devolo WiFi Repeater+ ac

Manual

devolo

devolo WiFi Repeater+ ac

Contents

1 Preface

1.1 About this manual

Carefully read all instructions before setting up the device and store the manual and/or installation guide for later reference.

After a brief introduction to the WiFi Repeater+ ac in **Chapter 2**, **Chapter 3** tells you how to successfully start using the adapter in your network. **Chapter 4** describes in detail the setting options of the built-in configuration interface.

Technical specifications, information about frequency range and transmitting power, information about environmental compatibility of the device, as well as our warranty terms, can be found in **Chapter 5** at the end of the manual.

Description of the icons

This section contains a brief description of the icons used in this manual and/or on the rating plate, the device connector, as well as the icons used on the package:

Icon	Description
⚡	Very important safety symbol that warns you of imminent electrical voltage which if not observed can result in serious injury or death.
♨	An important safety symbol that warns you of a potentially dangerous situation involving a burn hazard which can result in minor injuries or damage to property.
⚠	An important note that should be observed which can potentially lead to material damages.
⌂	The device may only be used indoors in dry conditions.

Icon	Description
$C\epsilon$	The manufacturer/distributing company uses the CE marking to declare that the product meets all applicable European regulations and has been subjected to the prescribed conformity assessment procedures.
	It is used to prevent the occurrence of waste electrical and electronic equipment and to reduce this type of waste through reuse, recycling and other forms of utilisation. The European Community WEEE Directive establishes minimum standards for handling waste electrical and electronic equipment in the EU.
i	Additional information, background material and configuration tips for your device.
✔	Indicates a completed course of action

1.2 Intended use

Use devolo products, devolo software and the provided accessories as described to prevent damage and injury.

Products

devolo products are communication devices designed for indoors.* Depending on the product, they are equipped with a **PLC-** (**P**ower**L**ine **C**ommunication) and/or a Wi-Fi module. Computers, laptops, smartphones, tablets, smart TVs and other devices connected this way are integrated into a home network over the existing electrical wiring and/or Wi-Fi without any complicated wiring. devolo devices must never be used outdoors because the high temperature fluctuations and moisture can damage both the product and the power line. devolo products may not be installed at a height above **two metres** unless an additional fas-tening mechanism is available. The products are intended for operation in the EU, Switzerland and Norway.

* The only exceptions are devolo outdoor products, which are suited for the outdoor use thanks to their IP certification.

Software

devolo devices can be used only with the free, downloadable programs approved and available on devolo AG's website (www.devolo.com) and in app stores (iOS and Google Play). Any modifications to the product-specific firmware or software could damage the products and, in the worst-case scenario, render them unusable and negatively affect conformity.

Always use the most up-to-date software version to make sure you have the latest security functions and device updates. The installed devolo software notifies you automatically if a new software version is available.

1.3 CE Conformity

This product complies with the technical requirements of the directives **2014/53/EU**, **2011/65/EC** and **2009/125/EC.**

This product is designed for use in the EU, Switzerland and Norway.

A printout of the simplified CE declaration of this product is separately included and can also be found under www.devolo.com/support/ce.

1.4 Safety notes

It is essential to have read and understood all safety and operating instructions before the devolo device is used for the first time; keep them safe for future reference.

DANGER! Electrical shock caused by electricity
Do not reach into the electrical socket, do not open the device and do not insert any objects into the electrical socket or into the ventilation openings

Users do not need to carry out any maintenance on devolo devices. In the event of damage, disconnect the devolo device from the mains supply by pulling it or its plug out of the electrical socket. Then contact qualified specialist personnel (after-sales service) exclusively. **Damage** is deemed to have occurred, for example,

● if the power plug is damaged.if the devolo device has been showered with liquid (such as rain or other water).
● if the devolo device is inoperable.
● if the housing of the devolo device is damaged.

i *Do not plug devolo devices directly into each other. Devices that are plugged into each other can experience a decrease in transmission rate.*

DANGER! Electric shock caused by electricity
Device must be plugged into a power socket with a connected earth wire

devolo devices may be operated only on a **mains power supply** as described on the **rating plate**.

To disconnect devolo devices from the mains supply, unplug the device from the electrical socket.

The power socket and all connected network devices should be easily accessible so that you can pull the power plug quickly if needed.

CAUTION! Heat development during operation
Certain housing components can become very hot in certain situations. Attach device so that it is touch-proof, observing optimal positioning

devolo devices should only be installed at locations that guarantee adequate ventilation. Slots and openings on the housing are used for ventilation:

- **Do not cover** devolo devices during operation.
- Do not place **any objects on** devolo devices.
- Do not insert **any objects** into the **openings** of devolo devices.
- devolo devices must **not** be placed directly **next to** a naked **flame** (such as fire or candles).
- devolo devices must **not be exposed to direct heat radiation** (e.g. radiator, direct sunlight).

CAUTION! Damage to housing from cleaning agents containing solvents
Clean only electroless and with dry cloth

1.5 devolo on the Internet

For detailed information on our products, visit www.devolo.com.

There you will find product descriptions and documentation, and also updates of devolo software and your device's firmware.

If you have any further ideas or suggestions related to our products, please don't hesitate to contact us at support@devolo.com!

2 Introduction

The WiFi Repeater+ ac extends your Wi-Fi range in no time

Setting up the WiFi Repeater+ ac is as easy as pie. And wether as Wi-Fi extender or as new access point your entire home can now benefit from buffer-free browsing due to a boosted Wi-Fi signal and increased network speed.

Fig. 1 Mesh Wi-Fi throughout the home

2.1 Introduction to the WiFi Repeater+ ac

- Improved Wi-Fi ac reception in any room at speeds up to **1200 Mbps**.
- Fast data transmission: **Crossband repeating** optimises the use of two frequency bands.
- **Beamforming** sends the Wi-Fi signal directly to your connected clients.
- Browse without any interruptions using **mesh**: The WiFi Repeater+ ac and router form a common network.
- Initial setup is a breeze using the app.
- **Security** – mit **WPA3 für Wireless ac** (WLAN-Highspeed-Standards IEEE 802.11a/b/g/n/ac)
- In **access point mode convenient additional functions** such as parental controls, guest Wi-Fi, time control and Config Sync are integrated in the WiFi Repeater+ ac.
- **Two Ethernet ports** are more reliable at connecting all stationary devices to the Internet.
- The integrated power socket ensures that no connection goes to waste.

The WiFi Repeater+ ac features

- An integrated electrical socket,

- a home bouton with LED status display,
- A Wi-Fi button with LED status display,
- Four internal Wi-Fi antennas,
- Two Ethernet connectors
- A reset button (next to the network connectors).

> i
> *The LED status displays can be disabled. You can find more information about this in Chapter **4 Network configuration** or in the product manual for the devolo Cockpit software available online at www.devolo.com/cockpit.*

Fig. 2: devolo WiFi Repeater+ ac with country-specific connector and power socket
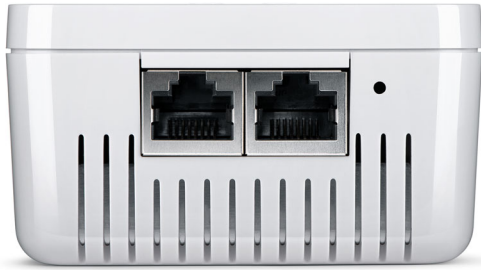
Fig. 3 Network connectors

2.1.1 Home button

Connecting Wi-Fi clients via WPS

● If the device is still on **factory defaults**, activate WPS by **briefly** pressing the **home** button on the WiFi Repeater+ ac.

● Then, confirm the WPS activation **within 2 minutes** on your Wi-Fi **router,** e. g. by pressing a **WPS** button on the device or by configuring the respective router software.

> i *For information about the WPS function/activation of your Wi-Fi router, refer to the corresponding product documentation.*

✓ The WiFi Repeater+ ac has been successfully integrated into your existing network as a **repeater**. The home LED lights up in white.

2.1.2 Wi-Fi button (only access point mode)

In access point mode this button controls the following functions:

Wi-Fi on/off

● In order to **switch Wi-Fi off**, press and hold the Wi-Fi button **longer than 3 seconds**.

● In order to **switch Wi-Fi** back **on**, **briefly tap** the Wi-Fi button.

Connecting Wi-Fi devices via WPS

● If the device is still on **factory defaults**, **tap the Wi-Fi button** in order to activate **WPS**.

● If the **Wi-Fi** connection was **switched off** and **you would like to activate WPS**, press the **Wi-Fi button twice**; once to switch Wi-Fi on, and again to activate WPS.

● If the **Wi-Fi** connection is **switched on** and **you want to copy** these settings to another

devolo Magic or Wi-Fi adapter, continue reading with the Chapter **4.6.5 Config Sync**.

> i *WPS is one of the encryption standards developed by the Wi-Fi Alliance. The objective of WPS is to make it easier to add devices to an existing network. For more detailed information, refer to Chapter* **4.4.8 Wi-Fi Protected Setup (WPS)**.

When the WPS function is enabled, the WPA3 encryption standard is not available for technical reasons.

> i *For more information about this, refer to Chapters* **4.4.3 Wi-Fi networks** *and* **4.4.8 Wi-Fi Protected Setup (WPS)**.

2.1.3 Reading the home indicator light

The integrated home indicator light (**LED**) shows the status for the WiFi Repeater+ ac by illuminating and/or flashing:

	LED	Flashing behaviour	Meaning
1	Red LED	Lights up for up to **2 sec.**	Start-up process
2	Red LED	Flashes at intervals of **0.5 sec. (on/off)**	The WiFi Repeater+ ac (once again) has the factory default settings. No pairing with another access point has taken place.
3	Red LED	Lights up steady	The connection to the configured Wi-Fi network has been interrupted. **More information can be found in the Home Network App.**
4	White LED	Lights up steady	The connection does not have any issues and the WiFi Repeater+ ac is ready to operate. It is established to the network via Wi-Fi or LAN cable. A computer connected by cable does not let any LED light up.
5	White LED	Flashes at intervals of **0.5 sec**. (**on/off**)	The WiFi Repeater+ ac is in pairing mode and the system is searching for a WPS connection to another access point.
6	Red and white LED	Flashes at intervals of **0.1 sec**. **red**/2 sec. **white**	Data transmission rate is not in optimum range. **More information can be found in the Home Network App.**

2.1.4 Reading the Wi-Fi indicator light

The integrated Wi-Fi indicator light (**LED**) shows the status of the WiFi Repeater+ ac by illuminating and/or flashing

	Wi-Fi-LED	Flashing behavior	Meaning
1	White LED	Flashes at intervals of **0.5 sec. on /0.5 sec. off**	The WiFi Repeater+ ac is in WPS mode to integrate Wi-Fi-enabled devices via WPS.
2	White LED	Lights up steady	Wi-Fi is switched on and active.
3	White LED	Off	**Status 1**: The Wi-Fi LED is switched off and the WiFi Repeater+ ac is still ready for use. **Status 2**: The access point is disabled. The connection to the WiFi Repeater+ ac still exists.
4	White LED	Flashes at intervals of **0.1 sec. on /0.1 sec. off**	The WiFi Repeater+ ac is carrying out a firmware update.

2.1.5 Reset button

The **reset** button (next to the network jacks) has two different functions:

Restart

The device restarts if you press the **Reset** button for less than 10 seconds.

Factory default settings

❶ To remove a WiFi Repeater+ ac from your network and successfully restore its entire configuration to the factory defaults, press and hold the reset button longer than 10 seconds.

ⓘ *Keep in mind that all settings that have already been made will be lost!*

❷ Wait until the LED flashes white and then disconnect the WiFi Repeater+ ac adapter from the mains supply.

✔ The WiFi Repeater+ ac has been successfully removed from your existing network.

2.1.6 Network jacks

You can use the Ethernet jacks on the WiFi Repeater+ ac to connect it to stationary devices such as computers, game consoles, etc. using a standard network cable.

ⓘ *Please only connect "new" terminal devices to the repeater by network cable that are not already integrated into your home network through Wi-Fi. Double connections slow down the network.*

2.1.7 Wi-Fi antennas

The internal Wi-Fi antennas are for connecting to other network devices wirelessly.

2.1.8 Integrated electrical socket

Always use the integrated electrical socket on the WiFi Repeater+ ac when connecting other consumers to the mains supply.

3 Initial use

This chapter covers everything you need to know to set up your WiFi Repeater+ ac. We provide a description of how the device is connected and briefly introduce the devolo software. Additional detailed information is available at www.devolo.com.

3.1 Package contents

Please ensure that the delivery is complete before beginning the installation of your WiFi Repeater+ ac:

- 1 WiFi Repeater+ ac
- Hard copy of installation guide
- Printed security flyer
- Simplified CE declaration

devolo AG reserves the right to change the package contents without prior notice.

3.2 System requirements

The following system requirements are relevant if you are configuring/managing the WiFi Repeater+ ac using a computer/laptop.

- **Supported operating systems of the devolo Cockpit**:
  - Win 7 (32-bit/64-bit) or later
  - Ubuntu 14.04 (32-bit/64-bit) or later
  - Mac OS X 10.9 or later
- **Network connection**

> **i** *Please note that your computer or laptop must have a network card or network adapter with a network interface.*

3.3 Installing WiFi Repeater+ ac

In the following sections, we describe how to connect the WiFi Repeater+ ac and integrate it into your Wi-Fi network.

> **CAUTION! Damage to the device caused by ambient conditions**
> **Only use device indoors in dry conditions**

> **i** *For the permitted voltage range for operating the device and the power consumption, refer to the type plate on the rear of the device. For additional technical information on our products, refer to the product area at www.devolo.com.*

❶ Plug the WiFi Repeater+ ac into a power socket near your router for the initial set-up.

❷ Once the home LED is flashing red and the Wi-Fi LED is lit in white, the device is ready to operate. It takes up to 2 minutes from the time the device is plugged in until this status is reached.

The WiFi Repeater+ ac has two different operating modes. It can be operated as a Wi-Fi repeater **or** an access point. Observe the specific procedures based on the desired device mode.

devolo Home Network App

The devolo Home Network App automatically detects the new or unconfigured WiFi Repeater+ ac. A **wizard** guides you quickly and easily through the process for setting up the device as a Wi-Fi repeater **or** access point (see **3.3.1 Installation via app**).

Web interface of the device

Set up the device as a Wi-Fi repeater **or** access point manually by using the web interface of the WiFi Repeater+ ac (see **3.3.2 Installation via web interface**).

WPS activation with the device button

You can automatically set up the device as a Wi-Fi repeater by pressing the device button (WPS activation) (see **3.3.5 Configuration via device button (WPS)**).

3.3.1 Installation via app

❶ Download the devolo Home Network App to your smartphone or tablet computer from the corresponding store.

GET IT ON
Google Play

Download on the
App Store

Fig. 4: QR code

❷ The devolo Home Network App is put on the app list of your smartphone or tablet as usual. Tapping on the devolo Home Network App icon brings you to the start menu.

❸ Then follow the prompts of the wizard.

✔ Once the status bar is complete and both LEDs on the device are white, the WiFi Repeater+ ac has been successfully configured as a repeater.

3.3.2 Installation via web interface

> **i** *To set up the WiFi Repeater+ ac, you need a terminal device (laptop, smartphone or tablet) with Wi-Fi capability.*

❶ For the initial set-up, the WiFi Repeater+ ac sets up a temporary Wi-Fi network called "devolo WiFi Repeater+ ac", which has no Internet connection. Connect to this network with your terminal device (no password is required).

❷ Use a web browser on your terminal device to call up the address http://2.2.2.1.

❸ Your WiFi Repeater+ ac features two operating modes:

Select an operation mode for this device

Repeater Mode — Access Point Mode

With the WiFi Repeater Mode, you can extend your existing WiFi from your Router or Gateway.

With the WiFi Access Point Mode, you setup a new WiFi for your home.

Install as Repeater — Install as Access Point

Repeater mode

○ When you use the WiFi Repeater+ ac as a Wi-Fi repeater, you expand your existing network wirelessly.

○ Use this mode if you would rather not (or cannot) route Ethernet cables in your rooms. This procedure is described in Chapter **3.3.3 Using the device as a repeater**.

Access point mode

○ When you use the WiFi Repeater+ ac as an additional access point in your network, you expand your existing network **through cabling**.

○ To do so, connect the device directly to your Internet access device (router). This procedure is described in Chapter **3.3.4 Using the device as an access point**.

3.3.3 Using the device as a repeater

❶ Click **Install as repeater**.

❷ The WiFi Repeater+ ac automatically searches for Wi-Fi networks in the vicinity. Please select your Wi-Fi network from the list and click **Next**.

i *If your Wi-Fi network does not appear in the list, select a power socket closer to the Wi-Fi router/access point and refresh the list by clicking on the **arrow** icon.*

❸ Enter the access data for your Wi-Fi network in the **Password** field and click **Next**.

❹ Now you can configure Wi-Fi settings.

Using default Wi-Fi settings

It is recommended that you use the default settings. To do so, just click on **Next**.

Custom Wi-Fi settings

If you would like to configure custom settings, disable the **Use default Wi-Fi settings** option.

The WiFi Repeater+ ac supports two modes:

● **Inband Repeating** – forwards the Wi-Fi signal on the same frequency band on which it arrives (2.4 GHz or 5 GHz).

● **Crossband Repeating**—changes the frequency band to minimise interference.

⑤ In the last step, you get a summary of your settings. Here, you can also view and print out a QR code using your network's access data.

⑥ Then confirm this with **Finish configuration** and wait until the set-up is complete.

✓ Once the status bar is complete and both LEDs on the device are lit in white, the WiFi Repeater+ ac has been successfully configured as a repeater.

ⓘ *For information about other possible device settings, refer to Chapter* **4 Network configuration**.

3.3.4 Using the device as an access point

❶ Click **Install as access point**.

✓ Once the status bar has been run through and both LEDs on the device are lit in white, the WiFi Repeater+ ac has been successfully configured as an access point.

ⓘ *For information about other possible device settings, refer to Chapter* **4 Network configuration**.

To ensure that the WiFi Repeater+ ac has the same Wi-Fi configuration as your Wi-Fi router, you can apply the Wi-Fi access data using the **WiFi Clone** function. This can be enabled in different ways:

Activating WiFi Clone:

● Activating WiFi Clone by pressing a button: First press the **Home button** on the front side

of the WiFi Repeater+ ac and then press the WPS button of the Wi-Fi router from which you want to take over the access data.

or

● Activate WiFi Clone from the web interface. More information about this function can be found in Chapter **WiFi Clone**.

3.3.5 Configuration via device button (WPS)

❶ For WPS activation, **briefly** press the **home** button on the **WiFi Repeater+ ac**.

> ⓘ *The WiFi Repeater+ ac should be in factory default condition (for more information, refer to **2.1.5 Reset button**).*

❷ Now, confirm the WPS activation **on your Wi-Fi router** within 2 minutes **or on** another access point within your Wi-Fi network – e.g.

○ by pressing the **WPS** button of your Wi-Fi **router** or the access point

○ or by pressing the **WPS** function on the **configuration interface/app** of the respective device

> ⓘ *For information about the WPS function/activation of your Wi-Fi router or access point, refer to the corresponding product documentation.*

> ✔ The WiFi Repeater+ ac adapter has been successfully integrated into your existing Wi-Fi network once the home LED is lit in white.

3.4 Installation of devolo software

Installing devolo Cockpit software

devolo Cockpit finds all accessible devolo Magic adapters in your network, displays information about these devices. You can use the software to navigate to the integrated web interface.

Operating systems supported by devolo Cockpit (Version 5.0 or later):

● from Windows 7 (32-bit/64-bit) or later,
● from Ubuntu 13.10 (32-bit/64-bit),
● from Mac (OS X 10.9)

> ⓘ *You can find the product manual, software and additional information on*

devolo Cockpit online at www.devolo.com/cockpit.

Downloading the devolo Home Network App

The devolo Home Network App is devolo's **free app** also for checking and configuring Wi-Fi, Magic and LAN connections for the devolo adapter (using a smartphone or tablet). The smartphone or tablet connects to the devolo adapter at home over Wi-Fi.

❶ Download the devolo Home Network App to your smartphone or tablet computer from the corresponding store.

❷ The devolo Home Network App is placed in your smartphone's or tablet's app list as usual. Tapping on the devolo Home Network App icon brings you to the start menu.

> ⓘ *You can find more information about the devolo Home Network App online at* www.devolo.com/devolo-app.

GET IT ON
Google Play

Download on the
App Store

Fig. 4: QR code

3.5 Removing the WiFi Repeater+ ac from a network

To remove a WiFi Repeater+ ac from your network and successfully restore its entire configuration to the factory default settings, press the reset button longer than 10 seconds. Wait until the LED flashes white and then disconnect the adapter from the mains supply.

Keep in mind that all settings that have already been made will be lost!

To integrate the mains supply into another network, proceed as described in this chapter.

4 Network configuration

The WiFi Repeater+ ac has a built-in web interface that can be called up using a standard web browser. All settings for operating the device can be modified here.

4.1 Calling up the built-in web interface

You can access the built-in online web interface for the WiFi Repeater+ ac in different ways:

● Use a web browser on your terminal device to call up the address http://2.2.2.1.

> *i* *For the initial set-up, the WiFi Repeater+ ac sets up a temporary Wi-Fi network called "devolo WiFi Repeater+ ac", which has no Internet connection. Connect to this network with your terminal device (no password is required).*
>
> *The WiFi Repeater+ ac should be in factory default condition (for more information, refer to* **2.1.5 Reset button***).*

or

● Using the **devolo Home Network App** on your smartphone or tablet, you can access the device's web interface.

● Using the **Cockpit software**, you can get to the device's web interface by clicking on the corresponding tab for the WiFi Repeater+ ac. Then the program determines the current IP address and starts the configuration in the web browser.

> *i* *You can find more information on devolo Home Network App and Cockpit software in Chapter* **3.4 Installation of devolo software***.*

4.2 General information about the menu

All menu functions are described in the corresponding interface as well as in the associated chapter in the manual. The sequence of the description in the manual follows the structure of the menu. The figures for the device interface serve as examples.

Repeater or access point

Menu pages that are only displayed in one mode are marked with a note.

Logging in

i *How to call up the web interface, please refer to the previous chapter* **4.1 Calling up the built-in web interface**.

The web interface is not password protected. Assigning a login password is mandatory when logging in for the first time to prevent unauthorised access by third parties.

Enter your existing password each time you login again and confirm by pressing **Log in**.

Please log in with your password!

Password: [Password]

[Login]

i *For more information of the login password, please refer to* **4.6 System**.
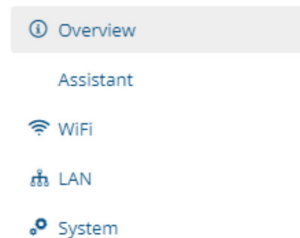
Logging out

Log out of the web interface by clicking **Log out**.

Language selection

Select the desired language in the language selection list.

The central areas of the web interface and their sub-categories are listed on the left edge. Click the entry for an area to move directly into it.

ⓘ Overview

Assistant

🛜 WiFi

🔗 LAN

System

Making changes

Once you make a change, two icons are shown on the corresponding menu page:

- **Disk** icon: Your settings are being saved.
- **X** icon: The operation is being cancelled. Your settings are not being saved.

Required fields

Fields with a red border are required fields. This means entries must be made in these fields to continue with the configuration.

Help text blank fields

Fields that have not been filled in yet contain greyed out help text, which indicates the required content for the field. This help text disappears immediately once content has been entered.

Default settings

Some fields contain default settings which ensure the greatest amount of compatibility and ease of use. Default settings are identified with an ***** in drop-down menus.

Default settings can of course be replaced with customised information.

Recommended settings

Some fields include recommended settings.

Recommended settings can of course be replaced with customised information.

Tables

You can make changes within a table by clicking the corresponding row within it (e. g. **Time control**, **Parental control**/**Note that these functions are available only in the device's access point mode.**). In edit mode, the corresponding table rows have a blue background.

Invalid entries

Entry errors are either highlighted by a red border or error messages are shown.

Buttons

Click the **Disk** icon to save the settings for the respective web interface area.

Click the **X** icon or use the **Menu path** above the buttons to exit the respective web interface area.

Click the **Recycle bin** icon to delete an entry.

Click the **Eye** icon to toggle the password display between plain text and a series of ***** characters.

Click the **Arrow** icon to refresh a list.

4.3 Overview

The **Overview** area shows the status of the device and the connected LAN and Wi-Fi clients.

4.3.1 System

Information

Name: Device name

Serial number: Device serial number

Firmware version: Firmware version of the device

4.3.2 LAN

Ethernet

Port 1 or 2: if a connection has been detected, the speed (10/100 Mbps) is specified; otherwise, the status "unconnected" is specified.

IPv4

Protocol: Display indicating whether DHCP is switched on or switched off

Address: IPv4 address in use

Subnet mask: IPv4 network mask in use

Default gateway: IPv4 gateway in use

DNS server: DNSv4 server in use

IPv6

Protocol: Display indicating whether DHCP is switched on or switched off

Subnet address: SLAAC address in use

4.3.3 Repeater

Configuration

Mode: Specifies whether status is "Access Point" or "Repeater"

Type: Specifies whether Crossband Repeating or Inband Repeating is configured

Home network

● In the **2.4 GHz** frequency band
  ○ **SSID**: Name of the selected Wi-Fi network
  ○ **Signal**: Signal strength of the Wi-Fi network
● In the **5 GHz** frequency band
  ○ **SSID**: Name of the selected Wi-Fi network
  ○ **Signal**: Signal strength of the Wi-Fi network

4.3.4 Wi-Fi

Repeater network

● In the **2.4 GHz** frequency band
  ○ **SSID**: Name of the selected Wi-Fi network
  ○ **Current channel**: Frequency channel in use in the 2.4 GHz frequency band
  ○ **Connected Wi-Fi clients**
● In the **5 GHz** frequency band
  ○ **SSID**: Name of the selected Wi-Fi network
  ○ **Current channel**: Frequency channel in use
  ○ **Connected Wi-Fi clients**

4.4 Wi-Fi

Make all changes to your wireless network in the **Wi-Fi** area.

4.4.1 Status

Here, you see the current status of your wireless LAN network configuration, e.g. the connected Wi-Fi terminal devices, the MAC address, the selected frequency band, the SSID, the transfer rates and the connection duration.

WiFi Clients

Status	MAC address	Manufacturer	Frequency band	Network name	Tx rate (Mbps)	Rx rate (Mbps)	Since ▲
⊘	F8:16:54:80:8D:65	Intel Corporate	2.4 GHz	devolo WiFi Repeater+ ac	n/a	n/a	0 days, 00:13:38

WiFi Network

Repeater Type: Cross-band

Active	Network name	Type ▾	Frequency band	Current channel
⊘	Magic	Home network	2.4 GHz	1
⊘	Magic	Home network	5 GHz	100
⊘	Magic	Repeated network	2.4 GHz	1
⊘	Magic	Repeated network	5 GHz	100

4.4.2 Repeater networks

> i *This menu is available in repeater mode on-ly.*

You can configure all necessary settings for your repeater networks here.

Repeater mode

Repeater type: "Crossband" or "Inband"

Primary frequency band: 2.4 GHz or 5 GHz.

Use same settings for both home network and repeater network: If you disable this option, configure the settings listed below separately for the existing home network and for the extension created by the repeater.

Home network vs repeater network

The following graphic is intended to show the difference between the two networks:

Home network   Repeater network
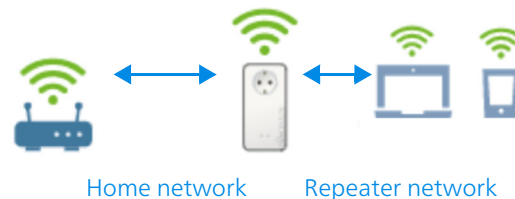
Fig. 5

In repeater mode, there are two Wi-Fi networks: the existing home network and the repeater network.

The home network is the network that always starts with the Internet access device (Wi-Fi router). It is used for data transmission from router to repeater and vice versa.

However, the data transmission from the repeater to the respective terminal device and vice versa takes place over the repeater network.

Home & repeater network settings

In this section, you specify the desired frequency band mode. The WiFi Repeater+ ac supports both the parallel operation of the Wi-Fi frequency bands and their separate use.

If you enable the option **Use same settings for the 2.4 GHz and 5 GHz band**, the settings of **repeater mode** apply to both frequency bands.

If the option is disabled, each frequency band will be configured differently.

Network name

In the **Network name** field, select the name of the Wi-Fi network.

Password

In the **Network name** field, enter the key for the selected Wi-Fi network.

4.4.3 Wi-Fi networks

You can make all necessary changes to your Wi-Fi network here.

Wi-Fi network mode

The WiFi Repeater+ ac supports both the parallel operation of the Wi-Fi frequency bands and their separate use.

The **Wi-Fi network mode** field lets you define your preferred setting by clicking the respective field:

● **2.4 GHz + 5 GHz** – Both frequency bands are used
● **2.4 GHz** – Only the 2.4 GHz frequency band is used
● **5 GHz** – Only the 5 GHz frequency band is used
● **Off** – If desired, you can completely switch off the Wi-Fi section here.

Keep in mind that after saving this setting, you will be disconnected from any existing wireless connection to the WiFi Repeater+ ac. In this case, configure the device over Ethernet.

Network name

The **network name (SSID)** determines the name of your wireless network. You can see this name when logging onto the Wi-Fi, allowing you to identify the correct Wi-Fi network.

Channels

There are 13 channels available in the **2.4 GHz** frequency band. The channels recommended for Europe are channels 1, 6 and 11. This ensures the frequency bands of the channels do not overlap and any connection problems are avoided.

There are 19 channels available in the **5 GHz** frequency band.

The channel selection default setting is **Automatic**.

The WiFi Repeater+ ac regularly and automatically executes the channel selection in this setting. In other words, if the last connected station logs out, a search for a suitable channel is carried out immediately. If no stations are connected, the device automatically selects a channel every 15 minutes.

It is worth noting that connected devices also have to support the increased frequency band of 5 GHz. From channel 52 onward you go into the radar range. When accessing the device for the first time, a radar detection phase (DFS) starts automatically, during which time the WiFi Repeater+ ac cannot be accessed via Wi-Fi. This can take up to 10 minutes.

In the **Channel** field, you can manually select a 2.4 GHz and a 5 GHz channel. If you are not sure which wireless channels are used by nearby devices, select the **Automatic** option.

Hide SSID:

The **SSID** specifies the name of your wireless network. You can see this name when logging onto the Wi-Fi, allowing you to identify the correct subnet.

If the **Hide SSID** option is disabled, your network name is visible. If this option is disabled, potential network users must know the exact SSID and enter it manually to be able to set up a connection.

> i   *Some Wi-Fi stations have difficulty connecting to hidden wireless networks. If the connection to a hidden SSID poses problems, first try to set up the connection with a visible SSID and only then try to hide it.*

Security

The **WPA/WPA2/WPA3 Personal (Wi-Fi Protected Access)** security standard is available for securing data transmission in your wireless network. This method allows for individualised keys consisting of **letters and numbers and the depicted special characters with a length of up to 63 characters**. You can simply enter them into the **Key** field via the keyboard.

When the WPS function is enabled, the WPA3 encryption standard is not available for technical reasons.

> i   *For more information, refer to Chapter **4.4.8 Wi-Fi Protected Setup (WPS)**.*

4.4.4 Guest network

> i   *This menu is available in access point mode only.*

If you have friends or acquaintances visiting and you want to provide them with Internet access but without giving away the password for your Wi-Fi, you can set up a separate guest account in addition to the main Internet connection. The guest account can have its own network name, time limit and Wi-Fi password. This way your visitors can browse the Internet without having access to your local network.

To set up a guest account, activate the **Enable** option.

The guest account has an **Automatic shutoff** feature. This feature automatically disables the guest network once the selected time period ends.

You can use the **Enable** option to activate the shut-off feature.

> i *You can also enable or disable the guest account in the* **devolo Home Network App** *using the* **Guest account** *button.*

Frequency band

In the **Frequency band** field, you select the frequency band mode you are using (see Chapter **Wi-Fi network mode**).

Network name

Define the name of the guest network in the **Network name** field.

Key

You should also encrypt the guest account to prevent anyone in signal range from intruding into your network and, for example, sharing your Internet connection. The **WPA/WPA2/WPA3 (Wi-Fi Protected Access)** security standard is available for this.

When the WPS function is enabled, the WPA3 encryption standard is not available for technical reasons.

> i *For more information, refer to Chapter* **4.4.8 Wi-Fi Protected Setup (WPS)**.

This method allows for individualised keys consisting of **letters and numbers with a length of up to 63 characters**. You can simply enter them via the keyboard.

To do so, enter a corresponding number of cha-racters into the **Key** field.

QR code

Using the QR code, you can conveniently set up the connection to the guest network for mobile de-vices. Scanning the QR code automatically trans-fers the credentials for the guest network to the respective mobile device. The QR code is visible only if the guest network has been enabled.

4.4.5 Mesh

Mesh

All devolo Magic Wi-Fi adapters as well as the WiFi Repeater+ ac offer mesh Wi-Fi, which entails completely new and improved Wi-Fi functions:

● **Fast roaming** (IEEE 802.11r) streamlines the registration process for Wi-Fi terminal devices, such as smartphones or tablets, when switch-ing to another Wi-Fi hotspot.

> i *The feature* **Fast roaming** *is not compatible with all Wi-Fi clients. If there will be connection problems with one of your devices, please deactivate these option.*

In factory default condition of the WiFi Repeater+ ac **Fast roaming** is turned off by default.

● In addition, the new **air-time fairness** feature processes the requests of high-speed Wi-Fi cli-ents at higher priority. This prevents older devices, which may require more time for a download, from creating Wi-Fi bottlenecks.
● Integrated **band steering** ensures that all Wi-Fi stations automatically switch to the optimum frequency band (2.4 and 5 GHz frequency band) in order to use the best Wi-Fi connection at all times.

In order to turn the mesh functions on, activate the **Enable** option.

The mesh function of the WiFi Repeater+ ac is swit-ched on by default.

WiFi Clone

> ℹ️ *This menu is available in access point mode only.*

WiFi Clone makes it possible to simply copy the Wi-Fi configuration data of an existing Wi-Fi access point (e.g. your Wi-Fi router) to all Wi-Fi access points (Single SSID). Start the procedure with the **Start Configuration** option and then press the WPS button of the device with the Wi-Fi access data (SSID and Wi-Fi password) to be applied.

4.4.6 Schedule control

> ℹ️ *This menu is available in access point mode only.*

The **Schedule control** area lets you define when and if your Wi-Fi is switched on and off.
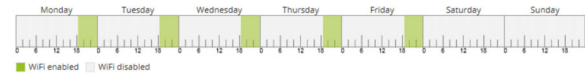

Enabling Wi-Fi schedule control

In order to be able to use time control, activate the **Enable** option.

Configuration

You can define multiple time periods during which your wireless network is to be enabled for each weekday. Then the time control automatically switches the wireless network on or off.

Automatic disconnection

If you enable the **Automatic disconnection** option, the wireless network is not switched off until the last station has logged off.

> ℹ️ *Manually switching the device on and off (using a button) always has priority over automatic time control. The configured time control then takes effect automatically during the next defined time period.*

4.4.7 Parental control

> ℹ️ *This menu is available in access point mode only.*

You can regulate Wi-Fi access for specific devices based on time using this function. For instance, to prevent your children from using the Internet excessively, you can define how long they may use the Wi-Fi per day. Synchronisation with an (Internet) time server is necessary to be able to use the parental control. In this case, the time server (**System** ➔ **Management** ➔ **Time Server (NTP)**) for the WiFi Repeater+ ac ac has to be enabled and an active Internet connection is also required.

> ℹ️ *The time server pool.ntp.org is enabled by default. You can find more information in Chapter 4.6.2 Management.*
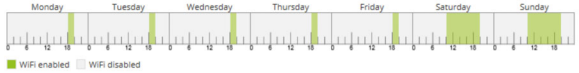
If you would like to set up a **time quota** (usage time in hours) or a **time period** (active from/to), activate the **Enable** option. Now enter the MAC addresses of the devices you want to set up parental control for.

Under **Type**, define either a **time quota** (time limit) or a **time period** for when you want the MAC addresses entered to receive Internet access. Under **Select interval**, select the desired time frame.

Setting the time quota

Under **Time Quota**, the time limit can be selected.

Confirm your settings by clicking the **Disk** icon.

Setting the time period

Under **Time Period**, the desired time period can be selected. After entering the interval, enter the desired start and end times in hour and minute format.

Confirm your settings by clicking the **Disk** icon.

If you want to delete a time quota (time limit) or a time period from the list, click/touch the **dustbin** icon.

4.4.8 Wi-Fi Protected Setup (WPS)

Wi-Fi Protected Setup (WPS) is one of the international encryption standards developed by the Wi-Fi Alliance for easily and quickly setting up a secure wireless network. The encryption keys of the respective Wi-Fi devices are transmitted automatically and continuously to the other Wi-Fi device(s) in the wireless network.

Enabling WPS encryption

In order to be able to use WPS encryption, activate the **Enable** option.
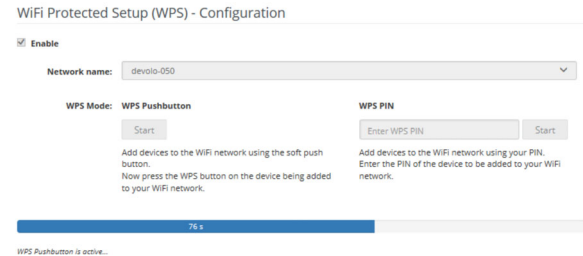
The WiFi Repeater+ ac offers two different variants for transmitting these encryption keys:

WPS using WPS pushbutton

❶ Start the encryption process on the WiFi Repeater+ ac

○ By pressing the **Wi-Fi button** on the **front side of the device** or

○ By pressing the corresponding **Start** button on the user interface under **Wi-Fi → WPS Pushbutton**.

❷ Then either press the WPS key of the Wi-Fi device you are adding or enable the WPS mechanism in the Wi-Fi settings of the Wi-Fi device. Now the devices exchange their encryption keys and establish a secure Wi-Fi connec-

tion. The Wi-Fi LED on the front panel indicates the synchronisation process by flashing.

WPS via PIN

To interconnect Wi-Fi devices in your wireless network securely using a PIN variant, go to the web interface and, under **Wi-Fi** → **WPS** → **WPS PIN**, enter the WPS PIN generated by your Android smartphone or tablet and start the encryption process by pressing the corresponding **Start** button.

Use of the **WPS** method implies the use of the **WPA/WPA2** or **WPA2** or **WPA3/WPA2** encryption standard.

When the WPS function is enabled, the WPA3 encryption standard is not available for technical reasons.

> i *For more information of the encryption standards, refer to Chapter* **4.4.3 Wi-Fi networks***.*

Therefore take note of the following automatic settings:

● If under **Wi-Fi** → **Wi-Fi networks**, the **No encryption** option is selected in advance, **WPA2** is set automatically. The newly genera-ted password is displayed under **Wi-Fi** → **Wi-Fi networks** in the **Key** field.

● If under **Wi-Fi** → **Wi-Fi networks**, the **WPA/WPA2** option is selected in advance, this setting **remains** with the previously assigned password.

4.4.9 Neighbour networks

The **Neighbour networks** area displays visible wireless networks in your surroundings.

Network name	Channel	Signal quality (%)
devolo-183	100	94
DVT-3490-5	124	94
devolo-183	11	94
NETGEAR70_jonas_r	6	94
Loft TV.b	6	94
DVT-3490-2	1	94
devilo24	1	94
devolo-159	1	94
ASUS_7437b8fde68	9	94
NETGEAR-2	2	94

4.5 LAN

You make changes to the network settings in the **LAN** area.

4.5.1 Status

You can see the current LAN status of the WiFi Repeater+ ac here. The **Ethernet** area shows the network devices connected to the two network connectors **Port 1 and Port 2** (e.g. PC, NAS, etc.).

IPv4/IPv6

Depending on how the WiFi Repeater+ ac is connected to the Internet (IPv4 or IPv6), current network information is displayed, such as **Address**, **Subnet mask**, **Standard gateway** and **DNS server**..

Ethernet	
Port 1:	Not connected
Port 2:	Not connected
Ethernet:	B8:BE:F4:00:0A:DE

IPv4	
Protocol:	DHCP
Address:	169.254.8.37
Subnet mask:	255.255.0.0

4.5.2 IPv4/IPv6 configuration

In the factory default settings, only the **Retrieve network settings from a DHCP server** option for

IPv4 is enabled. This means that the IPv4 address is retrieved automatically from a DHCP server. The currently assigned network data are visible (greyed out).

If a DHCP server is already present on the network for assigning IP addresses (e.g. your Internet router), you should leave the **Retrieve network settings from a DHCP server** option enabled so that the WiFi Repeater+ ac automatically receives an address from it.

If you want to assign a static IP address, make entries accordingly for the **Address**, **Subnet mask**, **Default gateway** and **DNS server** fields.

Confirm your settings by clicking the **Disk** icon.

Then, restart the adapter (see Chapter **4.6.3 Configuration**) to ensure that your changes take effect.

IPv6 configuration

If you want automatic IP address assignment and there is already a DHCP server present on the network for assigning IP addresses (e.g. your Internet router), enable the **Retrieve network settings from a DHCP server** option to ensure that the WiFi Repeater+ ac automatically receives an address from it.

If you want to assign a static IP address, make entries accordingly for the **Address**, **Subnet mask**, **Default gateway** and **DNS server** fields.

Confirm your settings by clicking the **Disk** icon.

4.6 System

In the **System** area, you can configure the settings for security and other device functions.

4.6.1 Status

Here you can view the most important information on the device, including the current date and time, time zone, MAC address of the adapter, status of

the Wi-Fi and home LEDs and the two operating buttons.

Date and Time

Local time:	22.06.2020 22:50
Time zone:	Europe/Berlin
Time server 1:	europe.pool.ntp.org

MAC addresses

Ethernet:	B8:BE:F4:00:0A:DE

LEDs

WiFi LED:	Enabled
Home LED:	Enabled

Buttons

Home button:	Enabled
WiFi button:	Enabled

4.6.2 Management

System information lets you enter user-defined names in the **Device name (hostname)** and **Device location** fields. Both pieces of information are particularly helpful if multiple devolo Magic adapters are to be used and identified in the network.

Under **Change access password**, a login password can be set for accessing the web interface.

By default, the built-in web interface of the WiFi Repeater+ ac is not protected by a password. We recommend assigning a password when the installation of the WiFi Repeater+ ac is complete to protect it against tampering by third parties.

ⓘ *To do so, enter the desired new password twice. Now the web interface is protected*

against unauthorised access with your custom password!

The **LED settings** let you disable the LED status display of the **Wi-Fi** and **home** LEDs.

An error status is indicated by corresponding flashing behaviour regardless of this setting.

You can completely disable the **operating buttons** on the devolo Magic adapter in order to protect yourself against possible changes. Simply disable the **Enable home button** or **Enable Wi-Fi button** option.

The operating buttons are enabled in the WiFi Repeater+ ac factory default settings.

Under **Time zone**, you can select the current time zone, e.g. Europe/Berlin. The **Time server (NTP)** option lets you specify a time server. A time server is a server on the Internet whose task consists of providing the exact time. Most time servers are coupled with a radio clock. Select your time zone and time server; the WiFi Repeater+ ac automati-

cally switches between standard time and summer time.

4.6.3 Configuration

Saving the device configuration

To save the enabled configuration to your computer as a file, select the corresponding button in the **System → Configuration → Save Configuration to File** area. The system starts downloading the current device configuration.

Restoring the device configuration

An existing configuration file can be sent to the WiFi Repeater+ ac in the **System → Configuration** area and enabled there. Select a suitable file via the **Select file …** button and start the operation by clicking the **Restore** button.

Factory Settings

The WiFi Repeater+ ac is reset to the original factory defaults in the **System → Configuration** area with the **Factory Reset** option.

> **i** *Doing so causes you to lose your personal Wi-Fi settings. The last-assigned passwords for the WiFi Repeater+ ac are also reset.*

For backup purposes, all active configuration settings can be transmitted to your computer, stored there as a file and reloaded into the WiFi Repeater+ ac. This function can be useful for creating a variety of configurations that will let you quickly and easily set up the device for use in different network environments.

Reboot device

In order to reboot the WiFi Repeater+ ac, select the **Reboot** button in the **System → Configuration** area.

4.6.4 Firmware

The firmware of the WiFi Repeater+ ac includes the software for operating the device. If necessary, devolo offers new versions on the Internet as a file download, for example to modify existing functions.

Current firmware

The currently installed firmware of the WiFi Repeater+ ac is displayed here.

Searching for and updating firmware automatically

The adapter can also look for up-to-date firmware automatically. To do this, enable the **Regulary check for firmware updates** option.

> ⓘ *The WiFi Repeater+ ac lets you know when a new firmware version becomes available. The option is enabled by default.*

The **Automatically install firmware updates** option allows the adapter to automatically install the firmware it has found.

> ⓘ *The WiFi Repeater+ ac automatically updates its firmware. The option is enabled by default.*

Download updated firmware

❶ If you have downloaded an updated firmware file for the WiFi Repeater+ ac to your computer, navigate to the **System → Firmware → Update firmware** area. Click **Browse …** and select the downloaded file.

❷ Confirm the update procedure with **Update firmware**. After a successful update, the WiFi Repeater+ ac restarts automatically.

Ensure that the update procedure is not interrupted.

4.6.5 Config Sync

> ⓘ *This menu is available in access point mode only.*

Config Sync allows settings to be configured uniformly for all devolo devices in the network. This includes the following settings e.g.:

● Wi-Fi network
● Guest network
● Mesh Wi-Fi
● Time control and time server settings.

In order to switch Config Sync on, activate the **Enable** option.

> ⓘ *Please note that the Wi-Fi is always switched on or off for the entire network. Therefore, stop Config Sync first on a device that you want to configure or switch separately.*

5 Appendix

5.1 Technical specifications

Wi-Fi encryption	WPA/WPA2/WPA3 Personal
Device port	2x Ethernet RJ45
Power consumption	Maximum: 5.6/0.5 W/A Typical:~4.6/0.5 W/A
Power supply	internal 196-250 V AC 50 Hz
Temperature (Storage/Operating)	-25°C to 70 °C / 0°C to 40°C
Dimensions (in mm, without plug)	152x76x40 (HxWxD)
Ambient conditions	10-90% Humidity, non-condensing
Certifications	CE

> i *The complete technical specifications is available at www.devolo.com.*

5.2 Frequency range and transmitting power

	5 GHz
Frequency range	5150 – 5350 MHz (802.11 a/h, n, ac) 5470 – 5590 MHz (802.11 ac)
Channel bandwidth	20 MHz (802.11 a/h) 20, 40 MHz (802.11 n) 20 MHz, 40 MHz, 80 MHz (802.11 ac)
Max. transmitting power	200 mW (Kanal 36 – 64)/23 dBm 1000mW (Kanal 100 – 112)/30dBm

	2,4 GHz
Frequenzbereich	2399,5 – 2484,5 MHz (802.11 b, g, n)
Kanalbandbreite	20 MHz (802.11 b/g) 20, 40 MHz (802.11 n)
Max. Sendeleistung	100 mW/20 dBm

5.3 Channels and carrier frequencies

Channel	Carrier frequency in the 5-GHz band
36	5180 MHz
40	5200 MHz
44	5220 MHz
48	5240 MHz
52	5260 MHz
56	5280 MHz
60	5300 MHz
64	5320 MHz
100	5500 MHz
104	5520 MHz
108	5540 MHz
112	5560 MHz
116	5580 MHz

Channel	Carrier frequency in the 5-GHz band
120	5600 MHz
124	5620 MHz
128	5600 MHz
132	5660 MHz
136	5680 MHz
140	5700 MHz

Channel	Carrier frequency in 2.4-GHz band
1	2412 MHz
2	2417 MHz
3	2422 MHz
4	2427 MHz
5	2432 MHz
6	2437 MHz
7	2442 MHz

Channel	Carrier frequency in 2.4-GHz band
8	2447 MHz
9	2452 MHz
10	2457 MHz
11	2462 MHz
12	2467 MHz
13	2472 MHz

5.4 Disposal of old devices

To be used in the countries of the European Union and other European countries with a separate collecting system:

The icon with crossed-out wastebasket on the device means that this product is an electrical or electronic device that falls within the scope of application of the European Community WEEE Directive. These types of devices may no longer be disposed of with household waste. Rather they can be given to a municipal collection point free of charge. Contact your municipal government to find out the address and hours of the nearest collection point.

5.5 Warranty conditions

If your devolo device is found to be defective during initial installation or within the warranty period, please contact the vendor who sold you the product. The vendor will take care of the repair or warranty claim for you. The complete warranty conditions can be found at
www.devolo.com/support.

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