



# RBAND/UMS & RBAND/CSM

## User Manual

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## Important safety instructions



This manual contains important instructions and warnings for personal safety. Carefully read all parts of this manual. If in doubt, suspend installation immediately and contact the manufacturer Technical Assistance.

Keep this manual in a safe place to enable future product maintenance and disposal procedures.

### Important safety instructions for installation



Disconnect the power supply whenever you proceed to the installation, maintenance or repair of the equipment.

- Install any permanent control next to the door away from any moving part and at a minimum height of 1.5m.
- For permanently connected equipment, an easily accessible power disconnection device must be incorporated into the wiring. It is recommended that this be of the emergency switch type.
- This equipment can only be handled by a specialist fitter, by maintenance staff or by a suitably trained operator.
- Use protective goggles when handling the equipment.
- Fuses must only be handled when the appliance is disconnected from the mains.
- The instructions for using this equipment must remain in the possession of the user.
- Never apply modifications to any part of the device. Operations other than those specified may only cause malfunctions. The manufacturer declines all liability for damage caused by makeshift modifications to the product.
- Never place the device near to sources of heat and never expose to naked flames. These actions may damage the product and cause malfunctions.
- Handle the product with care, being sure not to crush, knock or drop it in order to avoid damage.

### Important safety instructions for use

- This product is not intended for use by people (including children) with reduced physical, sensory or mental capabilities or who lack experience and knowledge, unless they have been given supervision or instruction concerning the use of the product by a person responsible for their safety.
- The operating frequency of the receiver does not interfere in any way with the 868 MHz remote control systems.



**PRODUCT DISPOSAL** This product may not be disposed of together with domestic waste. Sort the materials for disposal, according to the methods envisaged by current legislation in your area, or return the product to the retailer when purchasing an equivalent product.

### Use of the equipment / Use of the system

Designed for automation of garage doors, in accordance with the general description. Not guaranteed for other uses.

The manufacturer reserves the right to alter equipment specifications without prior notification. No liability can be accepted for errors and misprints.

# Introduction

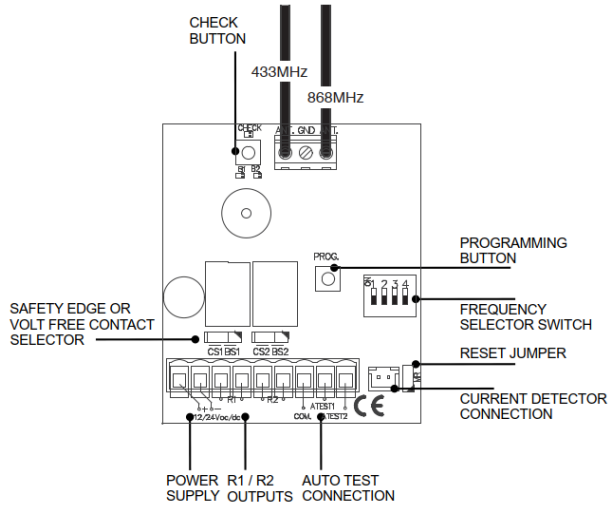
## Description

The RadioBand system is designed for 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.

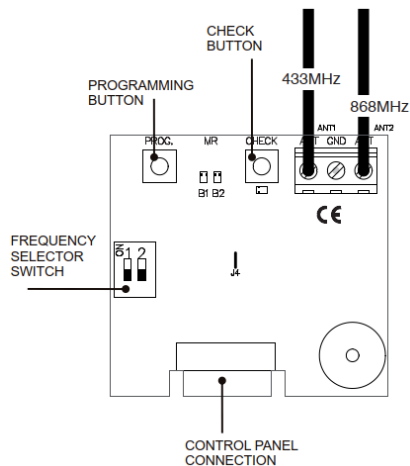
Up to three transmitters per output can be connected to the receiver. There are two outputs on each receiver. The system is compatible with 8K2 monitored safety edges, opto safety edges and volt free safety contacts. Two inputs available in the transmitter.

The system complies with EN ISO 13849-1, cat 2, PLc.

## RBAND/UMS



## RBAND/CSM



# Installation

## Mechanical installation RBAND/UMS

Fix the back of the box to the wall, using the wall plugs and screws supplied. Install the receiver, close to the door and avoid metal surfaces between the receiver and the transmitter. Pass the cables through the bottom of the receiver. Connect the power cables to the terminals of the printed circuit, following the indications of the connections diagram. Store transmitters. Fix the front of the receiver to the back with the screws supplied for the purpose.

### Installation advices

Use the cable entry at the bottom of the receiver for the power supply and control connections.

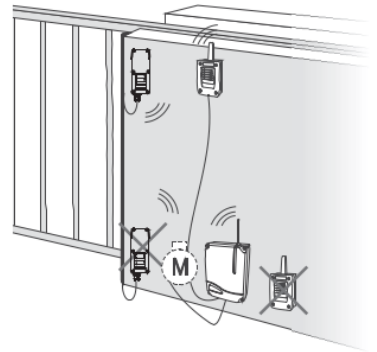
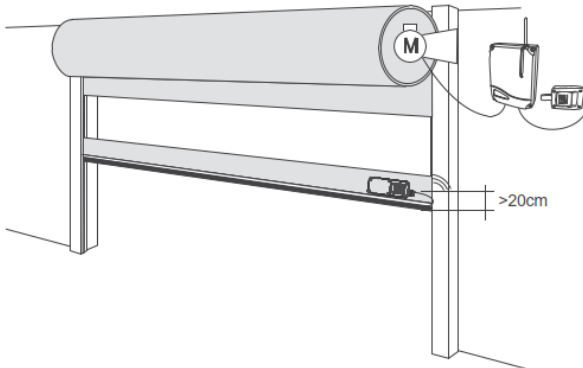
The transmitter and receiver antenna must be parallel to each other for optimum signal reception.

Fit the batteries ensuring the correct polarity.

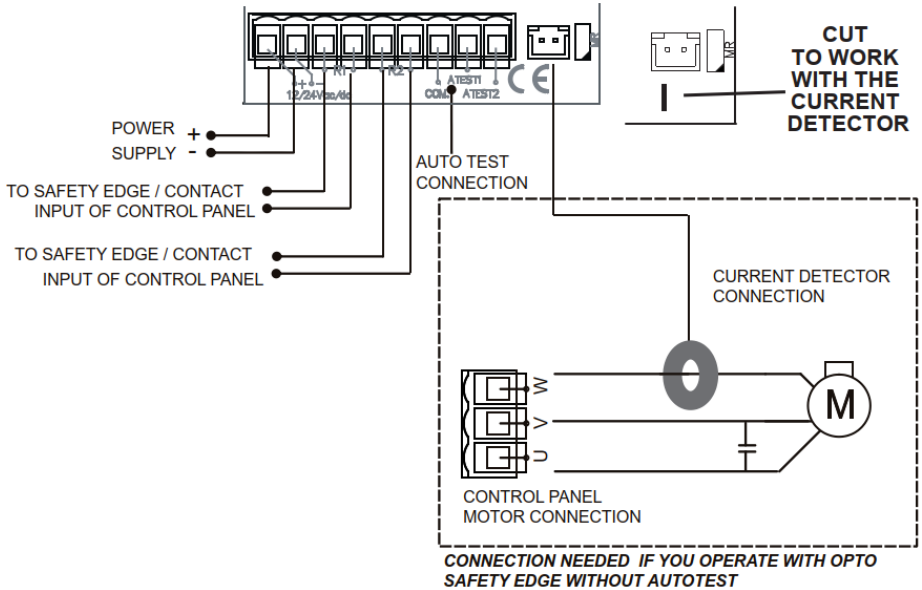
After programming the transmitter re-fit the front cover of the transmitter and the receiver.

## Mechanical installation RBAND/CSM

Connection to a control panel using a connector for safety devices. The power supply must be disconnected.



# Electrical connections RBAND/UMS



## Options selector

Option No	ON	OFF
1 - Channel selection	See table Multifrequency system	See table Multifrequency system
2 - Channel selection	See table Multifrequency system	See table Multifrequency system
3 - Autotest polarity	Negative polarity	Positive polarity
4 - Relay 2 fuction	Low battery indicator	Normal fuction

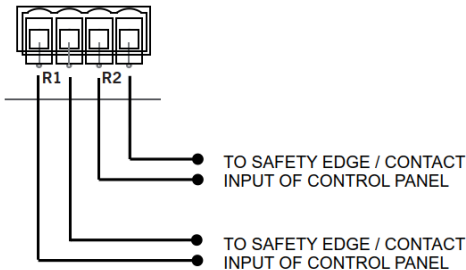


Options 3 and 4 not available in RBAND/CSM.

## Control outputs

The outputs can be configured to act an 8k2 or as a N/C Contact.

- The relay jumper in position BS the output is 8K2.
- The relay jumper in position CS the output is N/C Contact.



**THE OUTPUTS CAN  
BE CONFIGURED TO  
ACT AN 8K2 OR AS A  
NC CONTACT.**



## Autotest signal

Whilst the RadioBand receiver monitors the RadioBand transmitter every 20 seconds, the system must be tested at the exact time when the door/ gate receives a signal to move. This test is done with the auto test signal.

The auto test signal ensures that all of the parts of the safety edge system are ok before the door/gate can operate.

The auto test signal is sent from the door/gate control panel and activates the output from the RadioBand receiver.

When the door/gate control panel receives this output it allows the door/gate to start.

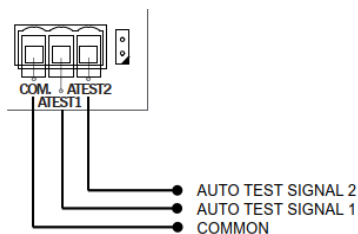
The RadioBand receiver will accept two types of auto test signal. The function selector switch must be put in the correct position for the auto test signal.

1. Positive autotest: A 0V signal which switches to 12/24V ac/dc for the auto test.
2. Negative autotest: A 12/24V ac/dc signal which switches to 0V for the auto test.



The auto-test signal from the control panel must only remain activated for up to 3 seconds

In order to comply with the EN ISO 13849-1 safety standard, it is necessary to connect the autotest signal.



**THE RADIOBAND RECEIVER WILL ACCEPT TWO TYPES OF AUTO TEST SIGNAL. THE FUNCTION SELECTOR SWITCH MUST BE PUT IN THE CORRECT POSITION FOR THE AUTO TEST SIGNAL.**

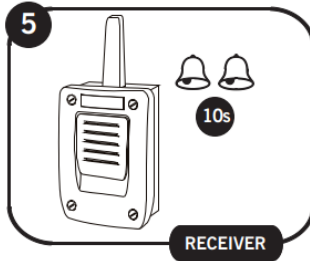
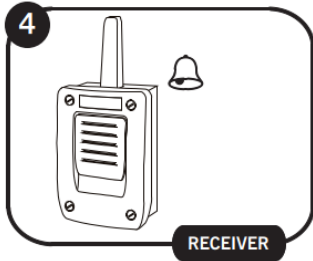
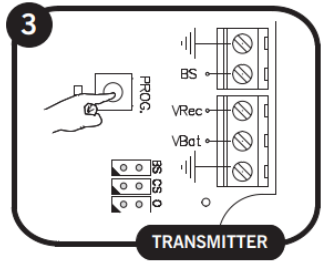
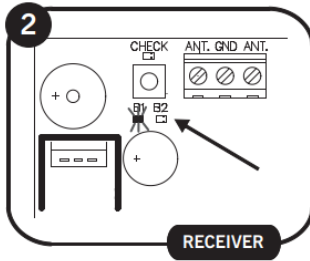
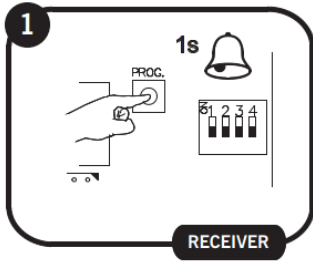


SELECTOR SWITCH  
3 ON



SELECTOR SWITCH  
3 OFF

# Programming



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 relay 1 by channel 1 (operate as normal operation for connecting a safety element) and relay 2 by channel 2 (connection of an auxiliary input, the sender transmits the status of the auxiliary input to the second relay of the receiver)	Flashing	Flashing

## 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 relay 2 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.

## Total Reset

In programming mode, keep the programming PROG button pressed down and make a bridge with the "MR" reset jumper for 3s. The receiver will emit 10 warning sound signals and then more at a faster frequency, indicating that the operation has been carried out. The receiver will stay in programming mode.

Wait for the receiver to exit the programming mode.

The receiver will exit the programming mode emitting two 1 sec beeps. If 10 seconds pass without programming a transmitter, the receiver will exit the programming mode.

## Replacing a transmitter

If a transmitter becomes damaged the whole system must be re-set and replacement and non-damaged transmitters must then be reprogrammed into the receiver.

## Multifrequency channel

For a better communication between the devices of the system and to avoid possible interferences, the system incorporates 4 communication channels selectable by the users.

Moreover, it incorporates a security channel that will be used for guarantee the functioning in front of possible communications failures on the selected channel.

Channels	Frequency bands (MHz)	Switch 1	Switch 2
Channel 1 (*)	868,700 – 869,200	OFF	OFF
Channel 2	868,000 – 868,600	ON	OFF
Channel 3	869,400 – 890,650	OFF	ON
Channel 4	869,700 – 870,000	ON	ON
Security channel	433,050 – 434,790	---	---

(\*) Default channel

In front of low levels of signal (see function CHECK) or interferences on the selected channel, it could be possible to select another communication channel, being necessary to program again all the transmitters.

## Maintenance

### System CHECK

This function has to be used to check the operation and range of all the devices once the installation has been carried out. Press the receiver's CHECK button for at least 1 second to enter check mode. The indicator light will come on and four beeps will be heard. Perform a complete door opening and closing manoeuvre. During the system check a beep will be heard every 1,5 seconds.

### Correct operation of the system

If no other acoustic signal is heard on completing the manoeuvre, the system is operating correctly. Either press the CHECK button again or wait 5 minutes and the receiver will exit checking automatically, indicating with two beeps that the check has been correct. The check indicator light will go out.

### Detection of safety edge failure

If the communication with a transmitter fails during checking, or the communication is deficient (for instance, too many communication retries or poor coverage), the receiver emits three consecutive beeps, indicating that an error has occurred. Halt the door manoeuvre and press the safety edges installed to detect what has failed.

- If a single beep is heard on pressing a safety edge, this means that the safety edge is correct.
- If three consecutive beeps are heard on pressing the safety edge, this means that the safety edge has failed.

In this event, it is recommended changing the orientation of the transmitting-receiving aerials or installing an AED-868 or FLAT-868 outdoor aerial to ensure the desired range.

On exiting check mode, seven consecutive beeps will be heard and the indicator light will flash continuously.

Perform another system check until the result is correct.

## Signal coverage

After pressing one of the installed safety edges, continuous flashes, ranging from 1 to 5, indicate the signal coverage for this safety edge at the time it was pressed.

Number of check LED flashes	Coverage	Result of check
1	Very weak	Safety edge failure
2	Weak	OK
3	Normal	OK
4	Good	OK
5	Very good	OK

## 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. If the battery power is low, replace it immediately.

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, useful to trigger an alarm. In this case the receiver will not indicate low battery with the beeps. Put dipswitch 4 on the function selector to ON.



Only available in mode 1 and in the RBAND/UMS model.

## Technical data

System non compatible with RadioBand 1G.

Parameter	RBAND/UMS	RBAND/CSM
Frequency	Multifrequency system (433 MHz, 868 MHz)	Multifrequency system (433 MHz, 868 MHz)
Memory	6 transmitters (3 on relay 1, 3 on relay 2)	6 transmitters (3 on relay 1, 3 on relay 2)
Relay numbers	2 relays	---
Power supply	12/24V ac/dc	Pluggable
Power supply range	9-35V dc 8-28V ac	---
Relay contacts	1A	1A
Operating consumption	Max 255mA	Max 90mA
Power in network standby mode	1,2W	---
Autotest signal input	Two 0/12/24V ac/dc inputs with selectable polarity	Incorporated
Radiated power	< 25mW	< 25mW
Operating temperature	-20°C to +55°C	-40°C to +55°C
Watertightness	IP54 (with IP65 cable seals)	IP20
Box size	82 x 190 x 40mm	50 x 47 x 14 mm
Range	10 metres	10 metres

### Requirements according to Ecodesign regulation

This equipment complies with the energy efficiency requirements established by the Ecodesign regulation.

The specific parameters are detailed below:

- **Network standby mode:** This device has a network standby mode that is automatically activated when the device is powered on or after receiving a signal.
- **Transition time to network standby mode:** 1 second.
- **Recommended power supply:** For devices operating at 12/24Vac/dc, a power supply with an output of **12Vac/dc or 24Vac/dc, 0.5A** should be used.

# Regulatory Data

## UKCA Declaration of conformity

**JCM TECHNOLOGIES, SAU** hereby declares that the product **RBAND/UMS & RBAND/CSM** complies with the relevant fundamental requirements of the Radio Equipment Regulations 2017, as well as with the Supply of Machinery (Safety) Regulations 2008 whenever its usage is foreseen; and with the RoHS Regulations 2012, and the Ecodesign for Energy-related Products Regulations 2010.

## EU Declaration of conformity

**JCM TECHNOLOGIES, SAU** hereby declares that the product **RBAND/UMS & RBAND/CSM** complies with the relevant fundamental requirements of the RED Directive 2014/53/EU, as well as with the Machine Directive 2006/42/EC whenever its usage is foreseen; and with the 2011/65/EU RoHS Directive, and of the Ecodesign Regulation 2023/826/EU.

See website <https://www.jcm-tech.com/declarations/>

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