# RBAND/OCS

# • INTRODUCTION

## DESCRIPTION

The RadioBand system is designed of Industrial, Commercial and Domestic door and gate applications where a safety edge is used. The system provides a wireless system replacing spiral cables or energy chain systems to provide the safety signal to the door or gate control panel. The receiver monitors the status of transmitters connected to it.

Up to three transmitters per output can be connected to the receiver. There are two outputs on each receiver. The system is compatible with 8K2 monitored safety edges, opto safety edges and volt free safety contacts. Two inputs available in the transmitter.

The system complies with EN ISO 13849-1.

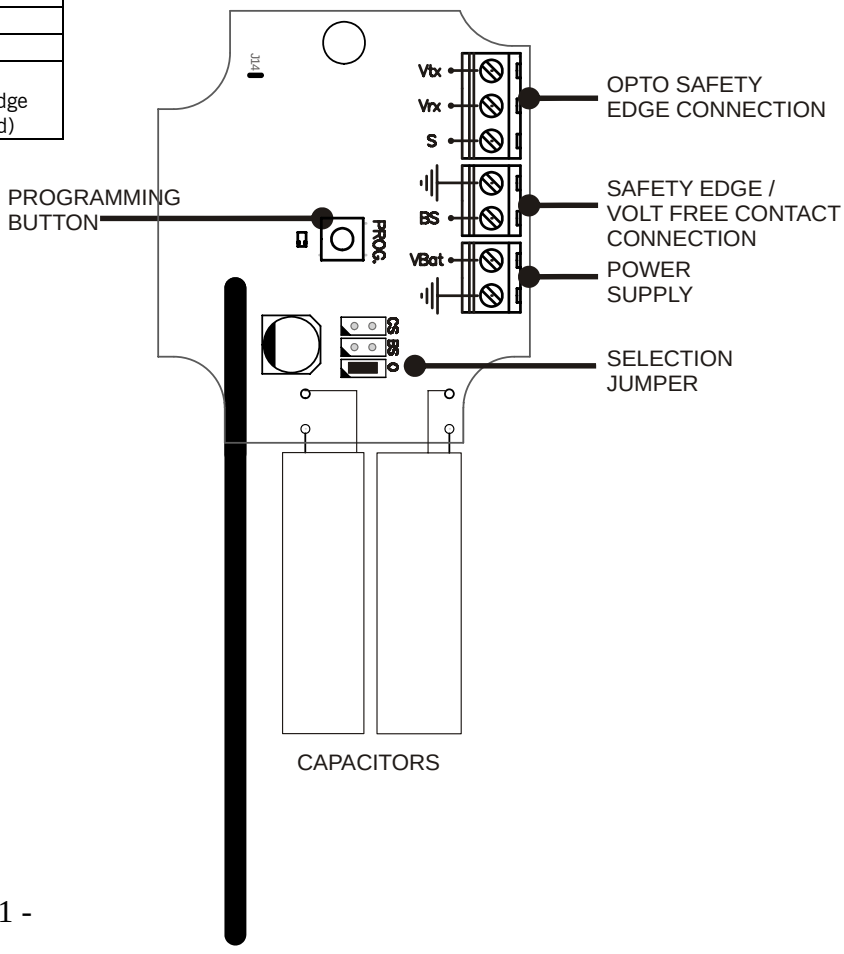
## USE OF THE SYSTEM

This equipment is designed to be installed with a safety edge for door and gate installations. It is not guaranteed for directly activating equipment other than that specified.
The manufacturer reserves the right to change the specification of the equipment without prior warning.

# • RBAND/OCS TECHNICAL CHARACTERISTICS

*System non compatible with RADIOBAND 1G.*

| | RBAND/OCS |
|---|---|
| Frequency | Multifrequency system (433 MHz, 868 MHz) |
| Power supply | 3V DC (2 x 1.5V LR6 AA) |
| Operating consumption | 10mA |
| Radiated power | < 25mW |
| Operating temperature | -20ºC - +85ºC |
| Watertightness | IP65 |
| Size | 151x60x23mm |
| Range (guaranteed) | 10 metres |
| Autonomy capacitors (approximate) | 9h (operating with opto safety edge continuously power supplied) |



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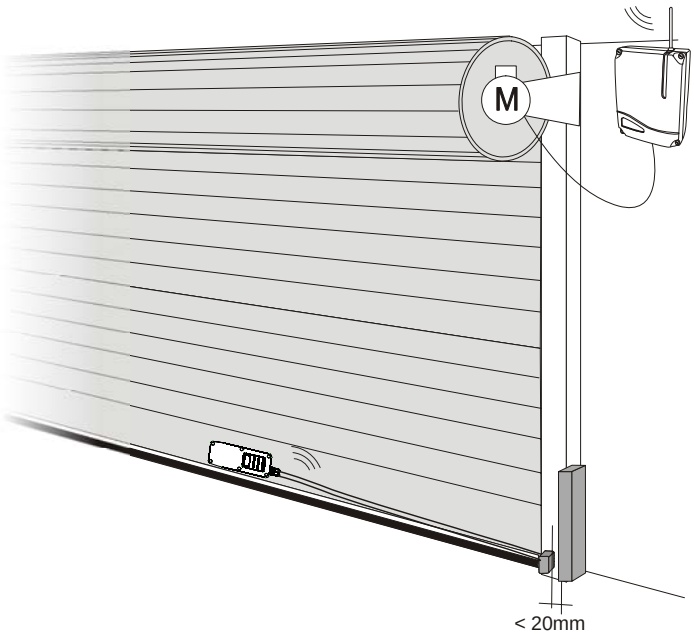
# • INSTALLATION PROCEDURE AND BASIC WIRING

## MECHANICAL INSTALLATION

Fix the back of the box to the door. Install the transmitter following the technical manual and avoid placing metallic surfaces between the receiver and the transmitter. Pass the cables through the bottom of the transmitter. Connect the safety edge following the electrical connections clause and ensure that the safety edge keeps totally waterproof. Fix the front of the transmitter to the back with the screws supplied for the purpose.



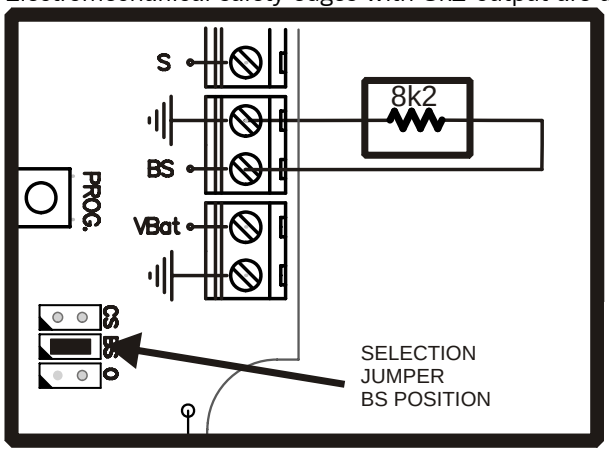

### SELECTOR JUMPERS

Allow selecting the type of the security element which is connected.

| Jumper selector | Function |
|---|---|
| CS | Voltage free safety contact |
| BS | 8k2 monitored safety edge |
| O | Opto safety edge |

### 8k2 MONITORED SAFETY EDGE

Ensure the safety edge selection jumper is fitted in the **BS** position.
Electromechanical safety edges with 8k2 output are also considered 8k2 monitored safety edges.




| | |
|---|---|
| SEdge Detection | 0kΩ – 5,8kΩ |
| SEdge Ok | 7kΩ – 9kΩ |
| SEdge Open | 11kΩ - ∞ |

# RBAND/OCS

## OPTO SAFETY EDGES

**The use of opto safety edges requires the autotest signal or the current detector signal from the receiver.**

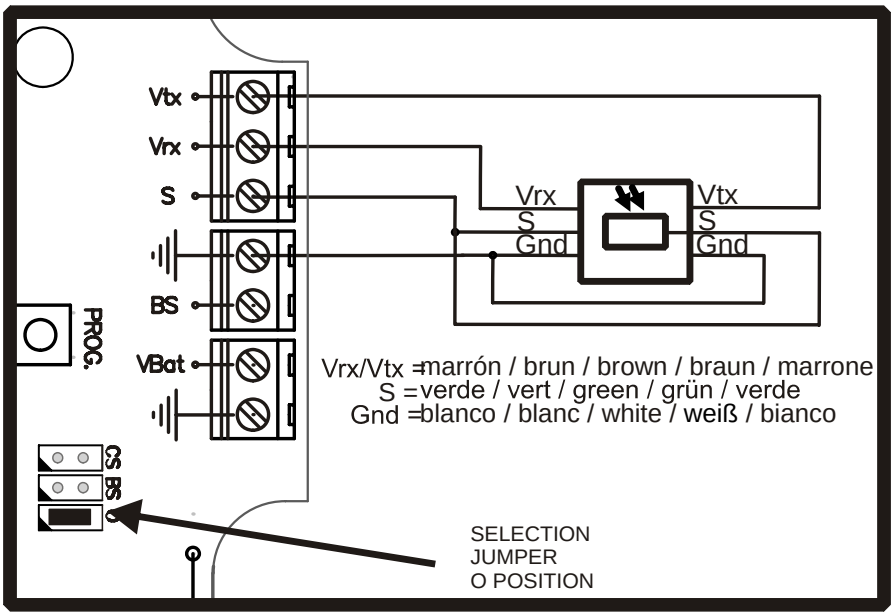
Ensure the safety edge selection jumper is fitted in the **O** position.
The system is only compatible with low power opto transmitter/receiver (3Vdc / 3mA).

The opto safety edge remains in standby mode (non functioning) until it receives an activation signal from the receiver. The activation signal is sent during the auto-test and it enables the opto safety edge for 60 seconds (by default) to allow the full travel of the door/gate.

When using the current detector signal instead of autotest, the opto safety edge will remain active during the motor movement.

The activation time of the opto safety edge can be modified. Before doing this operation it is necessary to know the door travel time.

1. Press the receiver **PROG** and **CHECK** buttons simultaneously until the three **CHECK**, **B1** and **B2** leds go light on.
2. Press the **PROG** button to begin the memorisation of the time the opto safety edge will be activated. You will hear a beep each second, to count the time easier.
3. Press the **PROG** button another time to memorise the total time the opto safety edge will be activated.
4. Program the transmitter to the receiver again (see paragraph PROGRAMMING).




## CONNECTION OF THE VOLTAGE FREE CONTACT

When a voltage free contact is to be connected, (eg. photocells or electromechanical safety edges without resistive output), fit the jumper in **CS** position.

**Note:** In order to comply with the **EN 12453 safety standard for the use of motorized garage doors**, the device connected to this input must have some verification system to ensure its proper functioning.

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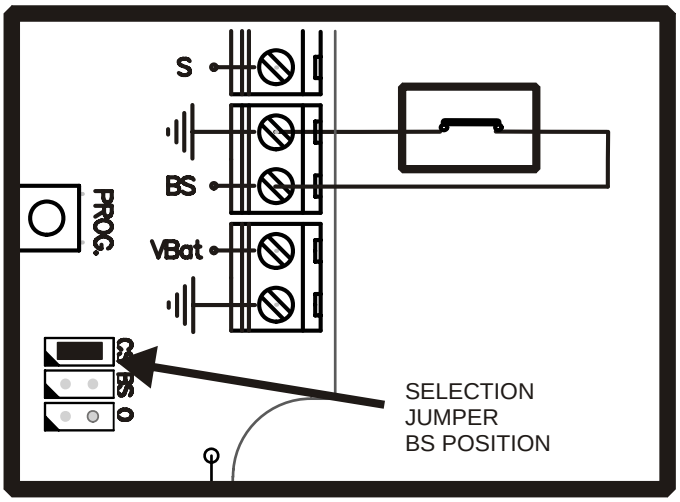
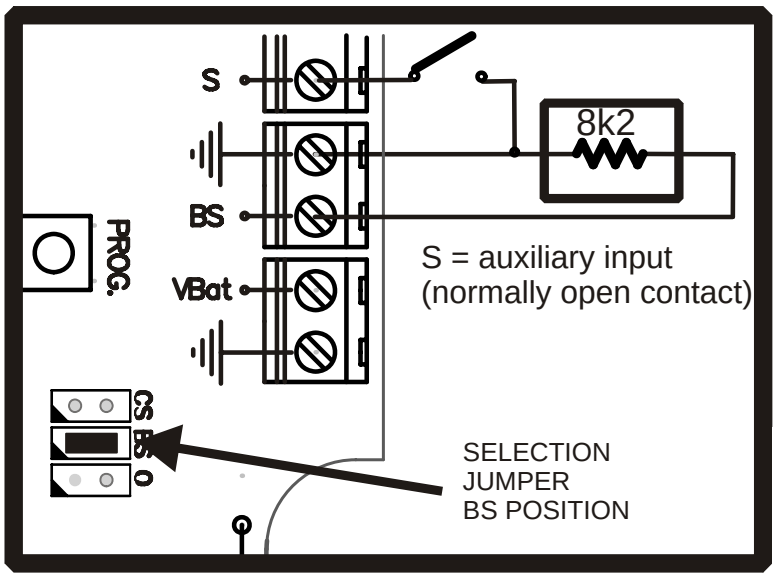



## CONNECTING AN AUXILIARY INPUT

When programming in the receiver the Mode 4 (See PROGRAMMATION clause), an auxiliary input turns available on the transmitter. The transmitter transmits the status of auxiliary input to the second relay of the receiver. This auxiliary input is a normally open contact and it will be programmed always in the relay 2 of the receiver.
In case of using an 8k2 monitored safety edge or a voltage free safety contact, this auxiliary input will be on the **S** terminal.
In case of using an opto safety edge, this auxiliary input will be on the **BS** terminal.

**Example of auxiliary input NO**




| | |
|---|---|
| SEdge Detection | 0kΩ – 5,8kΩ |
| SEdge Ok | 7kΩ – 9kΩ |
| SEdge Open | 11kΩ - ∞ |

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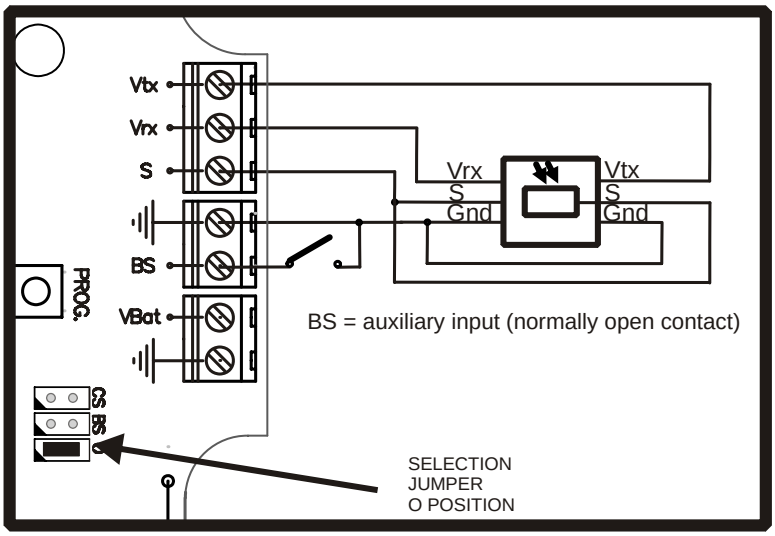
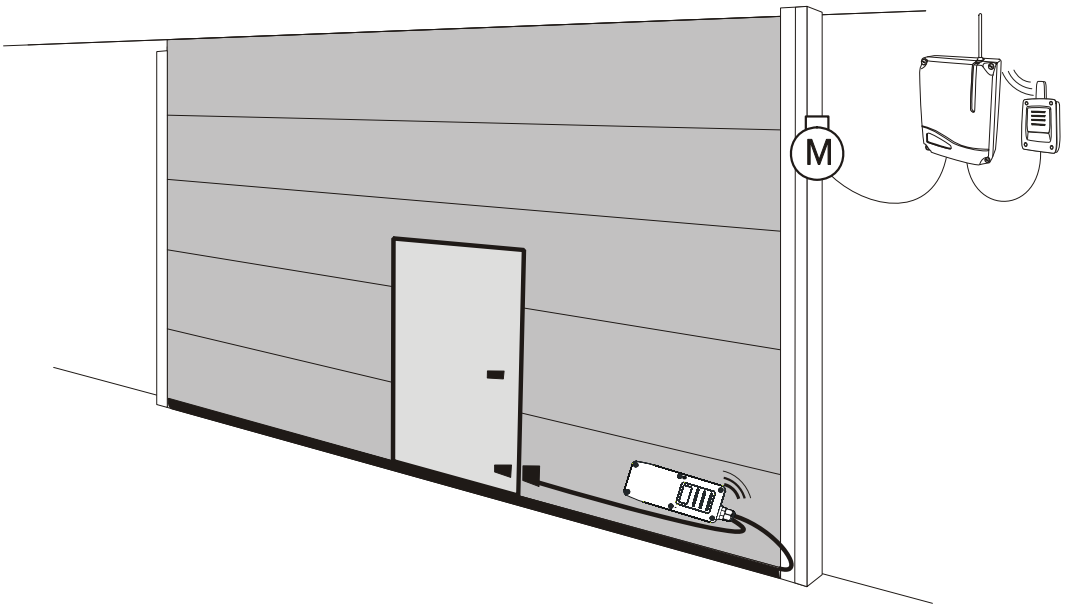

Vtx
Vrx
S
BS
VBat
PROG.
CS BS O
Vrx
S
Gnd
Vtx
S
Gnd
BS = auxiliary input (normally open contact)
SELECTION
JUMPER
O POSITION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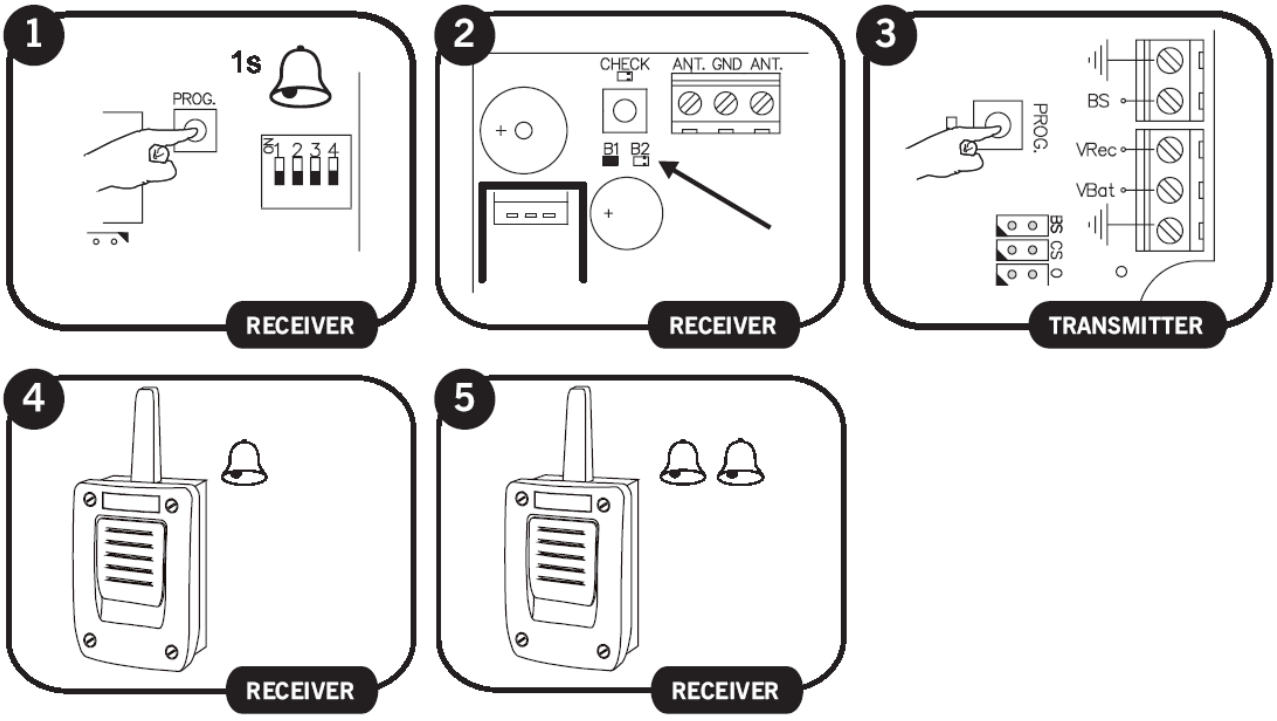
## • PROGRAMMATION

Each safety edge transmitter must be learnt into the appropriate channel of the safety edge receiver.

| Mode | Configuration of transmitter programming in the receiver. | Led R1 | Led R2 |
|---|---|---|---|
| 1 | By pressing the transmitter, relay 1 on the receiver will be activated | ON | OFF |
| 2 | By pressing the transmitter, relay 2 on the receiver will be activated | OFF | ON |
| 3 | By pressing the transmitter, the two relays will be activated at the same time | ON | ON |
| 4 | The relays are activated 1st relay by channel 1 (operate as normal operation for connecting a safety element) and 2nd relay by channel 2 (operates as a normally open contact for connecting an auxiliary input) | Flashes | Flashes |

*Notes:*
*- Modes 1, 2 and 3: Up to 6 transmitters (3 on output **R1** and 3 on output **R2**) can be connected to the receiver in modes 1, 2 and 3.*
*- Mode 4: In this mode only 3 transmitters can be connected to the receiver. The second relay cannot make the function of indicating low battery.*
*- Each transmitter can be configured independently on the receiver.*
*- A Transmitter should only be connected to one receiver.*




If 10 seconds pass without programming a transmitter, the receiver will exit the programming mode.
If when programming a transmitter the receiver's memory is full then it will emit 7 beeps of 0.5 sec and exit the programming mode.

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# • MAINTENANCE

## TRANSMITTER BATTERY LOW INDICATOR

In normal conditions the battery should operate for two years.
If the battery of a transmitter programmed into the receiver becomes low, the receiver will beep 4 times every 20 seconds. If there is more than one transmitter programmed, each safety edge should be activated to identify, hearing the 4 beeps, which transmitter has a low battery. Proceed to recharge it with the wireless charger ACCU.

When the second relay of the receiver is not used for a safety edge, it can be used as a battery low indicator. It will activate the output relay when a transmitter with low battery is detected. In this case the receiver will not indicate low battery with the beeps. Put dipswitch 4 on the function selector to **ON**.
Note: Only available in mode 1.

## IMPORTANT ANNEX

Disconnect the power supply whenever you proceed to the installation or repair of the control panel.
In accordance with the European low voltage directive, you are informed of the following requirements:
· For permanently connected equipment, an easily accessible connection device must be incorporated into the cabling.
· This system must only be installed by a qualified person that has experience with automatic doors/gates and knowledge of the relevant EU standards.
· The instructions for use of this equipment must always remain in the possession of the user.
· Terminals with a maximum section of 3.8mm2 must be used to connect the cables.
· The frequency of the RadioBand system does not interfere in any way with the 868 MHz remote control systems.

**JCM TECHNOLOGIES, S.A.** declares herewith that the product RBAND/OCS complies with the requirements of the 1999/5/CEE R&TTE Directive, 2004/108/EC Directive on electromagnetic compatibility and 2006/95/EC on low voltage, insofar as the product is used correctly.

## CE CONFORMITY DECLARATION

See web www.motion-line.com