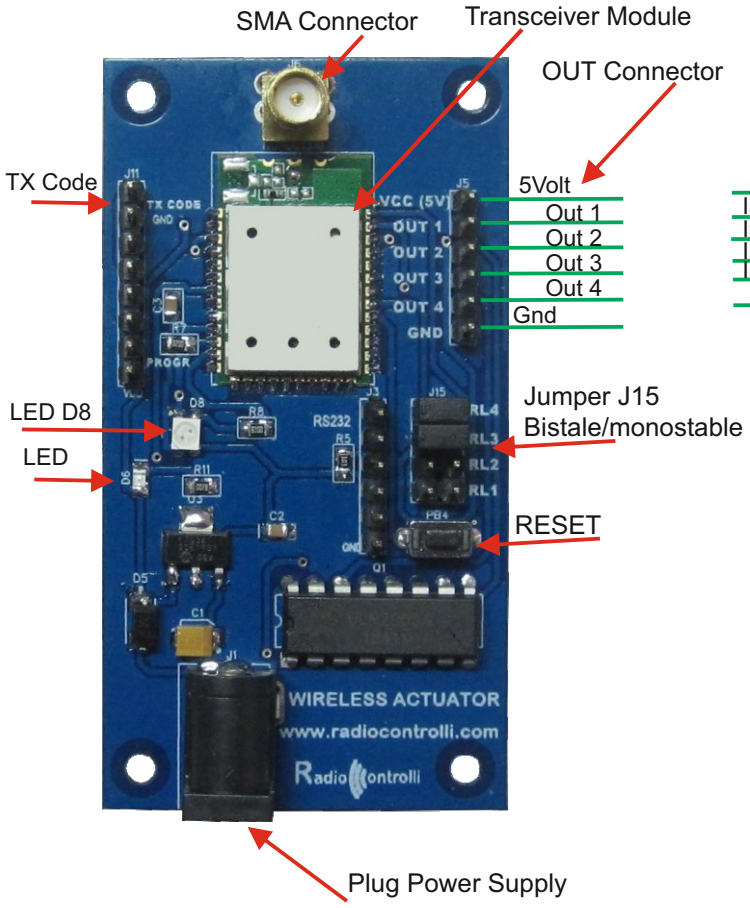
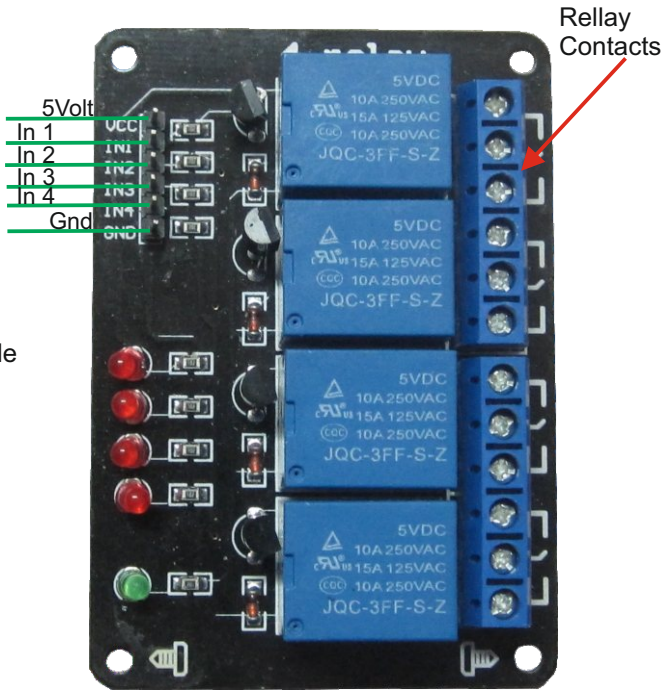
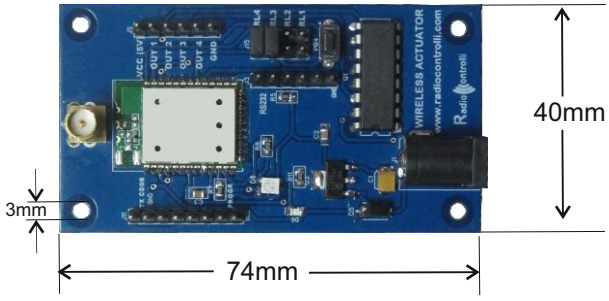
1.0 RX Unit description





Description	
SMA Connector	The antenna RadioControlli RC-ANT-XXX-SMA is mounted on this connector
Transceiver Module	RC-CC1310-XXX
OUT Connector	This connector contains the commands of the four relays (OUT1-OUT4) and the VCC and GND signals it interfaces with any type of commercial relay card operating at 5Volt.
Jumper J15	RL1 = OPEN = Channel 1 Monostable RL1 = CLOSE = Channel 1 Bistable RL2 = OPEN = Channel 2 Monostable RL2 = CLOSE = Channel 2 Bistable RL3 = OPEN = Channel 3 Monostable RL3 = CLOSE = Channel 3 Bistable RL4 = OPEN = Channel 4 Monostable Rl4 = CLOSE = Channel 4 Bistable
Plug Power Supply	5Volt Power Connector
Power LED	Power Led
Jumper «TX Code»	By making this jumper, the module will continuously send the association codes (LED D8 will flash continuously in red). The way to associate the remote controls is described in paragraph 4.0

1.1 Mechanical Dimension



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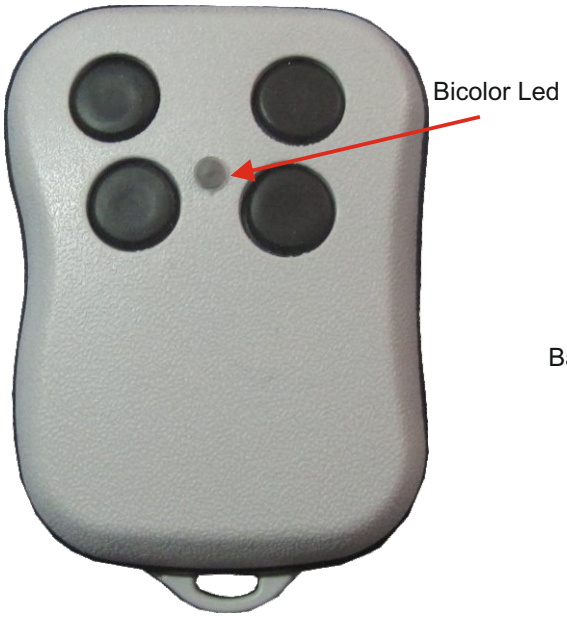
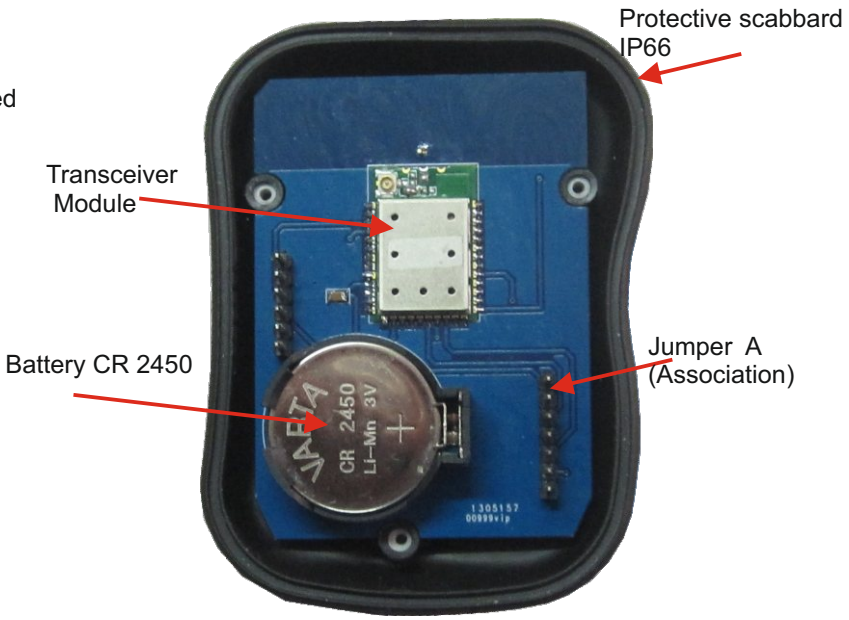
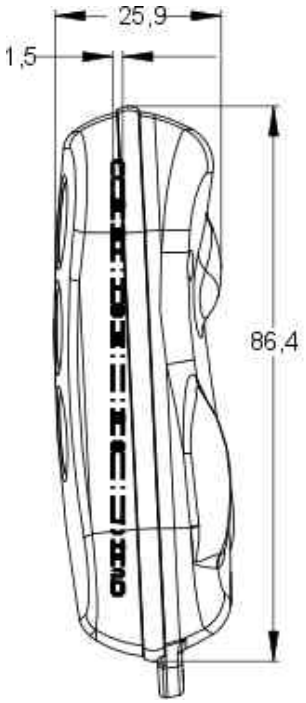
2.0 Remote Control Description

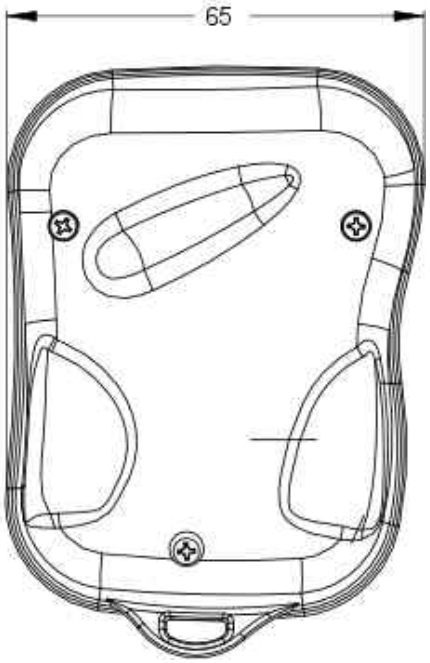




Description	
Bicolor Led	The remote control is equipped with a two-color LED to indicate the status of the remote channel **Green** = Open Relay **Red** = Closed Relay
Transceiver Module	RC-CC1310-XXX
Battery	Batteria al litio tipo CR2450
Jumper «A»	By making this jumper, you can make or change the association with the receiving unit, this association mode is describedin paragraph 4.0.
Protective scabbard	This scabbard guarantees IP66 protection of the remote control.

2.1 Mechanical Dimension





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3.0 Functionality

Not Activated Relay

Activated Relay

Check Status:
Press a button for about 1 second, in this way you can check the status of the corresponding relay:
GREEN = relay not activated RED= activated.

Switching:
Press a button for more than one second, the corresponding relay will switch and it is possible to check the feedback (via the two-color LED) of the successful switching.

Each time a button is pressed, a visual confirmation is provided as to whether the activation operation was carried out or not (return receipt).

Video : To know more about the features of this device, please view the following video:
https://www.youtube.com/watch?v=c0PmlXaL2qk

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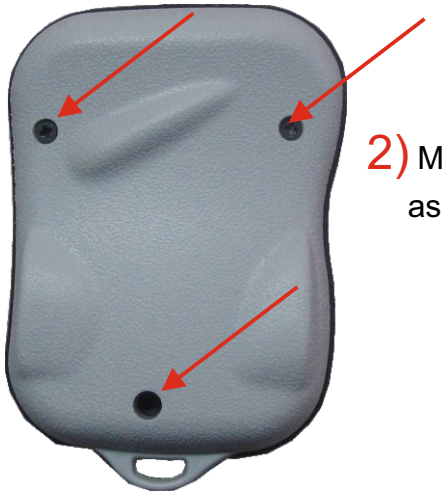
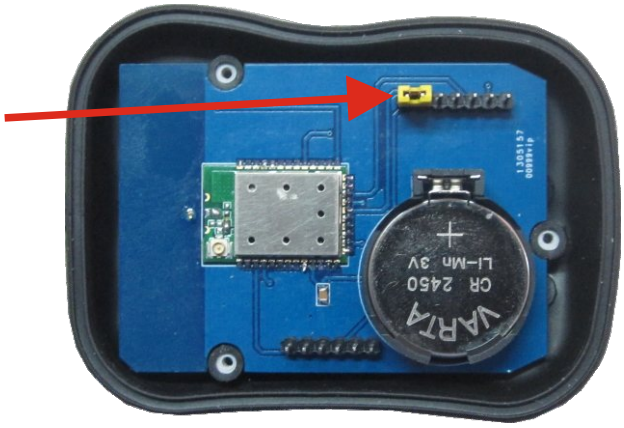
4.0 Mode of association Remote Control / Rx Unit

The remote controls are already associated with the receiving unit from the factory, if it is necessary to modify this association or make an association with another receiving unit, follow the procedure below:

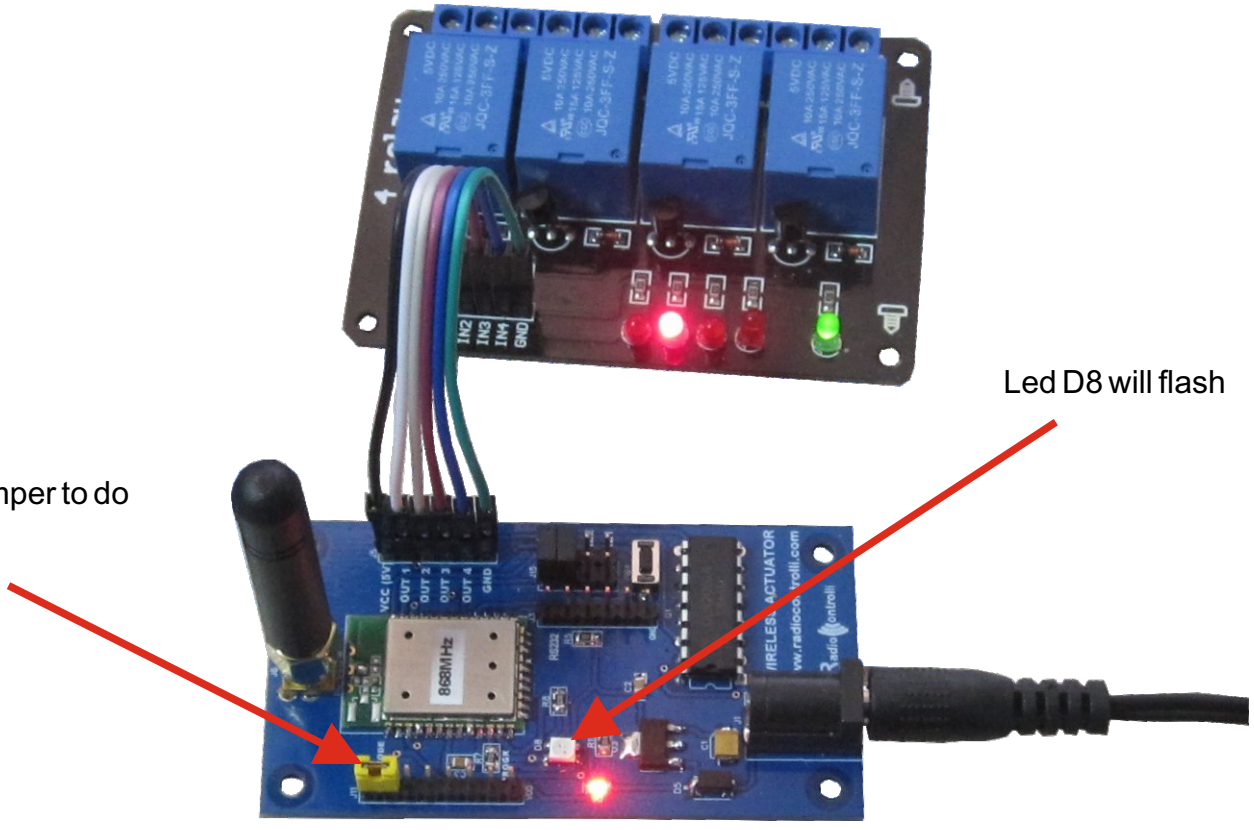
1) Disassemble the remote control , by unscrewing the three screws indicated in the figure:



2) Make the jumper as shown in the figure



3) Carry out the following jumper on the receiver board, LED D8 will flash red



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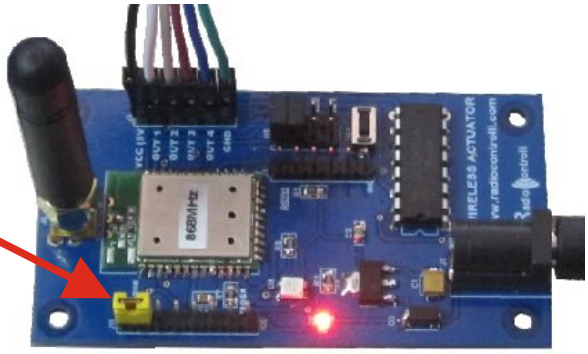
4) The flashing of LED D8 indicates that the receiving unit is sending air association messages addressed to the remote controller. During this flashing, simultaneously press the following keys on the remote control to be associated.

5) The two-color LED will flash three times in red and then it will light up in green color, this means that the association was successful.

6) Remove the jumper previously made on the remote control.

7) Remove the jumper previously made on the receiving unit.



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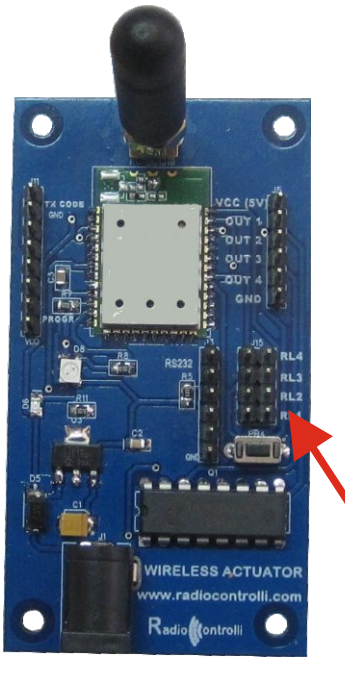
5.0 Monostable / bistable operation



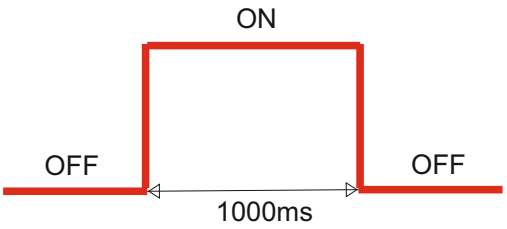
By default the receiver is configured with the 4 channels in MONOSTABLE mode.

MONOSTABLE mode means that the receiving unit changes the state of the output each press of the single button on the remote control.

Command of
Relay activation

Through the jumpers RL1 ÷ RL4 it is possible to configure the four channels also in BISTABLE mode.

BISTABLE mode means that when the receiver receives a frame from one of the memorized remote controls, it activates the output by energizing the relative relay for a predetermined time (set by default to 1second).



RL1÷RL4= OPEN=MONOSTABLE
RL1÷RL4= CLOSE=BISTABLE

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