



Jcmtechnologies

# RS3 TGL868NF

RadioSens 3 System

EN



User manual

# RADIOSENS 3

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## IMPORTANT SAFETY INSTRUCTIONS

Disconnect power supply whenever you proceed any installation or repair of the equipment.

In accordance with the European low voltage directive, the following requirements are informed:

- For permanently connected equipments, an easy-access connection device must be provided.
- This system must only be installed by qualified persons with experience in automatic doors/gates installations and with knowledge of the applicable EU standards.
- The instructions for use of this equipment must always remain in the possession of the user.
- RADIOSENS system's work frequency does not interfere with the 868 MHz remote control systems.
- **Follow all the recommendations given in this manual to avoid serious dangerous to persons.**

**More tips, interactive demos and online videos**



### 1.1 General description

RadioSens3 system is designed for Fast doors and Flat-slat rolling shutters in an Industrial, Commercial or Residential environment. RadioSens3 is an impact detection system installed at the principal edge of the door. It works detecting any obstacle before the strength exceeds regulations limits and then inverting door movement.

RadioSens3 is a wireless system based on an RF transmitter and a receiver card plugged in the control panel which permanently monitors the status of the transmitter programmed.

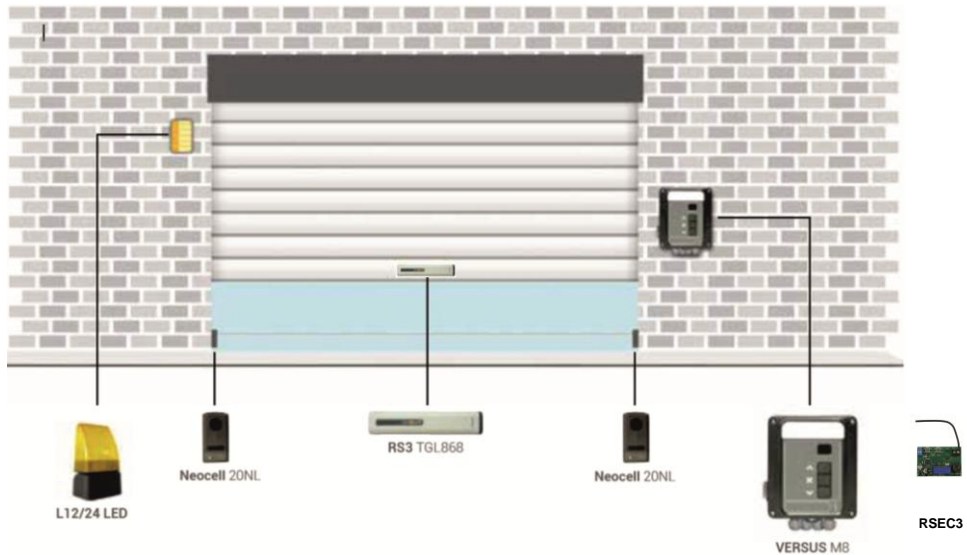
The RadioSens3 system (RS3 T868, RS3 TGL868 and RSEC3) complies with the EN ISO 13849-1:2015 standard, category 2, PLd. Certified by TÜV NORD CERT GmbH.



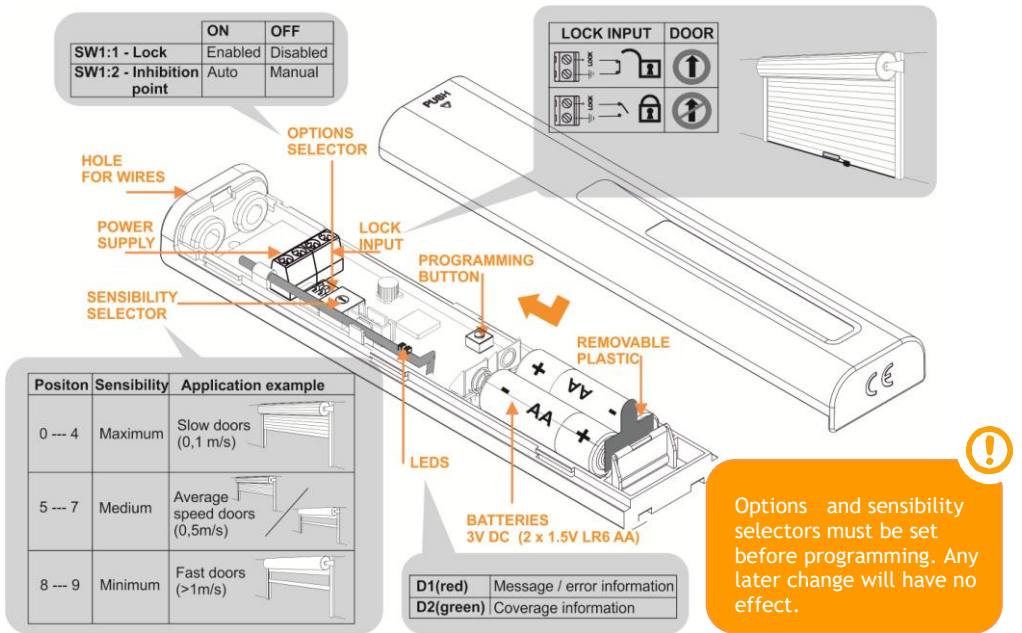
#### MINIMUM REQUIREMENTS:

- Minimum speed at any point of the door: 0,1m/s
- Door Maximum width: 4 meters
- Maximum tolerance in door repetitive movements: 5%
- Minimum distance between the last 2 slats: 2mm
- RS3 installation in the central part of the door

Typical installation shown in the figure below. A RadioSens3 transmitter set at the last slat of a roller door aluminium and connected via radio to RSEC3 receiver with a VERSUS control panel.



# RS3 SYSTEM



## 2. Installation

### 2.1 Mechanical installation

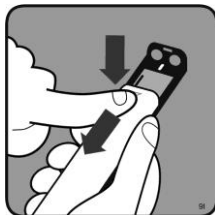
Install the transmitter following the steps and recommendations below. Pass the cables through the holes indicated (only if you use the lock connection).

Install the transmitter in a horizontal position, at the middle of the last slat (it must have a tolerance of minimum 2mm of movement). Avoid placing metallic surfaces between the receiver and the transmitter.

It is recommended to use limit switches in the installation and to have them properly connected, or to assure that the door will stop always at the same point. The speed of the door must be uniform.

Options and sensibility selectors must be set before programming. Any later change will have no effect.


SWIPE TO OPEN COVER



REMOVE PLASTIC



DRILL DOOR



Maximum width of the door: 4 m  
Recommended door speed: 0.1m/s or higher (and 17 rpm motors).

## RS3 SYSTEM

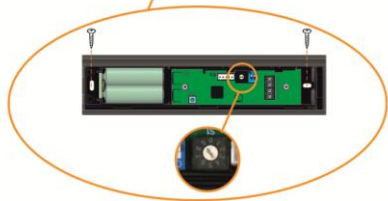
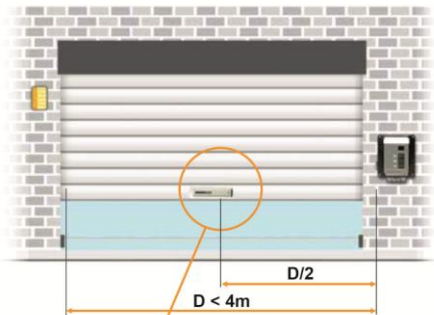
Install the transmitter in horizontal position, at the middle of the last slat. Avoid placing metallic surfaces between the receiver and the transmitter.




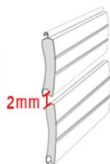
First, place the visor on the surface of the door to use it as template to make the holes in the door. Then place the bottom part of the device. Screw the two pieces together. Finally close the equipment with the top cover.




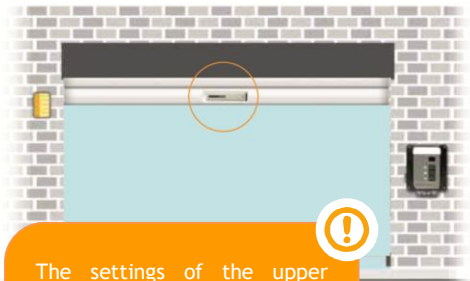





 The last slat must have a tolerance of minimum 2mm of movement



 The slat where the RS3 is fixed should stay in a perfect vertical position while the shutter is on the opened position.



 The settings of the upper limit switch of the motor should not allow the RS3 to go inside the aluminium box where the shutter is rolled while open.

### 3. Operation

D1 and D2 LEDs of the transmitter will pass to battery saving mode (off) in 25 maneuvers after pressing PROG on the transmitter. They can re-awaken again pressing the PROG button on the transmitter.

In order to detect obstacles, the RadioSens3 system compares the behaviour of the door in each maneuver with a previously learned one when installing the equipment.

Normal operation of the system will only be allowed after a satisfactory learning of door movement. The control panel will not allow the door to move if this learning has had errors or has not been done.

The RadioSens3 system has some conditions of use:

- The closing movement must start with the door fully open. It is not allowed to close the door from intermediate points.
- If the door is half open, only the opening movement is allowed.

In order to adapt the operation of the system to the irregular conditions of the floor, the equipment can be inhibited in some point at the end of the travel of the door. **In the inhibition zone, obstacles will not be detected.**

Setting the inhibition point is optional. In case it is desired, it can be fixed in two ways: automatically or manually.

If the inhibition point is set automatically, put the switch SW1: 2 to ON. During the programming of the maneuver the equipment will automatically detect the ground and set the inhibition point automatically.

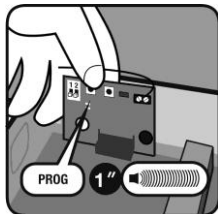
If the inhibition point is set manually, proceed as defined in the control panel manual.

## 4. Programming

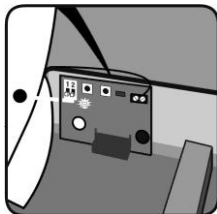
### 4.1 Memorizing transmitter into receiver

Receiver only keeps one RadioSens3 transmitter in memory at the same time. This is stored always as security on closing.

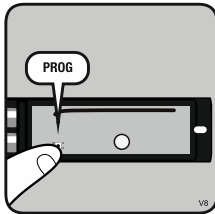
PRESS PROG PUSHBUTTON



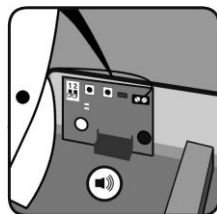
LED TURNS ON



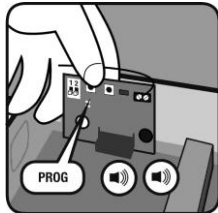
PRESS TRANSMITTER PROG



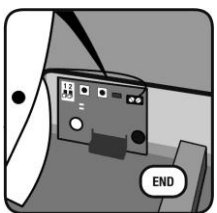
ONE BEEP AND PROGRAMMED



PRESS PROG PUSHBUTTON



LED TURNS OFF AND END PROG



## RS3 SYSTEM

### 4.2 System programming

After storage of the transmitter, perform the programming of the control panel with the security element stored. See programming section on control panel user's manual.



If you change the position of RadioSens3 transmitter, you must perform the system programming again, otherwise the transmitter will indicate a safety error, and the door will not work properly.

## 5. Checking and maintenance

## 5.1 Troubleshooting

Equipment	D1 red led	D2 green led	Check led	Beeps	Message / error	Solution
RS3 transmitter	Flash at beginning of opening	OFF	---	---	Control panel asks RS3 correct signal transmitter to start the manoeuvre	---
RS3 transmitter	Flash at beginning of closing	OFF	---	---	Indicates calibration failure of RS3 transmitter in open door status	Reprogram the manoeuvre until no calibration failure.
RS3 transmitter	ON	OFF	---	---	Indicates that the door is passing through the inhibition zones. It is only indicated in the first 25 manoeuvres	
RS3 transmitter	OFF	ON	---	---	Indicates very good coverage	
RS3 transmitter	OFF	Flash	---	---	Indicates regular coverage	Align parallel the RS3 transmitter antenna and REC3 antenna.
RS3 transmitter	OFF	OFF	---	---	Indicates poor coverage or no coverage	Align parallel the RS3 transmitter antenna and REC3 antenna or change equipments location.

Equipment	D1 red led	D2 green led	Check led	Beeps	Message / error	Solution
RSEC3	OFF	OFF	OFF	4 beeps every 20 seconds	RS3 transmitter low battery	Verify the batteries of the transmitter
RSEC3	OFF	OFF	OFF	4 beeps every 20 seconds	Communication failure between RSEC3 and RS3 transmitter.	Verify the radio signal with the Check function (see RSEC3 manual)

## 5.2 Replacing transmitter battery

Remove the box cover. Replace the two used batteries with new ones, considering the polarity indicated by the connector. Check that new batteries support the same temperature range as the replaced ones.

Use 1.5V AA Alkaline batteries only.

## 5.3 Use of the system

RadioSens3 is designed to be installed in Fast doors and Flat-slat rolling shutters. Other applications than specified are not guaranteed.

Manufacturer reserves the right to change the equipment specification without prior warning.

## 6. Technical Data Summary

### 6.1 Technical data

<b>RS3</b>	
Frequency	Multifrequency system, auto-adjustable 868 MHz
Standby / Operating consumption	0,1 mA / 12 mA
Radiated power	<1 mW
Range (in open field)	50 m
Operating temperature	-20°C to +55°C
Watertightness	IP22
Reaction time (typical)	18 ms (max 48 ms)
Maximum reaction time when interferences	466ms

### 6.2 Battery life table

Table Battery life in days	Manoeuvres / day			
	Manoeuvre time (s)	25	10	5
10	320	410	440	450
15	275	375	425	435
20	250	350	410	420
25	220	325	385	410
30	200	300	375	390

(guide values, with alkaline batteries and at an ambient temperature of 25°C)

## 7. EU Declaration of conformity

JCM TECHNOLOGIES, S.A. hereby declares that the product **RS3 TGL868NF** 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.

See website [www.jcm-tech.com/en/declarations](http://www.jcm-tech.com/en/declarations)

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