

electronic solutions for doors, gates and automatic
entry control elements

RadioBand

communication systems via
radio for safety edges



forget about
cables!

jcmtechnologies

be a step ahead with technology and imagination



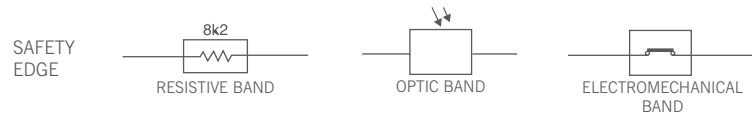


The RadioBand system is the result of research and development by our team of engineers who are experts in telecommunications and offers full guarantee. It complies with the requirements established in current regulations.

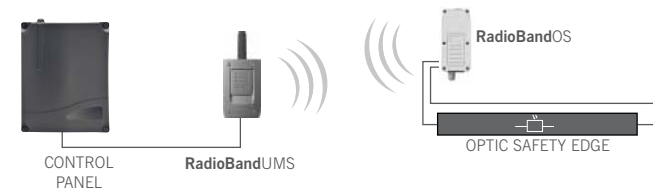
RadioBand is a communication system via radio for safety edges that offers a two-way connection at 868 MHz with an auto-test between the transmitter and the receiver.

Multi-technology system

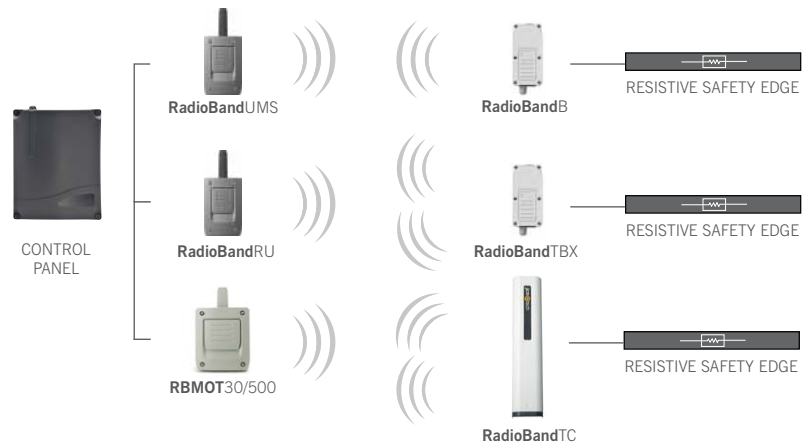
The RadioBand system is able to operate with resistive safety edges with 8k2 value, with electromechanical bands and with those that use low consumption optic technology.



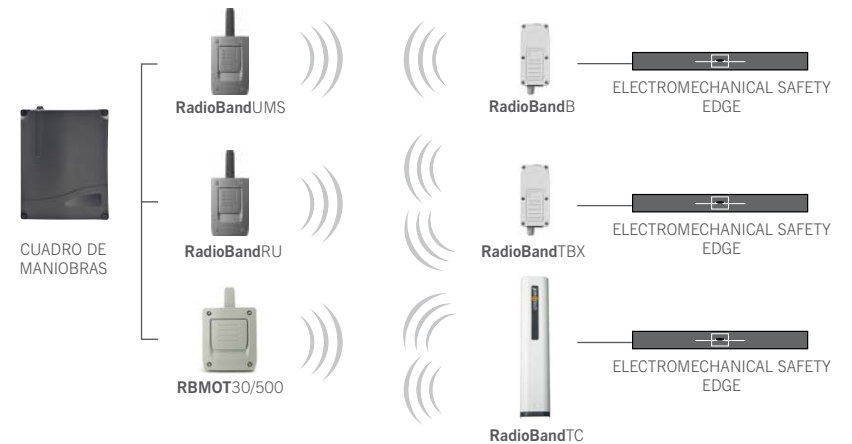
CONNECTION WITH AN OPTIC Safety edge
The safety edge must be low consumption (3Vdc/3mA or similar).



CONNECTION WITH A RESISTIVE Safety edge



CONNECTION WITH A NON-RESISTIVE ELEMENT



RADIOBAND 2G multi-frequency system

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

In order to improve the communication between the devices in the system and avoid possible interferences, the system integrates 4 communication channels that can be selected by the user, and 1 security channel or backup. The latter comes on automatically when interferences are detected in the selected 868 frequency. The first-generation **RadioBand** system is single-frequency at 868MHz.

Option selecting function

Switch 1 and 2 are for selecting the channel that will be used for the communication between the receiver and the transmitter. Switch 3 configures the polarisation of the auto-test; our equipment uses negative auto-test polarisation. Switch 4 is for selecting the function of the second relay. This relay can work normally or can warn about low battery.

N°	OPTION	ON	OFF
1	CHANNEL SELECTION	SEE MULTI-FREQUENCY TABLE	SEE MULTI-FREQUENCY TABLE
2	CHANNEL SELECTION	SEE MULTI-FREQUENCY TABLE	SEE MULTI-FREQUENCY TABLE
3	AUTO-TEST POLARISATION	NEGATIVE POLARISATION	POSITIVE POLARISATION
4	RELAY 2 FUNCTION	LOW BATTERY WARNING	NORMAL FUNCTION

2 independent activation relays

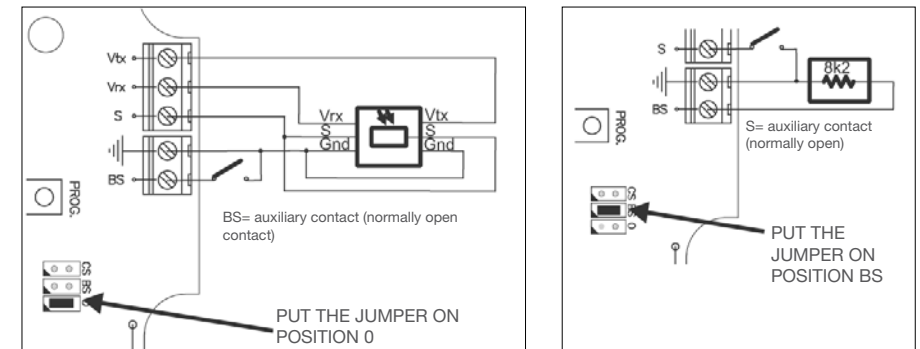
The **RadioBand** system enables the user to store up to 6 transmitting elements in one receiver – 3 for each relay – and they can be activated simultaneously. The second relay can be used as a low battery warning. The function is only available in the second generation version of **RadioBand**.



2 independent inputs in the transmitter

With **RadioBand/OS** the safety edge and the auxiliary input can be connected independently. The receiver will activate relay 1 or 2 according to the input activated. 3 transmitters per receiver maximum.

EXAMPLE OF A NO AUXILIARY CONTACT



Incorporation of a MOTION receiver in the RBMOT30/500

RadioBand Receiver with incorporated MOTION 868 MHz receiver. It enables the use of **RadioBandTBX** or **RadioBandTC** transmitters and MOTION 868 MHz emitters with the same receiver equipment. Compatible with the installation management program **SOFT-ASSISTANT**. JUMPER IN THE BS S= auxiliary input POSITION SELECT THE JUMPER ON THE O BS= auxiliary contact POSITION (normally open contact) S= auxiliary contact (normally open)

Continuous auto-test

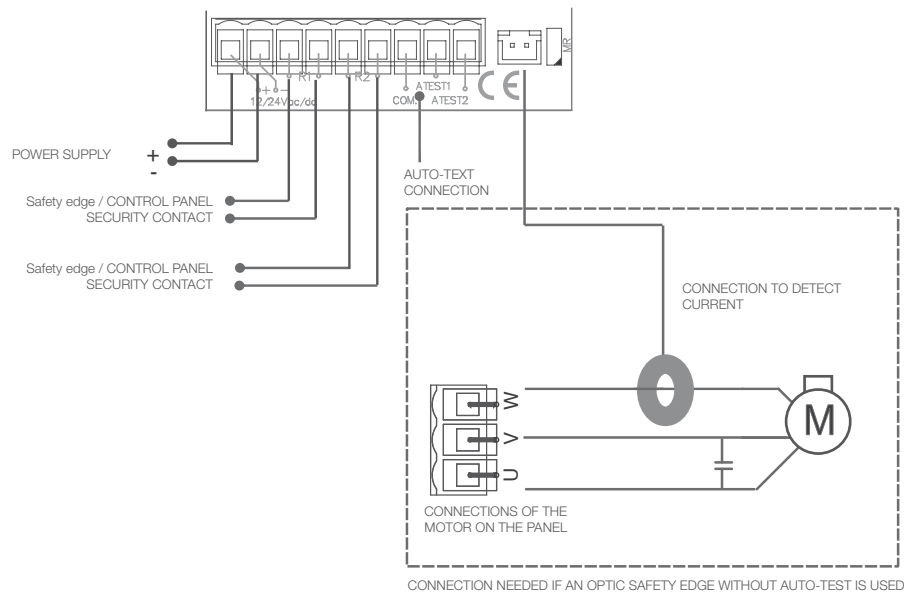
The condition of all the pieces of equipment in the system is checked in real time, so it is able to detect a fault on any of the transmitters immediately.

Manoeuvre auto-test

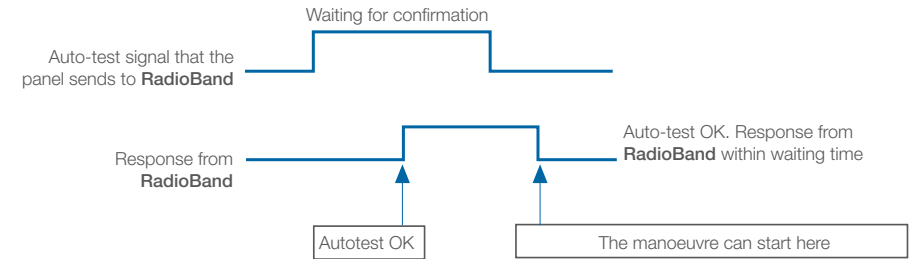
For external RadioBand receivers that are connected with a cable to any control panel, 2 auto-test inputs are enabled in order to check the condition of the system before the door moves. Those that are connected as a card to the control panels also have this function. Patented auto-test system.

Current sensor (RadioBandSC)

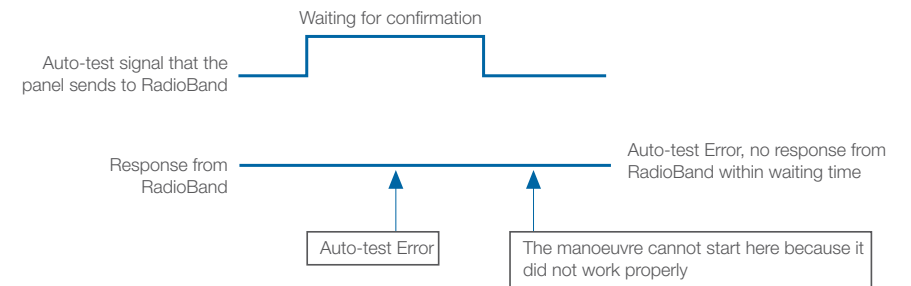
It is connected to the **RadioBandUMS** and a phase of the motor is passed through the sensor. When the motor starts up it warns the receiver that the door is moving and activates the photocells on the optical safety strip.



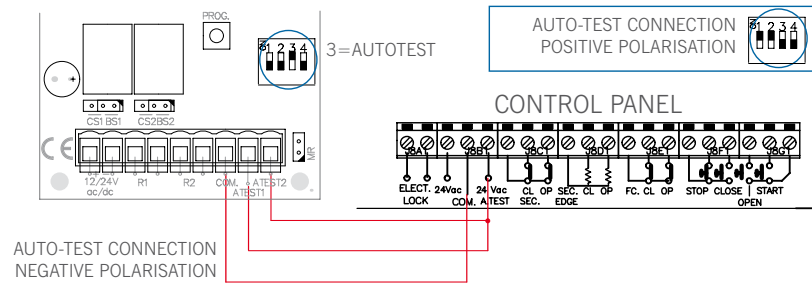
TIMING AUTO-TEST CORRECT



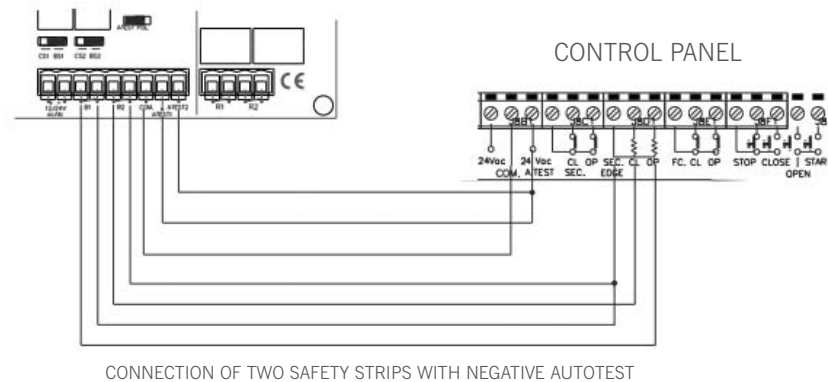
TIMING AUTO-TEST ERROR



RadioBandUMS

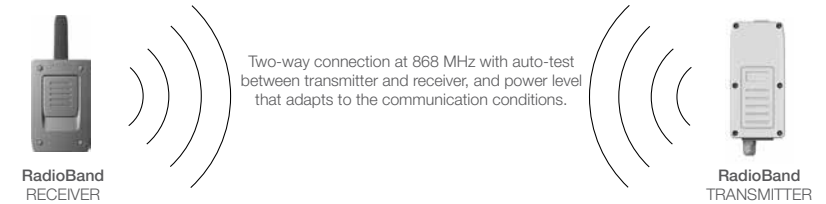


RBMOT30/500



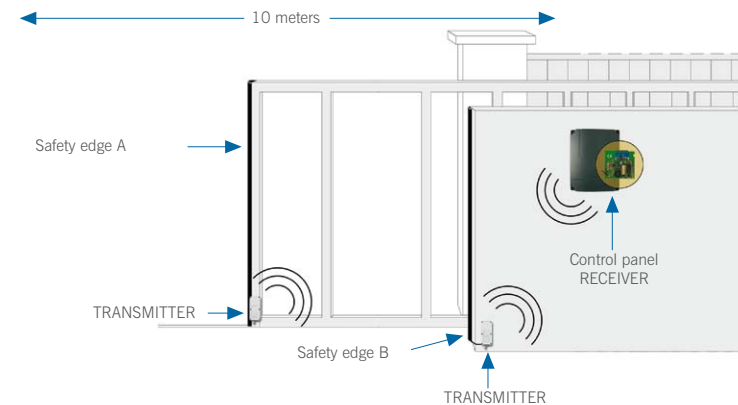
Intelligent communication system

With the signal level between the second generation transmitter and receiver, the level of transmission power adapts automatically to improve its reliability and reduce consumption in situations of high communication quality.



Distance between transmitter and receiver - 10 m

Although in many cases the distance between devices has reached up to 40 m, optimal levels of working parameters are guaranteed at 10 m. The system includes a CHECK function which shows the quality of the communication at all times, with a LED indicator.



RadioBand
Safety edge A: resistive
Safety edge B: resistive
Transmitter: **RadioBand**/TBX

RadioBand 2G
Safety edge A: optic
Safety edge B: resistive
Transmitter: **RadioBand**/OS

Leaktight boxes IP65



The transmitter boxes of the **RadioBand** system have 4 anchoring points on the cover in the first generation RadioBand, and 6 on the cover of the second generation **RadioBand**, seal and leaktight joint to achieve a rating of IP65. 2 models available in the second generation transmitter systems and 1 model in the first generation.

Boxes for interiors IP44



RadiobandTC transmitters are designed for interior commercial and residential gates, therefore their boxes have a rating of IP44. All the other transmitters have a leaktight joint with IP65

Rating	Protection	Effectiveness
0	—	No protection
1	>50 mm	Protected against solid objects over 50 mm, e.g. accidental touch by hands
2	>12,5 mm	Protected against solid objects over 12 mm, e.g. fingers
3	>2,5 mm	Protected against solid objects over 2.5 mm (tools/wires)
4	>1 mm	Protected against solid objects over 1 mm (tools/wires/small wires)
5(K)	dust	Protected against dust – limited ingress (no harmful deposit)
6(K)	fine dust	Totally protected against dust

Protection against liquids and moisture

Rating	Protection	Definition
0	No protection	—
1	water drops	Protected against vertically falling drops of water.
2	water drops 15° from the vertical	Protected against sprays up to 15° from the vertical.
3	water spray	Protected against sprays up to 60° from the vertical.
4	water jet	Protected against water sprayed from all directions – limited ingress permitted.
5	low pressure water jet	Protected against low pressure jets of water from all directions – limited ingress permitted.
6	strong pressure water jet	Protected against strong jets of water, e.g. for use on shipdecks - limited ingress permitted.
7	1 m immersion	Protected against the effects of immersion between 15 cm and 1 m.
8	More than 1 m immersion	Protected against long periods of immersion under pressure..

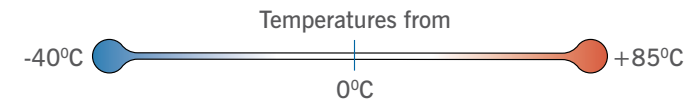
Protection against water.

Power supply receiver 12/24 ac/dc

The **RadioBand** receiver requires 12 or 24V, direct and alternating.

The power supply of the transmitter is able to work under extreme conditions

The transmitters are supplied with two types of batteries according to the requirements of the application. For applications that work at very low temperatures, the RadioBand transmitter with special batteries that can endure temperatures as low as -40°C can be purchased. For the rest of applications, standard AA will be supplied.



Controlling the batteries

Acoustic low battery warning (**RadioBand** AND **RadioBand 2G**) and with the activation of the relay on the receiver, which will activate a flashing light connected to it beforehand (**RadioBand 2G**).

External power supply

The RadioBandTC has an auxiliary VBat input for external power supply with a RB-BatPack, in order to have more autonomy.

2 years of autonomy

For applications in which the system has high communication quality, the batteries will last about 2 years.

The system has a CHECK function, which shows the quality of the communication at all times with a LED indicator.

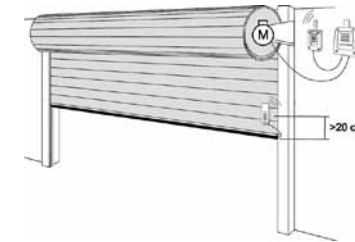
In the optic version, the batteries will also last depending on how much the door is used.

MANEUVRES	TIME OF MANEUVRE	RADIOBAND MODEL	TYPE OF OPERATION	TYPE OF SENSOR	OPENING/ CLOSING SENSOR	TYPE OF BAND	DURATION TIME
25	5 SECONDS	RBAND/OS	AUTOTEST	0	CERRAR	WITT	1,99 YEARS
50	5 SECONDS	RBAND/OS	AUTOTEST	0	CERRAR	WITT	1,90 YEARS
100	5 SECONDS	RBAND/OS	AUTOTEST	0	CERRAR	WITT	1,75 YEARS

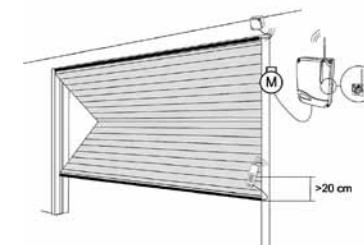
Saving energy

With the optic band version the user can programme the operation time of the transmitter so that it adapts to the time the door is open. 60 seconds is the factory default.

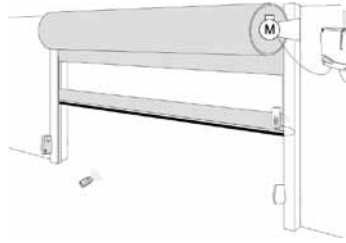
With **RadioBand/SC** the time does not have to be programmed because the optic band comes on when it detects the current in the motor.



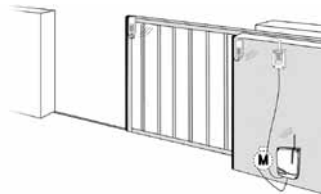
Example of an installation in a roller door with control panel and **RBMOT30/500** or **RadioBandRU** o **RadioBandUMS**



Example of installation in an overhead foldaway door with a control panel with connector for **RadioBandRCS** or **RadioBandCSM** card



Example of an installation in a fast door with a control panel and **RBMOT30/500** or **RadioBandRU** or **RadioBandUMS**



Example of an installation on a single-leaf sliding door with a control panel and **RBMOT30/500** or **RadioBandRU** or **RadioBandUMS**

RadioBand

FIRST GENERATION

RadioBandTBX transmitter

Resistive bands 8.2 K Ω .
Electromechanical bands.
Single-frequency at 868 MHz.
2 AA batteries.
IP65 box.

Emisor RadioBandTC transmitter

8k20hm resistive safety edges.
Electromechanical edges.
Auxiliary power supply Vbat.
868MHz Monofrequency.
2 batteries AA.
IP44.

RadioBandRU receiver

Checking function for the receiver/transmitter communication (Check).
Auto-test connection with control panel.
2 relays.
6 programmable transmitters maximum (3 x relay).
Power supply 12/24Vac/dc.

RBMOT30/500 receiver

RADIOBAND1G + 868MHz MOTION receiver.
Function communication checking receiver .
transmitter (check).
Autotest connection with panel.
2 relays.
Maximum 6 programmable transmitter (3 x relay).
It can work with 30 or 500 codes depending on the version.
It allows the identification of the Free system GROUPS.
Relay 2 can optionally be selected as a low battery warning.
Power: 12/24Vac/dc.

RadioBand 2G

SECOND GENERATION

RadioBandB / OS / OSB transmitter

Low consumption optic bands.
Resistive bands 8.2 K Ω .
Electromechanical bands.
Multi-frequency system.
Security channel 433 MHz.
2 AA batteries.
Additional battery connection (version OSB).
IP65 box.

RadioBandUMS receiver

Checking function for the receiver/transmitter communication (Check).
Auto-test connection with control panel.
Coil connection to detect current in motor (operation without auto-test).
2 relays.
6 programmable transmitters maximum (3 x relay).
Relay 2 auxiliary contact function.
Power supply 12/24Vac/dc.

RadioBand Batpack

Box of additional batteries for the optic version (OSB).

RadioBandSC

Coil to detect current for RadioBand without auto-test.

RadioBand

communication systems via radio for safety edges

certifications



ISO 9001



TECHNISCHER
ÜBERWACHUNGS-VEREIN



EUROPEAN UNION
CERTIFICATION



FEDERAL COMMUNICATION
COMMISSION

