

zehnder

# Zehnder RF Repeater

9823-00

Installation manual



# Quick Reference

<b>Pair RF Repeater with ventilation unit</b>	
1. EN: Start pairing mode on the ventilation unit.	
2. EN: Activate bright mode on the RF Repeater.	
3. EN: Connect with the RF Repeater.	
4a. EN: Status LED blinks 3x GREEN = Success	  3x = 
4b. EN: Status LED blinks 3x RED = Fail	  3x = 
<b>Pair RF Repeater with new RF control and sensor</b>	
5. EN: Activate pairing mode on the RF Repeater.	
6. EN: Connect a new RF control/sensor.	
7a. EN: Status LED blinks 3x GREEN = Success	  3x = 
7b. EN: Status LED blinks 3x RED = Fail	  3x = 

# Foreword

 **Read this manual carefully before use.**

This installation manual contains all the information required for safe and correct installation of this RF Repeater. Get to know the system to prevent personal injury or damage to property.



## Questions

For any questions, contact your Zehnder agent. The contact details are given on the back of this installation manual.

The RF Repeater is regularly subject to new developments and improvements. As a result, operation of the system might deviate from the description in this manual. In that case, an up-to-date installation manual can be downloaded online or ordered from your Zehnder agent.

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This installation manual has been compiled with the utmost care. However, the publisher cannot be held responsible for any damage caused by failure to follow safety or operating instructions. In the event of disputes, the Dutch text takes precedence.

## Reading guide

The following symbols are used in this installation manual to draw the reader's attention to safety aspects and important information:

Symbol	Meaning
	Point of attention
	Risk of improper functioning or damage to the ventilation system
	Risk of personal injury

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Zehnder America

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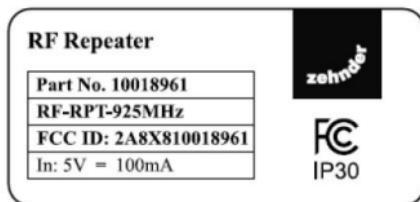
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# 1. Unpacking and preparing the installation

## 1.1 Contents of the box

Model	Box Contents
RF Repeater	<ul style="list-style-type: none"><li>• 1x RF Repeater (0.4W; 0.8VA)</li><li>• 1x USB cable (USB-A &lt;-&gt; USB-C)</li><li>• 1x USB adapter (5V, 1A)</li><li>• 1x manual including mounting template (drilling guide)</li><li>• 2x screws (PH2, 3.9x32)</li><li>• 2x plugs (ø6mm)</li></ul>  <p>Figure 1.1 Box contents</p>  <p>Figure 1.2 RF Repeater identification plate</p>

## 1.2 Checking the delivery

1. Check that the packaging is not damaged.
2. Check that the parts are not damaged.
3. Check that the contents of the package are complete.
4. Based on the identification plate, check that the correct RF Repeater has been supplied (925MHz variant).

Please report any damage, missing parts or incorrect delivery based on the identification plate on the back of the RF Repeater (Figure 1.2) directly to your Zehnder agent. The contact details are given on the back of this installation manual.

## 1.3 Tools and mounting materials required

- Screwdriver, equipped with a bit or screw head of type PH2
- Drill, with drill diameter of 6mm.

## 2. Description and identification

### 2.1 General

Zehnder ventilation devices can be operated remotely using wireless switches. These systems can also provide ventilation based on CO<sub>2</sub> concentrations measured using wireless sensors. This wireless communication runs via RF at 925MHz. The range of RF is limited. It can be increased using the RF Repeater. The RF Repeater relays the messages sent on the configured network.

### 2.2 Combination options

The RF Repeater can be combined with all Zehnder RF controls and sensors.

 The ComfoAir 160/200/350/550 and ComfoAir Standard cannot be paired in the Assistant Mode.

 The Easy RF and the Chrono RF cannot be paired in the Assistant Mode.

 Consult your Zehnder agent for the recommended combinations with other Zehnder RF controls and sensors.

### 3. Safety

#### 3.1 Safety regarding mounting and installation

-  **Dangerous electrical voltage!** Risk of death or injury due to 120 V electrical voltage.

  - Work on the 120 V mains must only be carried out by qualified electricians.
  - Disconnect the device from the power supply before starting to mount or dismount it.
  - Only use undamaged connection cables.
  - Keep the device away from water and humid environments.
-  Keep children and animals away from the mounting location during installation.
-  The RF Repeater may only be mounted as described in this installation manual.

- ⚠ Always follow the local safety regulations when mounting the device.
- ⚠ Check the device for damage caused by transport.
- ⚠ Check that the mains voltage corresponds to the local mains voltage.
- ⚠ If the power cord is damaged, it must be replaced with the original cord by the manufacturer, its service representative or similarly qualified persons in order to avoid accidents.
- ⚠ If the power adapter is damaged, it must be replaced with the original from the manufacturer.

### 3.2 Mounting instructions

-  Never mount the RF Repeater in wet rooms, such as bathrooms and toilets. Excessive humidity can damage the device.
-  Mount the RF Repeater in a frost-free environment.
-  Never place RF Repeater near large metal objects or devices that transmit wireless signals or cause electromagnetic interference (EMI). This may disrupt the signal between the RF Repeater and the ventilation unit.
-  Incorrect connection can damage the operation.
-  Only use suitable tools to install the RF Repeater.
-  Do not overtighten screws.
-  We recommend mounting the RF Repeater between 36 and 59 inches above the floor so that it is visible and easy to operate.
-  Do not mount the RF Repeater higher than 79 inches from the floor.
-  The RF Repeater works on a 120V-60Hz adapter. It should therefore be installed in a location with a wall socket.
-  Mount the RF Repeater without opening the housing (see Mounting section).

### 3.3 Warranty

Zehnder offers a 24-month warranty on this device. This period applies from the date of installation up to a maximum of 30 months after the production date of the device.

The warranty is void if:

- a defect is the result of inadvertent or careless use of the device;
- a defect is the result of contamination of the device;
- parts from another manufacturer have been used;
- repairs have been carried out by unauthorised persons.

The warranty does not cover:

- costs for disassembly and assembly on site;
- wear and tear from normal use.

## 4. Mounting

### 4.1 View of the components

#### Mounting instructions

RF Repeater

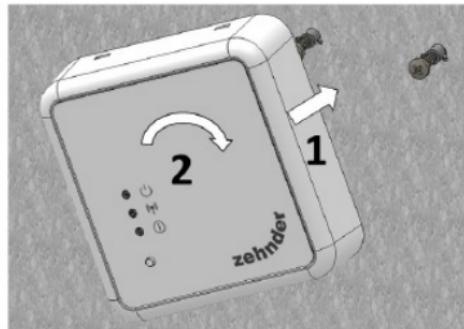
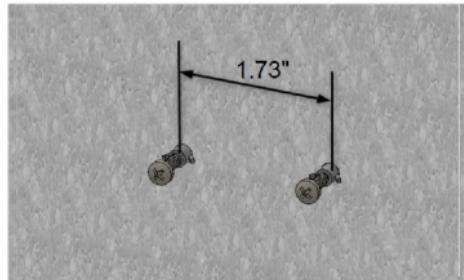


Figure 4.1 Mounting instructions for RF Repeater

## 4.2 Mounting the RF Repeater

All letters in this section refer to the previous images.

1. Determine the mounting location in relation to the wall socket to be used. There must be no mechanical stress on the cable.
2. Drill the two holes as shown in Figure 4.1 at a distance of  $1\frac{3}{4}$  inches. The 'Mounting Template' at the end of this manual can be used for this.
3. Attach the rawl plugs and screws included in the package.
4. Fix the RF Repeater as shown in Figure 4.1.
5. Connect the RF Repeater to the wall socket using the USB cable and USB adapter supplied.

 It is not necessary to open the RF Repeater for mounting.

 To avoid ESD damage, do not open the RF Repeater.

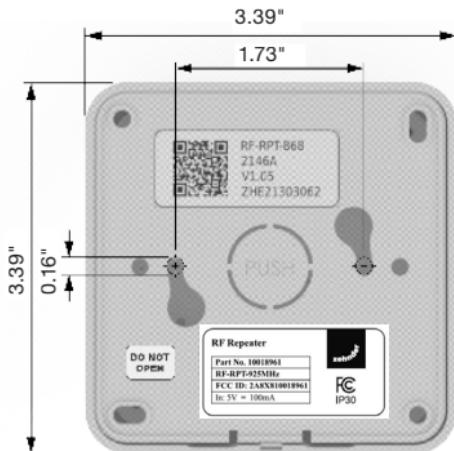


Figure 4.2 Rear of RF Repeater.

## 5. Commissioning

### 5.1 Conditions for the proper functioning of the RF Repeater

- ☞ RF pairing with a ventilation unit only works when the RF Repeater is within range of the unit.
- ☞ Up to 5 RF Repeaters can be used in a single network.
- ☞ If the RF Repeater is accidentally put into pairing mode, it can simply be cancelled. This has no consequences for the existing network.

### 5.2 Operation

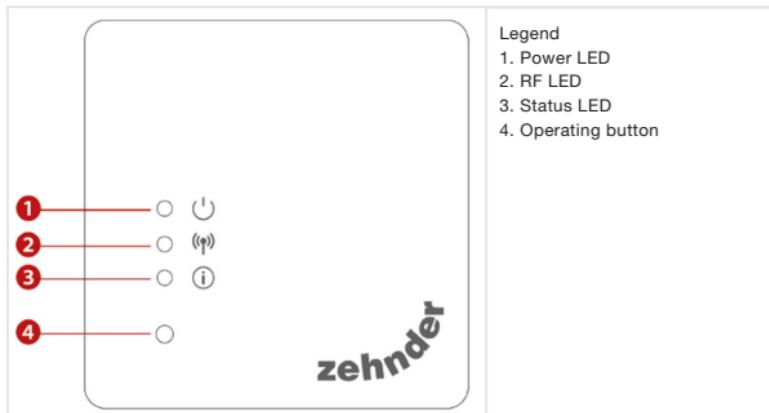


Figure 5.1 - Front of RF Repeater

1. Press the control button briefly (<5s) to activate or deactivate the bright mode.
2. Depress (>5s) the operating button to activate or deactivate pairing mode.

- ☞ When the bright mode is activated, it remains active for 15 minutes. The bright mode is also active in pairing mode.
- ☞ When the pairing mode is activated, it remains active for 10 minutes.

### 5.3 Pairing mode

The pairing mode for the RF Repeater can be used to connect the RF Repeater to a new RF network or an existing RF network.

Connecting to a new RF network:

- Set the ventilation unit in pairing mode
- Set the RF Repeater in pairing mode

The RF Repeater will receive the same address as the ventilation unit and can now be used as an assistant for connecting other RF controls and sensors, see Assistant Mode.

To connect the RF Repeater to an existing RF network, follow the same steps. No further changes to the network are required. The RF Repeater will immediately relay all RF communications on the network.

### 5.4 Assistant Mode

Connecting new RF controls and sensors to the system:

- Set the RF Repeater in pairing mode
- Set the new RF control/sensor in pairing mode

 If pairing mode is first selected on a new RF controller/sensor and then on the RF Repeater, it will be cancelled.

 Some RF controls or sensors have the option to connect with a random RF address or with the RF address of the respective control/sensor. This is not possible via the RF Repeater. If this option is desired, it must be done directly via the ventilation unit. Then all other controls/sensors must be connected again.

### 5.5 Indication

 The power LED lights up green when the RF Repeater is supplied with power.

 The RF LED flashes green when an RF signal is detected on the same frequency as that used by the Zehnder RF system to communicate.

 During normal operation, the status LED flashes yellow when an RF signal is received and relayed.

 During pairing mode, the status LED flashes blue to indicate that the RF Repeater is searching for another device to connect to.

 If connection is successful, the status LED flashes green 3 times. If connection fails, the status LED flashes red 3 times.

## 6. Malfunctions

### 6.1 Malfunctions of the RF Repeater

Malfunction	Problem	Solution
The power LED does not light up.	There is no power to the RF Repeater.	Connect power and/or check cabling and plug.
The RF LED lights up continually.	There is too much local RF communication, causing disruption to the system.	Try to find out where the disturbance is coming from and solve it.
The status LED continually flashes red.	There is a problem with the RF receiver.	Replace the RF Repeater.

 In the event of recurring malfunctions, please contact your Zehnder agent.

### 6.2 Unsafe situations

Situation	Safety	Action	Support
The RF Repeater has become wet.	Do not touch the RF Repeater.	<ol style="list-style-type: none"><li>1. Switch off the power.</li><li>2. Remove the RF Repeater from the wall.</li><li>3. Dry all parts.</li></ol>	If the RF Repeater is damaged, please contact your Zehnder agent.

## 7. Maintenance

Regularly remove dust with a dry duster or very carefully with a vacuum cleaner.

-  Never clean the device with water.
-  Never use cleaning agents.

## 8. Dismounting and disposal

If the RF Repeater is dismounted, the current disposal regulations applicable to the location must be observed.

Dispose of the RF Repeater in an environmentally friendly way. Do not dispose of the device together with household waste. The RF Repeater can be disposed of at an electronic waste collection point.

-  It is the responsibility of the owner of the RF Repeater to dispose of the device in a responsible manner.

Changes or modifications not expressly approved by Zehnder could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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- Increase the separation between the equipment and receiver
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

**Supplier's Declaration of Conformity  
47 CFR § 2.1077 Compliance Information**

RF Repeater  
Zehnder America  
6 Merrill Industrial Drive, Suite 7  
Hampton, NH 03842 USA  
603 601 8544 [www.zehnderamerica.com](http://www.zehnderamerica.com)

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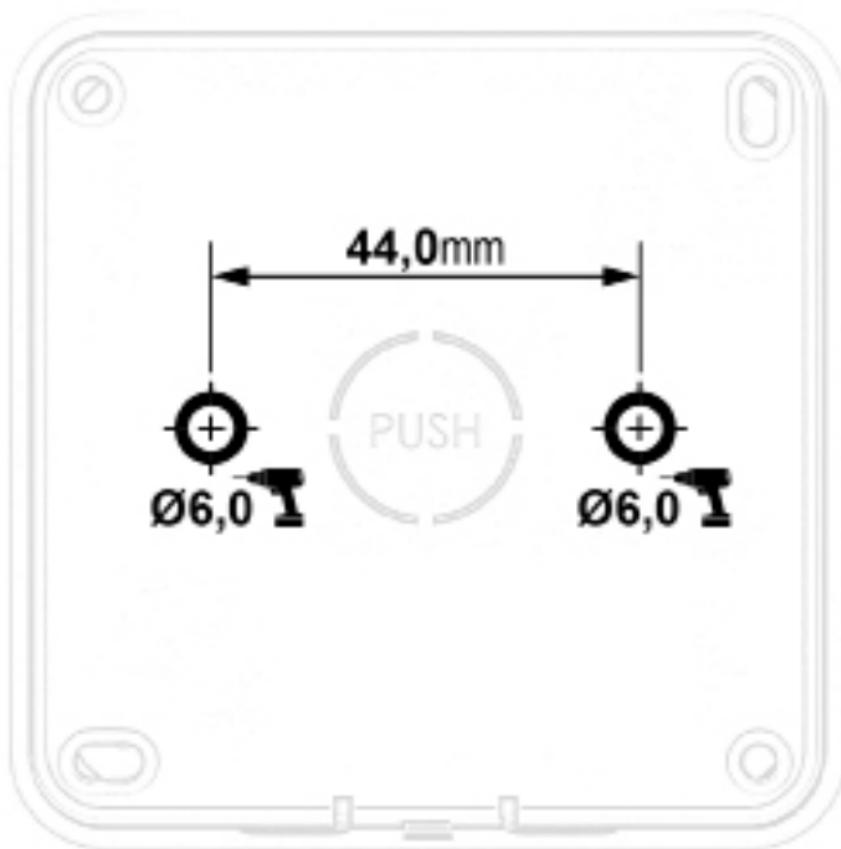


**925 MHz operational frequency.  
FOR USE IN ITU REGION 2 ONLY (Americas)**

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## Mounting Template



## Notes

