

RADIO REPEATER

REP-21

TECHNICAL DATA

Rated supply voltage	230 V AC
Rated frequency:	50 / 60 Hz
Nominal power consumption (stand-by):	0.5 W / 6 mA
Transmission:	radio - 868.50 MHz ISM band
Method of transmission:	two-way - 9600 bps
Coding:	algorithm based on 128-bit key
Operating range:	up to 250 m in the open area
Optical signaling (transmission/programming):	yes - RGB LED
Maximum number of paired devices:	32
Number of terminals:	2 (wires of cross-section up to 2.5 mm ²)
Enclosure mounting:	outlet box Ø60 mm
Operating temperature range:	-10 to +55 °C
Enclosure protection degree:	IP20
Protection class:	II
Dimensions:	47.5 x 47.5 x 20 mm
Weight:	0.025 kg
Compliance with standards:	PN-EN 60669, PN-EN 60950, PN-EN 61000

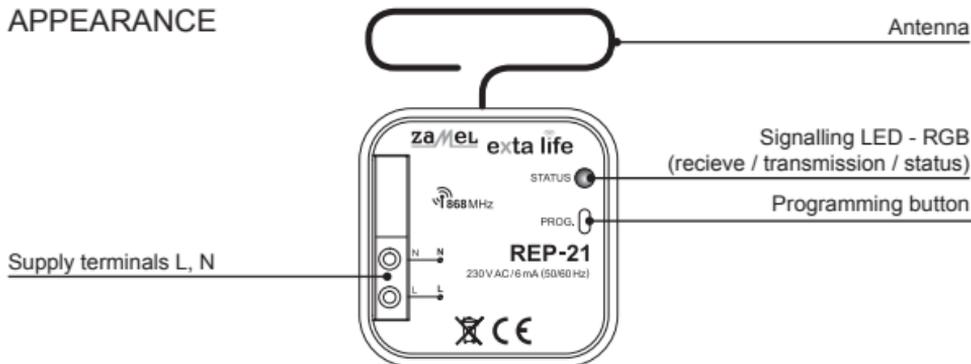
DESCRIPTION

REP-21 repeater extends the operating range of devices working in EXTA LIFE system. This applies both to the communication between receivers, sensors and transmitters as well as the EFC-01 controller, and direct communication between radio transmitters and EXTA LIFE receivers (without the controller). A single transmitter increases the operating range of about 250 m in the open. The device is powered by the voltage of 230 V AC and is designed for mounting in Ø60 outlet boxes.

FEATURES

- rated supply voltage of 230 V AC,
- cooperation with the components of EXTA LIFE system (controller, receivers, transmitters, sensors),
- up to 250 m in the open,
- easy and intuitive handling from the application,
- installation in outlet boxes Ø60 mm,
- option for remote update of the software.

APPEARANCE



INSTALLATION NOTES

Main task of the REP-21 repeater is to increase operating range of the equipment used in the EXTA LIFE system. Its effectiveness greatly depends on where and how it is installed.

During the installation you should pay attention to:

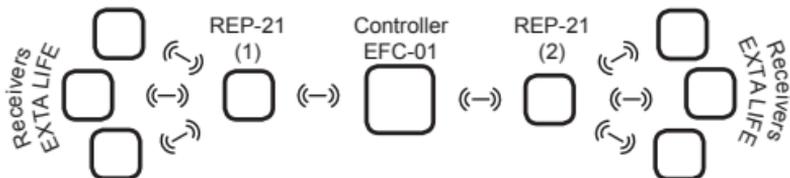
1. The location of the device in relation to other components of the EXTA LIFE system.

Repeater always should be installed between the devices having problems with communication due to limited radio range. An example can be installation of the REP-21 repeater between the EFC-01 controller and system receivers or between the radio transmitter and system receivers.



2. Selection of suitable number of repeaters operating in the system.

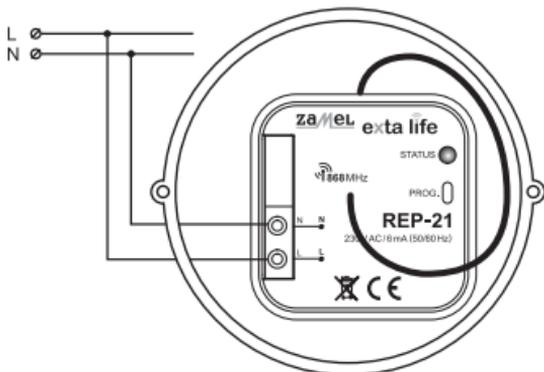
It is possible to increase a number of repeaters operating in the system if necessary. However, it should be noted that each repeater makes some delay, therefore it is recommended to install only required number of the devices. The best results without obvious decrees of system speed are achieved if up to two repeaters REP-21 are installed.



ASSEMBLY

Repeater REP-21 is intended for installation in outlet boxes Ø60. During the installation you should pay special attention to the position of the wire antenna. It is recommended to lay it as presented on the following picture. The antenna should not be covered by any other cabling. It is not recommended to install repeater under the existing accessories (couplers, outlets) and in metal enclosures.

1. Disconnect supply circuit using a fuse, miniature circuit breaker or switch-disconnector connected to the proper circuit.
2. Check voltage-free condition on supply conductors using proper measuring instrument.
3. Connect the wires to the terminals in accordance with the wiring diagram.
4. Install REP-21 in outlet box.
5. Switch on the power supply.



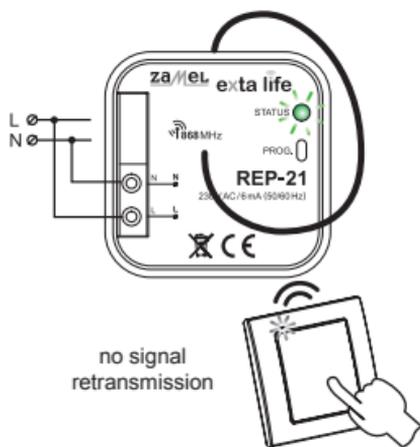
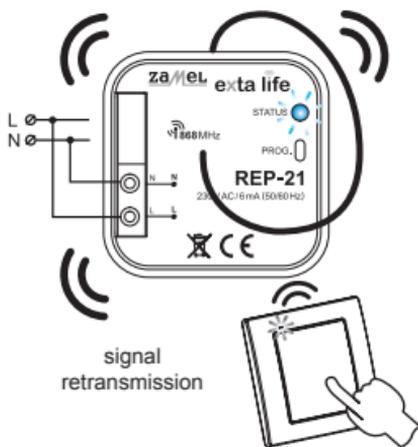
The STATUS LED blinks for approx. 5 sec. when the supply voltage is switched on. After this time, it goes out and the device is ready for operation.

ASSIGNING THE RADIO TRANSMITTERS

Radio transmitter can be assigned to the repeater directly by pressing PROG. button and remotely using EFC-01 controller and the EXTA LIFE application.

Transmitter assignment to the repeater is signalled by colour of "STATUS" LED during transmission:

- STATUS LED turns **BLUE** when transmitter is pressed - signal from transmitter is retransmitted.
- STATUS LED turns **GREEN** during transmitter pressing - signal from transmitter is not retransmitted.



DIRECT PROGRAMMING USING THE PROG. BUTTON

1. Press shortly (1 s) the PROG. button - STATUS LED turns blue.
2. When the LED is blue you should during < 5 s press shortly the button of the transmitter which should be assigned to the repeater.
3. STATUS LED will blink orange and go out - it means that the transmitted has been assigned correctly.
4. STATUS LED turns blue after pressing - it means that signals from the transmitter are transmitted.

REMOTE PROGRAMMING OF TRANSMITTERS USING THE EXTA LIFE APP

Remote programming allows assigning the transmitter to the selected repeater without physical access to it (it is not necessary to press the PROG. button). It is very convenient if the repeaters have already been installed in the facility and access to them is difficult.

The requirements for remote programming of the transmitters with the REP-21 transmitter:

- EXTA LIFE controller should be installed,
- repeater, to which the transmitter should be remotely assigned, should be supplied and paired with the controller,
- transmitters, which should be remotely assigned to the receivers should be also paired with the controller,
- only one transmitter can be remotely assigned to the one repeater.

To assign remotely selected buttons of the transmitter to the given receiver channel you should:

1. Pair selected repeater with the controller.
2. Pair the transmitter, which should be assigned to the repeater, with the controller.
3. Select option "Assign transmitter" (🔗) from repeater menu.
4. Select the transmitter, which should be assigned to the repeater from a list of all transmitters paired with the controller (🔗).
5. Once selected, the transmitter is automatically assigned to the repeater. Confirmation operation is confirmed by a message "Devices paired".



Remote assigning of transmitter to the repeater can be also executed from the transmitter level. In this case, select "Assign Receiver" option from edit menu of the transmitter.

All transmitters assigned to the repeater can be viewed after selecting "Assigned transmitters" option from transmitter context menu.



ERASING ALL MEMORY OF THE REPEATER

After this operation all assigned transmitters are deleted from the repeater memory.

NOTE! Memory erasing is related with unpairing (removal) of repeater from the EXTA LIFE controller.

To delete the entire memory of the repeater you should:

1. Press PROG. button STATUS LED is orange for approx. 5 sec.
2. STATUS LED will turn red after 5 sec. Then release the PROG. button and press it shortly again in <5 s.
3. STATUS LED blinks orange during memory erase process. After this operation the device is restarted what is signalled by STATUS LED blinking green (for approx. 5 seconds). Next, the device switches to normal operation.

SELECTIVE REMOVAL OF TRANSMITTERS ASSIGNED TO REPEATER

The REP-21 transmitters allows selective deleting transmitters, which were assigned to it. It allows erasing only selected transmitters without need to delete whole memory of the repeater. Transmitters can be deleted directly (using PROG. button) or remotely from the EXTA LIFE app.

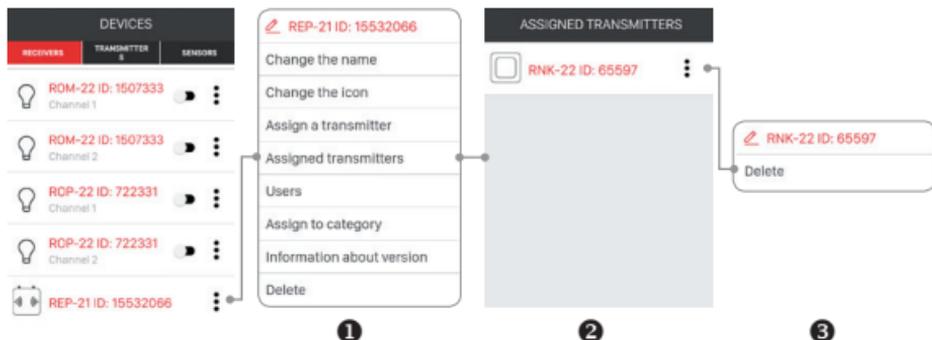
DIRECT DELETION OF THE TRANSMITTERS USING PROG. BUTTON

1. Press PROG. button for approx. 5 sec. - STATUS LED is orange
2. Release the PROG button when the STATUS LED is red. and then press shortly in less than 5 sec. any button on the transmitter which should be deleted from memory of the repeater.
3. Correctly completed selective erasing procedure is signalled by STATUS LED blinking orange several times.

REMOTE RESET OF THE TRANSMITTERS USING EXTA LIFE APP

Repeater, from which the transmitters should be removed remotely, must be paired with the EXTA LIFE controller. To delete the entire memory of the repeater remotely you should:

1. Select option „Assigned transmitters“ (1) from repeater menu.
2. A list of all transmitters assigned to the repeater (2) will be displayed.
3. Select option “Delete” (3) from context menu of the transmitter.
4. Transmitter can be deleted also by shifting the item to the side.

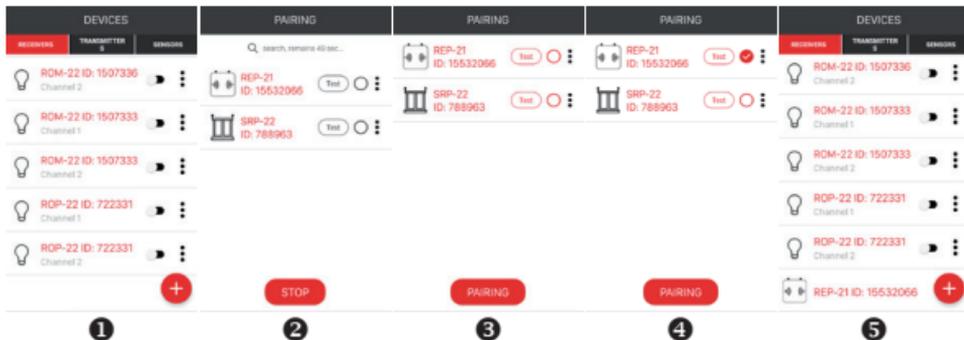


REGISTRATION (PAIRING) OF REP-21 IN THE EXTA LIFE SYSTEM

To register the REP-21 repeater in the system it is necessary to connect the EXTA LIFE controller and install the EXTA LIFE mobile app. Repeater should be connected to supply voltage 230 VAC. Repeaters are saved in the system only when they are correctly paired with the controller. To do this:

1. Enter the Equipment screen when the application is started.
2. Select "Receivers" tab and press "+" (1) what starts searching of the receivers and repeaters installed in the system. Searching process lasts up to 60 sec. and can be completed earlier by pressing "Stop" button. Receivers and repeaters within the range of the controller will automatically appear in the list with default name consisting of name of the repeater (REP-21) + assigned 6-digit serial number ID (2).
3. When the search process is completed (3) pressing "TEST" button allows quick locating the repeater (STATUS LED on the REP-21 device turns red during pressing "TEST" button).
4. Checking the box next to the "TEST" (4) button user selects the repeaters which should be paired with the EXTA LIFE controller. It is possible to check more than one searched repeater.
5. To pair the checked repeaters you should press "PAIR" button. After a moment, the devices are registered in the system and are visible on the list in the Receivers tab (5).
6. The REP-21 repeaters has an icon assigned after pairing.
7. **After pairing the repeaters are working immediately. If they are only intended to improve communication between the controller and the receivers then no other actions are required except pairing. Diode in the repeater turns blue during polling of the receivers by the controller.**
8. If the repeater should additionally repeat communication between the selected transmitter and the receivers of the EXTA LIFE system then it is necessary to assign this transmitter to the repeater.
9. User can assign an individual name and icon from a database of available icons to each repeater after pairing process.

NOTE: If the repeater is out of reach of the controller then its name in the app is grayed.

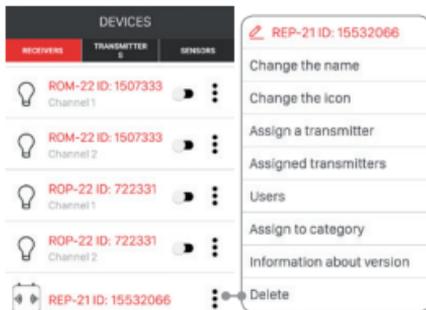


REMOVAL (UN-PAIRING) OF REP-21 FROM THE EXTA LIFE SYSTEM

Each REP-21 repeater registered in the system can be removed from it. Removal is considered as „unpairing” of the repeater from controller resources.

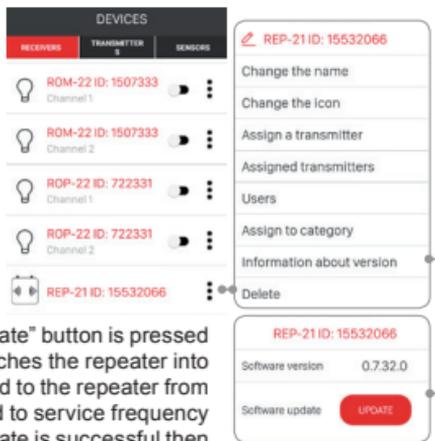
To remove the repeater from the EXTA LIFE system you should:

1. Enter Device screen after starting the app.
2. Select “Receivers” tab and then select “Remove” option from the edit menu of the given repeater.
3. The repeater is automatically removed from a list of paired receivers.



REMOTE SOFTWARE UPDATE

- The REP-21 repeater has a built-in bootloader allowing remote updating of the software from the EXTA LIFE app. Update is possible only for repeaters paired with the controller and can be implemented only by the user with administrator privileges. To update the device it is necessary to download the newest software from extalife.pl website and to transfer it to the SD card in the controller - for this purpose you should read instruction “Software update in the EXTA LIFE receivers”. The manual can be downloaded from the extalife.pl
- Current version of the REP-21 repeater is indicated in the “Configuration details” tab. Once the “Update” button is pressed the information is sent to the controller, which switches the repeater into software update mode. The newest software is sent to the repeater from the controller. Repeater and controller are switched to service frequency during update and control is not possible. If the update is successful then information will be sent from repeater to the controller and it is signalled in the mobile app.
- If for some reason the repeater update process fails then it will be marked in the controller as a device with update error. Repeater loses its original functionality (it is signalled by continuous blinking of the STATUS LED in 1 s intervals). Then it is necessary to restart the update process. **NOTE: Do not remove the repeater from controller resources in case of error during update.**



UPDATING THE RECEIVERS WITH REPEATER OPERATING IN THE SYSTEM

If the receiver cooperating with the controller has communication problems resulting from operation range and it communicates through the repeater then update process of such receiver may fail. It arises from the fact that the repeater does not support receivers update process. To update the receiver it is necessary to reduce the distance between this receiver and controller so that the update was possible without the participation of repeater.