



# REW – SRV

## Radio 433 Mhz and Bluetooth System with Voice Communication Device for Stairlift Technical Description

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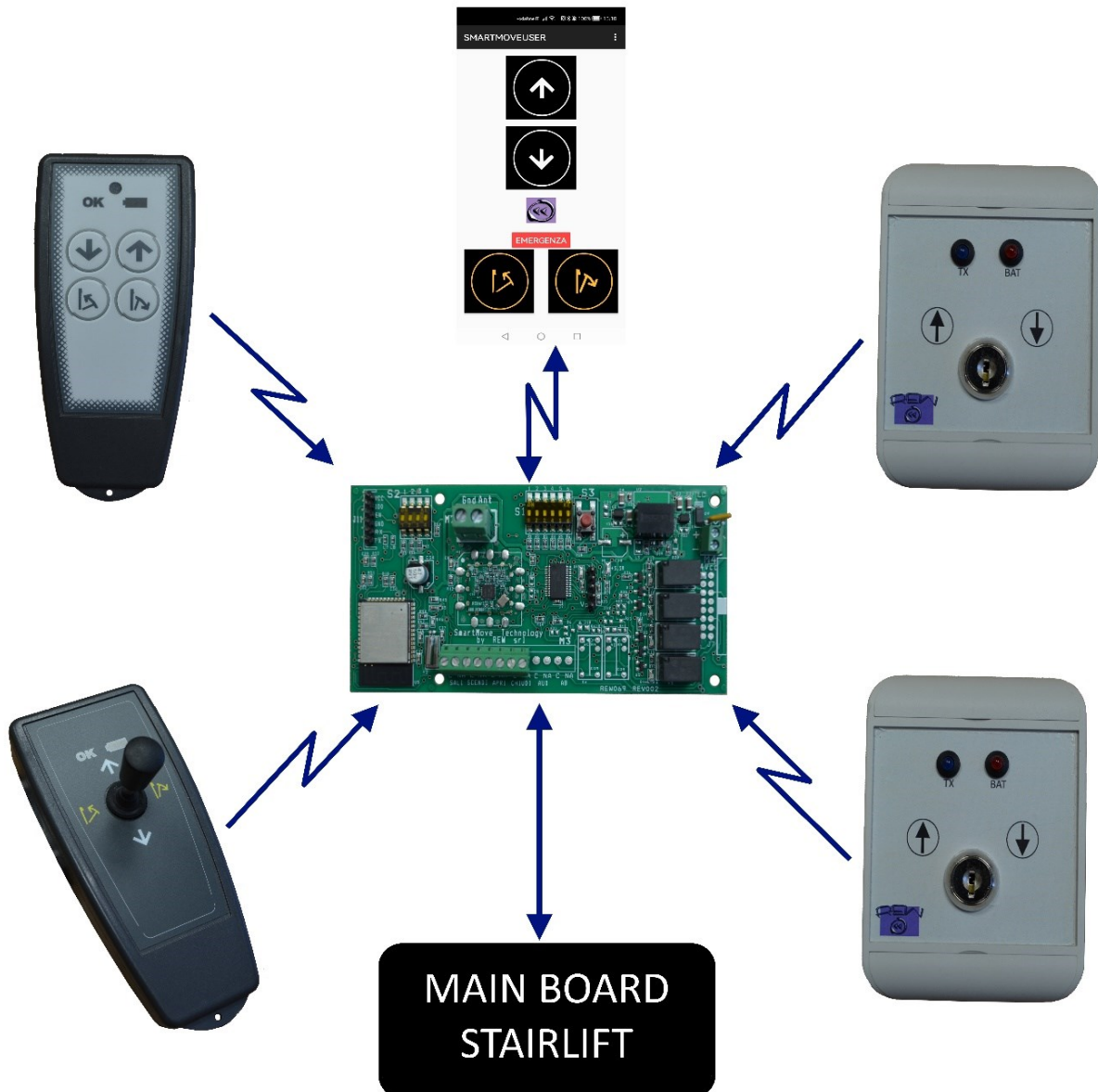
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### 1 - Introduction

The “Radio and Bluetooth Transmitter/Receiver System and Voice Communication Device for Stairlifts” (hereinafter referred to as REW-SRV) is a system used for the cable-free control of “electrically operated stairlifts” according to the definition of the UNI EN 81.40-2021 standard (hereinafter referred to as 81.40), or rather "chair, standing platform and wheelchair platform". **The REW-SRV system implements the functions of "Cableless Controls", (in compliance with the UNI EN 81.40:2021 norm, Paragraph 5.5.13), which constitutes a system that allows you to send to the stairlift remotely, without connection cables, the commands that move it.**

**The REW-SRV system can also be configured to be used as a "Bi-directional voice communication device" (in compliance with UNI EN 81.40:2021, Paragraph 5.5.16.1).**

The REW-SRV system, in its various configurations, is created according to the architecture illustrated in Fig. 1.





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Fig. 1

It is composed of the following devices:

• **RADIO Transmitter at the FLOOR.** This device is equipped with command buttons (Up, Down, Platform Opening and Platform Closing) and an enable/disable key. Each command is activated by pressing the relevant button but only if the enabling key is inserted and is in the active transmitter position. This type of transmitter is installed on each floor where users can get on or off the stairlift; therefore there are at least two for each system. They are used to call the stairlift when it is located on another floor, or to send the stairlift to other floors. Various types of Radio transmitter at the floor are produced with different types of buttons, cases and silk-screen printing depending on the needs of the stairlift manufacturer. Some examples are presented in Fig. 2:



Fig. 2

• **RADIO HANDHELD Transmitter.** This device is equipped with command buttons (Up, Down, Platform Opening and Platform Closing). Each command is activated by pressing the relevant button. This type of transmitter is portable and is used by the user to control the stair lift when it is on board, or by a companion of a disabled user who controls the stairlift from close up, while it follows the motion of the stairlift with the user on board. Various types of handheld radio transmitters are produced with different types of buttons, cases and silk-screen printing depending on the needs of the stairlift manufacturer. Some examples are presented in Fig. 3:



Fig.3

All types of transmitters, both handheld and at the floor, whatever the external appearance, they consist of a “PFREW-TXSRV-Axxx” TRANSMITTER board which changes from one to the other only in terms of shape. The electronics of the board are always the same but the shape of the board is changed to adapt it to the cases and to the type of keys/joystick used.



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- **SMARTPHONE (WITH IOS or ANDROID OPERATING SYSTEM) EQUIPPED WITH “SMARTMOVEUSER APP”.**

Using a smartphone, with the above-mentioned APP installed, the user can send the same commands as radio transmitters via the BLUETOOTH connection. Once the APP has been launched, the smartphone connects with the Receiver via Bluetooth and allows commands to be sent (Up, Down, Platform Opening and Platform Closing), as highlighted in fig. 4:



Fig.4

- **RADIO 433Mhz and BLUETOOTH RECEIVER.** The radio receiver is an electronic board that receives commands from the transmitters, via a 433MHz radio channel, or from the smartphone, via Bluetooth, and sends them to the electronic control board of the stairlift.

The interface between the receiver and the electronic control board depends on how the latter is designed. The radio receiver adapts to the interface with which the electronic control board is equipped. The Radio Receiver consists of a “PFREW-RXSRV-yxxx” RECEIVER board. The electronics of the board that manages the functions of the Radio Receiver is always the same, only the shape of the board and the type of connection with the control board of the stairlift are changed to adapt them to the needs of the stairlift manufacturer.

Some examples are presented in Fig. 5:

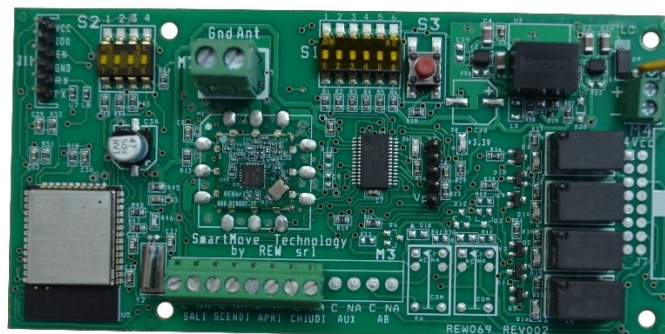


Fig.5



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REW srl designs receivers with different interfaces to adapt to the stairlift control board:

- “PFREW-RXSRV-Axxx” Receiver with relays interface
- “PFREW-RXSRV-Bxxx” Receiver with serial RS232 interface
- “PFREW-RXSRV-Cxxx” Receiver with NPN/PNP transistor interface
- “PFREW-RXSRV-Dxxx” Receiver with I2C interface
- “PFREW-RXSRV-Exxx” Receiver with SPI interface

In compliance with 81.40, the execution of the commands received can only be carried out in safe conditions as established by the norm. This control is delegated to the stairlift control board, which manages all aspects related to the safety of the system. The 81.40 establishes that "Cableless commands", the category to which REW-SRV system belongs, must not be part of the safety systems of the stair lift..

REW-SRV implements the following functions defined in the UNI EN 81.40-2021 norm in a single system:

- Paragraph 5.5.13 – Cableless Commands
- Paragraph 5.5.16.1 - Bi-directional voice communication device

The REW-SRV system, for the uses listed above, is NOT to be considered a "safety device" in compliance with the UNI EN 81.40-2021 norm.

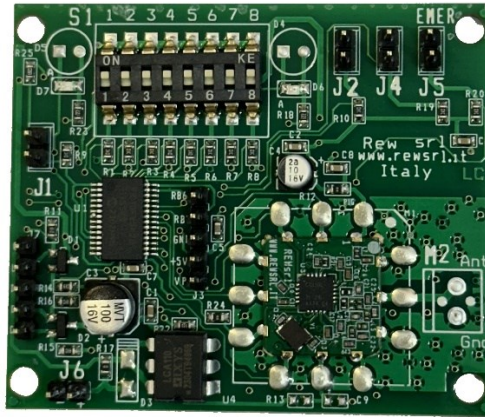


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### 2 – Radio Transmitter “PFREW-TXSRV-Axxx”



Radio Transmitter “PFREW-TXSRV-Axxx” It is an electronic board with the following characteristics:

#### 2.1 - CONNECTIONS

Terminal block J6 (3Vdc)

PIN	Description
+	Power Supply + 3VDC
-	Power Supply GROUND VDC

Terminal block M2 (Antenna)

PIN	Description
Ant	Antenna +
Gnd	Antenna -

Terminal block J7 (IN)

PIN	Wire Colour	Description
1	YELLOW	COMMON
2	WHITE	UP COMMAND
3	BLUE	DOWN COMMAND
4	GREEN	OPENING PLATFORM COMMAND
5	VIOLET	CLOSING PLATFORM COMMAND



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### 2.2 – TECHNICAL CHARACTERISTICS

- Power Supply: 3Vdc ( 2x1,5V AAA TYPE BATTERY)
- Absorption: about 25-30 mA (Max Power +10 dbm)
- Two signaling LEDs
- Number of band channels 433 Mhz: 16 (from 433,150 Mhz to 434,650 Mhz)
- Channeling 100 Khz
- Deviazione +- 25 Khz
- Modulation Type GFSK
- Maximum power selectable + 10 dbm
- Sensibility about -110 dbm
- Low battery indication with voltage of 2.4V

### 2.3 - TRANSMITTER CONFIGURATION

The transmitter board can be configured via dip switch S1, according to the methods described below.

#### - Selection of the RADIO CHANNEL

Since the broadcast frequencies are public, there may be other devices using the same frequency generating interference. therefore if interference occurs at the time of installation, the radio transmission channel can be changed according to the methods described below.

If multiple systems are installed close to each other, to avoid mutual interference, each system must use a different radio channel.

The dip switches from 1 to 4 allow you to select the transmission FREQUENCY up to a maximum of 16 channels (from 433.150 MHz to 434.650 MHz), according to the indications in the following table:

S1-1	S1-2	S1-3	S1-4	Frequency Of Transmission
OFF	OFF	OFF	OFF	1 (433,150 Mhz)
ON	OFF	OFF	OFF	2 (433,250 MHz)
OFF	ON	OFF	OFF	3 (433,350 Mhz)
ON	ON	OFF	OFF	4 (433,450 Mhz)
OFF	OFF	ON	OFF	5 (433,550 Mhz)
ON	OFF	ON	OFF	6 (433,650 Mhz)
OFF	ON	ON	OFF	7 (433,750 Mhz)
ON	ON	ON	OFF	8 (433,850 Mhz)
OFF	OFF	OFF	ON	9 (433,950 Mhz)
ON	OFF	OFF	ON	10 (434,050 Mhz)
OFF	ON	OFF	ON	11 (434,150 Mhz)
ON	ON	OFF	ON	12 (434,250 Mhz)
ON	OFF	ON	ON	13 (434,350 Mhz)
ON	OFF	ON	ON	14 (434,450 Mhz)
OFF	ON	ON	ON	15 (434,550 Mhz)
ON	ON	ON	ON	16 (434,650 Mhz)



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### - Selection of RADIO POWER

Dip switches 6 and 7 allow you to select the transmission POWER according to the indications in the following table:

S1-6	S1-7	POWER Of Transmission
OFF	OFF	-20 dbm
ON	OFF	-10 dbm
OFF	ON	0 dbm
ON	ON	+10 dbm

To obtain maximum performance from the system, in terms of operating distance, it is necessary to select the Max power (+10 dbm).

To ensure that the commands of the portable transmitters are effective only in proximity to the stairlift, the minimum power must be selected (-20dbm).

The range of the radio system can be increased by installing an external antenna on the transmitter.

### 2.4 – FUNCTIONING

The transmitter is equipped with 4 digital inputs, which can be connected to a joystick or buttons, with which it is possible to send UP, DOWN, PLATFORM OPENING and PLATFORM CLOSING commands. While activating a command, the transmitter provides the user with some functional information via two signaling LEDs:

- GREEN LED: Flashes when the device is transmitting

- RED LED: Lights up when the battery is low

If the RED LED lights up, you need to replace the transmitter batteries.

If the GREEN LED does not light up it means that the transmitter is faulty.

The Transmitter is normally OFF and is powered only by activating one of the 4 digital inputs. This feature allows the board's absorption to be reduced to a minimum.

When a command is activated, the transmitter sends the receiver a data packet containing the following information:

- Code of the command to execute: UP, DOWN, OPENING OR CLOSING PLATFORM. These codes have different values depending on whether they come from wall-mounted control devices or handheld transmitters.

- Stairlift Manufacturer Code: Each stairlift manufacturer using the radio system has a separate manufacturer code

- Identification Code: This is a numeric code over 3 bytes that uniquely identifies each transmitter. The procedure for installing a transmitter, either in a new installation or in the case of replacing a faulty transmitter, involves a learning phase that allows the receiver to identify, by this Code, the new transmitter as one of those that are part of the stairlift on which the receiver is mounted. The Identification Code is stored in the receiver, which will recognize the transmitter each time it sends a command. This feature makes the radio system compliant with EN 81.40:2021 regarding requirement 5.5.13.1.



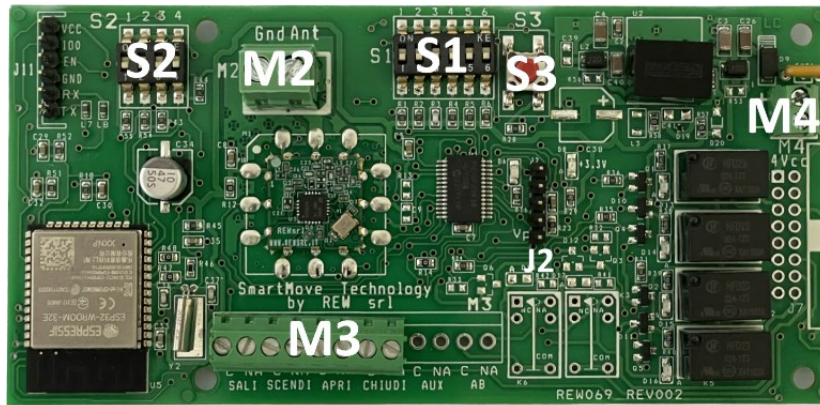


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### 3 - Radio/Bluetooth Receiver “PFREW-RXSRV-xxxx”



- The radio/bluetooth receiver is a device with two distinct sections:
- 433 Mhz radio section
- Bluetooth Section

The 433 Mhz radio section is able to work with all “PFREW-TXSRV-Axxx” transmitters.

The Bluetooth section works via APP on Smartphones with Android or IOS operating systems

#### 3.1 - CONNECTIONS

Terminal Block M4 (24Vcc)

PIN	Description
+	Alimentazione + 24VDC
-	Alimentazione GROUND VDC

Terminal Block M2 (Antenna 433 Mhz)

PIN	Description
Ant	Antenna + 433 Mhz
Gnd	Antenna – 433 Mhz

N.B.: The antenna of the receiving device consists of a rigid single-pole wire.  
For optimal operation of the receiver, the antenna must be orthogonal to the ground.



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### Terminal Block M3 (OUT)

The TERMINAL BLOCK M3 for command output to the stairlift control board is customized based on the characteristics of the control board to which the receiver must be connected.

An example of a PFREW-RXSRV-Axxx receiver (Receiver with Relay Interface) is the following:

PIN		Description
UP	C	UP command output - COMMON
	NA	UP command output - NO
DOWN	C	DOWN command output - COMMON
	NA	DOWN command output - NO
OPEN	C	PLATFORM OPENING command output - COMMON
	NA	PLATFORM OPENING command output - NO
CLOSE	C	PLATFORM CLOSING command output - COMMON
	NA	PLATFORM CLOSING command output - NO
AUX	C	RESERVE Command output - COMMON
	NA	RESERVE Command output PLATFORM - NO
AB	C	RESERVE Command output - COMMON
	NA	RESERVE Command output - CONTACT NO

Relais MAX Current: 1 Amper - 24 Vdc

### 3.2 – TECHNICAL CHARACTERISTICS

- Power Supply: 24 Vcc +- 10%
- Max. supply voltage: 28Vcc
- Absorption: about 200 mA
- Number of band channels 433 Mhz: 16 (from 433,150 Mhz to 434,650 Mhz)
- Band channeling 433 Mhz :100 Khz
- Section deviation 433 Mhz: +- 25 Khz
- 433 MHz section modulation type: GFSK
- Maximum transmission power in the 433 MHz section: 0 dbm
- 433 MHz section sensitivity: about -110 dbm
- Bluetooth section: V4.2 BR/EDR and LE
- Bluetooth section power: 0 dbm (typical)
- Bluetooth section power range: from -12 dbm to + 9 dbm
- Bluetooth section sensibility: -89 dbm



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### 3.3 – DIP SWITCH S1 CONFIGURATION

The 433 MHz section can be configured via dip switch S1.

Like the transmitter, the radio channel used can be selected on the receiver.

The receiver is delivered from the factory with channel 1 selected.

The dip switches from 1 to 4 allow you to select the reception FREQUENCY up to a maximum of 16 channels (from 433.150 MHz to 434.650 MHz), according to the indications in the following table:

S1-1	S1-2	S1-3	S1-4	Reception frequency
OFF	OFF	OFF	OFF	1 (433,150 Mhz)
ON	OFF	OFF	OFF	2 (433,250 MHz)
OFF	ON	OFF	OFF	3 (433,350 Mhz)
ON	ON	OFF	OFF	4 (433,450 Mhz)
OFF	OFF	ON	OFF	5 (433,550 Mhz)
ON	OFF	ON	OFF	6 (433,650 Mhz)
OFF	ON	ON	OFF	7 (433,750 Mhz)
ON	ON	ON	OFF	8 (433,850 Mhz)
OFF	OFF	OFF	ON	9 (433,950 Mhz)
ON	OFF	OFF	ON	10 (434,050 Mhz)
OFF	ON	OFF	ON	11 (434,150 Mhz)
ON	ON	OFF	ON	12 (434,250 Mhz)
ON	OFF	ON	ON	13 (434,350 Mhz)
ON	OFF	ON	ON	14 (434,450 Mhz)
OFF	ON	ON	ON	15 (434,550 Mhz)
ON	ON	ON	ON	16 (434,650 Mhz)

N.B.: Be careful to set all the transmitters and receivers relating to the same installation on the same radio channel.

### 3.4 – UP/DOWN COMMAND REVERSE

In the receiving device, the UP and DOWN outputs can be inverted via dip switch 5. This functionality is useful for managing the difference between RIGHT and LEFT systems while maintaining the same wiring for both types of systems.

When S1-5 is OFF the UP output is activated in correspondence with the UP command of the transmitter and the DOWN output is activated in correspondence with the DOWN command of the transmitter.

When S1-5 is ON the UP output is activated in correspondence with the DOWN command of the transmitter and the DOWN output is activated in correspondence with the UP command of the transmitter.



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### 3.5 – SETTING SELF-HOLDING TIME AND COMMAND

When the receiver "loses" a 433 MHz radio command, the command that had been received up to that moment is maintained for a SELF-HOLD time which can be configured via dip switch S1-6, according to the following table:

S1-6	SELF-HOLDING time (seconds)
OFF	1,5 (sec)
ON	3 (sec)

During operation, the transmitter provides the stop command when one of the commands is released (UP, DOWN, PLATFORM OPENING, PLATFORM CLOSING). This allows the relays to de-energize immediately. The self-holding time intervenes only and exclusively if the radio signal is momentarily lost for a few moments.

### 3.6 – FUNCTIONING

The "PFREW-RXSRV-Axxx" receivers with relay interface and "PFREW-RXSRV-Cxxx" with NPN/PNP transistor interface are equipped with 6 digital outputs listed below.

- Digital output UP: The relay or transistor is closed when the receiver receives a radio UP or DOWN command based on the configuration of the dip switch S1-5.
  - Digital output DOWN: The relay or transistor is closed when the receiver receives a DOWN or UP radio command based on the configuration of dip switch S1-5.
  - OPEN digital output: The relay or transistor is closed when the receiver receives a PLATFORM OPENING radio command.
  - CLOSE digital output: The relay or transistor is closed when the receiver receives a PLATFORM CLOSING radio command.
  - AUX and AB digital outputs are NOT active, but can be used for specific functions on request.
- The Bluetooth section operates the digital outputs in the same ways.

The boards are equipped with some LEDs:

- RED Led (D8): When it is on it indicates that the board is powered
- GREEN Led: Flashes when the device is receiving a 433 MHz radio command
- RED Leds (UP, DOWN, OPEN, CLOSE, AUX and AB): They light up when the corresponding digital outputs are active.

The "PFREW-RXSRV-Bxxx" receivers with RS232 serial interface, "PFREW-RXSRV-Dxxx" with I2C interface and "PFREW-RXSRV-Dxxx" with SPI interface, send commands to the stairlift control board according to a protocol that is customized based on the needs of the stairlift control board.

The boards are equipped with some LEDs:

- RED Led (D8): When it is on it indicates that the board is powered
- GREEN Led: Flashes when the device is receiving a 433 MHz radio command



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### 3.7 – NEAR/FAR OPERATION WITH 433MHz RADIO CONTROL

The PLATFORM OPENING and CLOSING commands are transmitted with a reduced range compared to the other commands to prevent the user from moving the platform without seeing it. This flow rate has a factory setting, but can be modified by the installer as described below.

- Maximum Range. If you want the PLATFORM OPENING and CLOSING commands to be transmitted with the same range as the other commands (MAXIMUM range), simply insert a jumper on connector J2.

–ADJUSTED Range. If you want to set the range of the PLATFORM OPENING and CLOSING commands, you must follow the following procedure:

–1 – Remove the power supply to the receiver board.

2 – Power the receiver board again by holding down the S3 button on the receiver board until the GREEN LED lights up.

3 – Release S3 and position yourself with a 433 MHz transmitter at the distance beyond which you do not want the PLATFORM OPENING and CLOSING commands works.

4 – send any command via the transmitter until the GREEN LED turns off.

N.B.: The operating distance setting can't be precise. This is because radio waves are influenced by objects, walls and the position of the transmitter (orientation relative to the receiver). During the calibration procedure described above, take this detail into consideration in order to find the optimal calibration distance.

### 3.8 – NEAR/FAR OPERATION WITH CONTROL VIA APP (Bluetooth)

The PLATFORM OPENING and CLOSING, UP and DOWN commands transmitted by the APP via the smartphone can be transmitted with a reduced range compared to the other commands to prevent the user from moving the platform without seeing it. This flow rate can be modified by the installer by acting on the Dip Switch S2, according to the table below:

Dip S2-1	Dip S2-2	Operating distance
Off	Off	100 % (MAX RANGE)
On	Off	75 % of the max range
Off	ON	50 % of the max range
ON	ON	25 % of the max range

Attention: To change the dip setting, remove the power, move the dip switches to the desired configuration and reconnect the power.

N.B.: The operating distance setting can't be precise. This is because radio waves are influenced by objects, walls and the position of the transmitter (orientation relative to the receiver). During the calibration procedure described above, take this detail into consideration in order to find the optimal calibration distance.



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### 4 – SmartMoveUser System Description

The SmartMoveUser system allows you to use a SmartPhone to operate and move the stairlift.  
The system includes two APPs:

1. APP SmartMoveUser (for the users)
2. APP REWInstallatore (for installers to install the system)

The system provides for the configuration of the receiving device through the REWInstaller APP. During this configuration the installer will have to choose and enter his own installer code (which he can also use for other systems) and a user password common to all users which will allow the use of the SMartMoveUser APP on the configured stairlift.

Every new user who needs to use the stairlift will have to download and install the SmartMoveUser APP on their Smartphone and enter, upon first access, the password provided by the system administrator or installer. This allows immediate use of the stair lift without the installer having to go to the system.

#### 4.1 – MINIMUM SYSTEM CHARACTERISTICS

The minimum characteristics of the smartphones on which the APP is installed are the following:

- Android 4.4 or higher
  - Ios 16 or higher (from Iphone 8 to higher)
- Attention!!!! Make sure your Smartphone has enabled:
- Bluetooth
  - Gps (location or position)

N.B. The GPS must be turned on to use Bluetooth BLE. If during installation the Smartphone asks for authorization regarding the "position" select "always" or "when using the APP"

#### 4.2 – EXAMPLE OF USE

To make the concept of using the SmartMoveUser system clearer, let's make an example of use:

##### Installer use

1. The installer downloads and installs the "APP REWInstaller" version on his Smartphone"
2. After clicking and starting the APP, through the present procedure, the installer selects the receiving device present on board the stairlift.
3. Through the menu in the APP, the installer chooses his installer code which will be stored in the receiving device on the machine (operation to be carried out only once).
4. Through the menu in the APP, the installer chooses a user code which will be stored in the receiving device on the machine (operation to be carried out only once). This user code will then be communicated to all users who will use the machine or to the system administrator.



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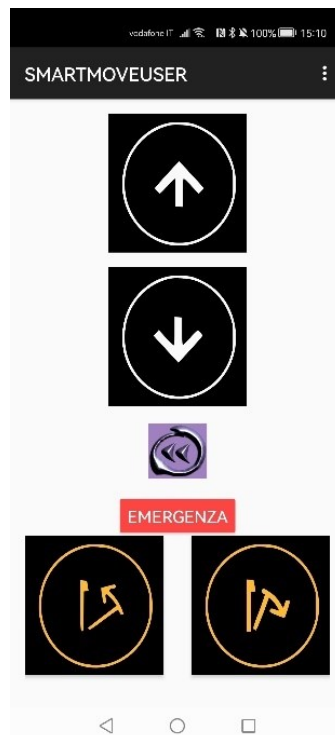
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### User use

1. The user downloads and installs the "APP SmartMoveUser"
2. After clicking and starting the APP, through the automatic procedure, the user associates the receiving device on the machine with his Smartphone (an operation to be carried out only once, the subsequent times the recognition will be carried out automatically).
3. The user enters the user code provided by the installer or system administrator (operation to be carried out only once).
4. Now the Smartphone is ready for use. Every time the user wants to use it, he will have to open the APP and use the buttons on the screen to control the machine. Each new user will be able to enable their Smartphone using the user code provided at the time of installation.

5. Once the APP has been launched, the smartphone connects with the Receiver via Bluetooth and transmits a "connection present" Bluetooth command with a frequency of 0.5Hz". This command allows the Receiver to know that there is a smartphone capable of sending Bluetooth commands and to have information on the distance of the smartphone. When the user presses a command on the "SMARTMOVEUSER" APP (Up, Down, Opening Platform and Closing Platform), the relevant Bluetooth command is sent to the Receiver and the transmission of the "connection present" command is interrupted.

Every time the APP is launched, your device will show the main screen. By clicking on this, the screen will display the "UP-DOWN-OPEN PLATFORM-CLOSE PLATFORM" buttons"





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By clicking on one of these buttons, the button image will be enlarged to allow the command by touching a larger area.



When the APP sends a command it transmits a data packet to the receiver which contains the following information:

- Command to execute: UP, DOWN, OPENING OR CLOSING PLATFORM.
- Stairlift Code: This is an identification code set at the time of installation. The receiver considers valid only messages that have the correct stairlift code.
- Password: This is a password set at installation that can be changed by the user at any time. The receiver only considers messages that have the correct password to be valid.

The features listed above make the Bluetooth system compliant with UNI EN 81.40:2021 regarding requirement 5.5.13.1

BLUETOOTH system is “hold-to-run command”: as long as the APP button is pressed the relevant Bluetooth command is sent; as soon as the button is released the command is no longer transmitted.





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### 5 – Bi-directional Voice Communication Device

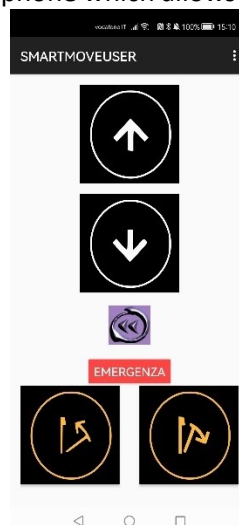
The “PFREW-RXSRV-Axxx” receiver can be configured to implement the “Bi-directional Voice Communication Device” functionality, according to the indications of the UNI EN 81-40:2021 norm paragraph 5.5.16.1. The operating logic is described below.

1 – The “PFREW-RXSRV-Axxx” receiver is equipped with a relay (ENABLE relay which provides a normally open contact to be used within the aforementioned functionality). The ENABLE relay must be connected to the stair lift in series with the safety chain, upstream of the connection of the on-board controls (buttons or joysticks). In this way the stairlift can not be used from on board if this relay is not activated by the radio/bluetooth receiver.



2 – The radio/Bluetooth receiver is equipped with an opto-isolated digital input, dedicated to maintaining the ENABLE relay ON. This input must be connected to the stairlift signal which indicates that it is moving.

3 – The enabling of the stairlift is activated according to the following methods:  
The user activates the APP on the smartphone which allows to control the stairlift.



The activating of the APP, if the smartphone on which it runs is sufficiently close to the stairlift, determines the activation of the ENABLE relay on the receiver. This relay remains active until the smartphone communicates to the receiver his presence near the stairlift. When this communication ends, the ENABLE relay remains activated for 30 seconds, after which it deactivates.



# REW – SRV

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Once activated as described above, the ENABLE relay still remains active in the following circumstances:

- There is any UP, DOWN, OPENING or CLOSING command coming from the radio transmitters or from the smartphone via the APP.

- The receiver input signal is active, indicating that the stairlift is moving.

The enabling remains active as long as the presence of one of the two aforementioned conditions persists.

When both conditions ends, the ENABLE relay remains active for 30 seconds, after which it deactivates.

Once the ENABLE relay has been activated, it is not necessary for the user to control the motion of the stairlift via the APP. You can use the on-board controls for this purpose and use the APP only to enable the stairlift.

4 - Enabling is activated when the receiver receives commands from the floor transmitters. In this case the stairlift moves only with the platform closed and therefore without the presence of users on board. For this reason it is not necessary that the "Bi-directional Voice Connection" be guaranteed. Therefore the motion of the stair lift is enabled in any case.

5 - The operating mode described above guarantees that the user of the stairlift has the smartphone with him while using it and therefore, in case of need, if it breaks, he is able to call the necessary assistance. For this reason, the system described is to be considered compliant with UNI EN 81-40:2021 paragraph 5.5.16.1, where it is specified that: *"The device can be omitted when reliable assistance is always present or when reliable alternative bi-directional voice communication systems which can be activated by the stairlift in all positions"* are installed in the building.

6 – The use of the "Bi-directional Voice Connection" system described above is facilitated by the presence on the APP of an emergency button that allows you to call one or more preset telephone numbers.



**REW s.r.l.**

Via Meucci n.03

56031 Bientina (Pisa) – Italy

Tel.+39 0587757544

E-Mail: [info@rewsrl.it](mailto:info@rewsrl.it)

Sito web: [www.rewsrl.it](http://www.rewsrl.it)