devolo MAGIC

Manual

devolo Magic 1 WiFi mini

devolo Magic 1 WiFi mini

devolo AG

Charlottenburger Allee 67

52068 Aachen

Germany

www.devolo.com

Version 1.0_10/19

Contents

1 Preface

Welcome to the fantastic world of devolo Magic!

In no time at all, devolo Magic transforms your house into a multimedia home that is ready for the future today. devolo Magic gives you noticeably higher speeds, more stability and greater range, providing the perfect Internet experience as a result!

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 „devolo Magic“ and to the devolo Magic 1 WiFi mini 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 devolo Magic configuration interface.

Tips for bandwidth optimisation, 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
	The device is a Class II product. All electrically conductive (made of metal) housing parts which in case of a fault condition during operation or maintenance can be under voltage, are separated from live elements by reinforced insulation.
	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.

Icon	Description
	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 abo-

ve **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.

Accessories

Use only the provided accessories.

1.3 CE Conformity

CE This product complies with the technical requirements of the directives **2014/53/EU**, **2011/65/EU** 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.

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 and devolo Magic, visit www.devolo.com.

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

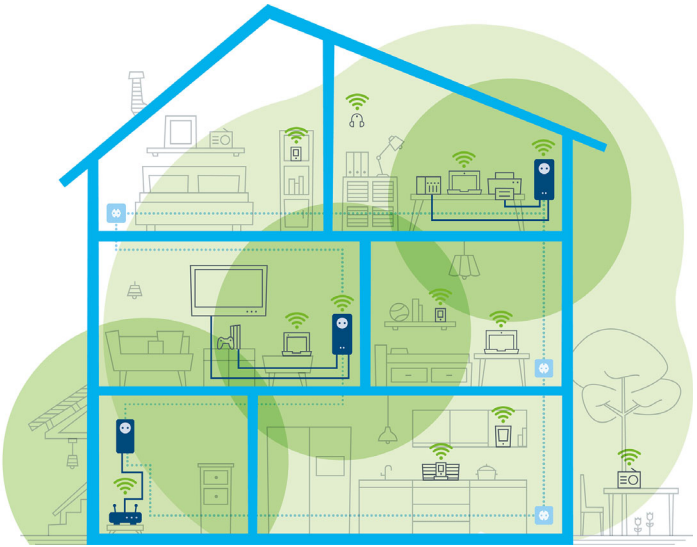
If you have any further ideas or suggestions related to our products, please don't hesitate to contact us at support@devolo.com!

2 Introduction

2.1 devolo Magic

Home is where devolo Magic is – in no time at all, devolo Magic transforms your house or flat into a multimedia home of the future with noticeably higher speed, more stability and greater range, providing the perfect Internet experience as a result!

Be inspired by products that are astonishingly easy to install, with impressive, innovative technology and unbeatable performance.



devolo Magic throughout the home

Be ready for the technology of the future today

devolo Magic embodies the new generation of the tried-and-tested Powerline technology (PLC) based on the cutting-edge G.hn architecture. G.hn was developed by the International Telecommunication Union (ITU) with ongoing development provided primarily by the HomeGrid Forum industry association. devolo Magic products are certified according to HomeGrid standards and are compatible with other HomeGrid-certified products.

Like the HomePlug AV technology used in established devolo dLAN devices, devolo Magic uses the household mains supply for data transmission and secures ideal performance and stability in locations where network cables are not viable or desired and/or the Wi-Fi frequently falls short due to ceilings and walls.

To set up a devolo Magic network, you need at least two devolo Magic devices. For technical reasons, devices from the devolo Magic series are not compatible with dLAN devices.

2.2 Introduction to the devolo magic adapter:

Unpack– plug in – get started and **be prepared for the new generation of the tried-and-tested Powerline technology and innovative mesh WiFi with swiftness** and **stability**:

Powerline

- At speeds up to **1200 Mbps**
- Over distances **up to 400 metres**
- **Security** – with **128-bit AES** Powerline encryption

Mesh WiFi

- At speeds up to **300 Mbps**
- Two antennas cover the 2.4 Wi-Fi frequencies.
- **Air-time fairness** – Quicker Wi-Fi devices take priority in the network.
- **Roaming** – Quickly and seamlessly connect to the strongest Wi-Fi access point
- **Security** – with **WPA3 for wireless n** ("IEEE 802.11a/b/g/n" Wi-Fi high-speed standards)
- **Convenient additional functions** such as guest WiFi and Config Sync are integrated in the devolo Magic 1 WiFi mini.

- **Efficiency**– The integrated PowerSave mode reduces energy consumption automatically **at low data traffic**.
- The **1 network connector** on the devolo Magic 1 WiFi mini let you connect stationary network devices—such as a game console, TV or media receiver—to your Internet access point over the Powerline network (e.g. Internet router).

The devolo Magic 1 WiFi mini features

- A Powerline button (house symbol) with LED status display,
- A Wi-Fi button with LED status display,
- Two internal Wi-Fi antennas,
- One network connector,
- A Reset button (small opening next to the network jack).

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.

devolo Magic 1 WiFi mini with country-specific connector

Network connector and reset button

2.3 Pairing – Establishing a Powerline connection

devolo Magic adapters that are in the factory default condition, i.e. have been recently purchased or successfully reset (see Chapter **3.5 Removing the devolo Magic adapter from a PLC network**), automatically start to attempt to pair (establish a Powerline connection) with anotherdevolo Magic adapter when reconnected to the mains supply.

Starting up a new devolo Magic PLC network

After plugging the devolo Magic adapters into available power sockets, a new devolo Magic network is established automatically within 3 minutes.

Expanding an existing devolo Magic Powerline network by adding another devolo Magic adapter

In order to use a new devolo Magic 1 WiFi mini in your devolo Magic- network, first you have to connect it to your existing devolo Magic adapters devices as a network. This is accomplished by using a shared Powerline password, which can be assigned in various ways:

- Using **devolo Cockpit** or the **devolo Home Network App** (see Chapter **3.4 Installation of devolo software**)
- Using the **web interface** (see Chapter **4.5 Powerline**)
- Using the **Powerline button** as described below.

1. Plug the new devolo Magic adapter into an available power socket and, for approximately 1 second, press the PLC button on a devolo Magic adapter in your existing devolo Magic network.
2. The new devolo Magic adapter pairs automatically so no button needs to be pressed. The LED of this adapter now also flashes white.

For each pairing operation, only one additional devolo Magic adapter can be added at a time.

✓ After a short time, the flashing LED becomes a steady white light. The devolo Magic adapter has been successfully integrated into your existing devolo Magic network.

You can find detailed information about installing devolo Magic adapters in Chapter **3.3 Connecting the devolo Magic 1 WiFi mini**.

2.3.1 Reading the Powerline indicator light

The integrated Powerline indicator light (**LED**) shows the status for the devolo Magic 1 WiFi mini by illuminating and/or flashing:

	LED	**Flashing behaviour**	**Meaning**	**LED status display (web interface*)**
1	Red LED	Lights up for up to **2 sec.**	Start-up process	Cannot be disabled
2	Red LED	Flashes at intervals of **0.5 sec.** (**on/off**)	**Status 1**: The reset of the devolo Magic adapter was successful. The PLC/reset button has been pressed and held for 10 seconds. **Status 2**: The devolo Magic adapter (once again) has the factory default settings. Since the last reset, no pairing with another devolo Magic adapter has taken place. Connect the adapter with another devolo Magic adapter to create a full-fledged PLC network as described in Chapter **2.3 Pairing – Establishing a Powerline connection**.	Cannot be disabled

	LED	Flashing behaviour	Meaning	LED status display (web interface*)
3	Red LED	Lights up steady	**Status 1**: The other network nodes are in standby mode and cannot currently be accessed over the mains supply. The PLC LEDs of the other devolo Magic adapters flash white only for a short time. **Status 2**: The connection to the other network nodes has been interrupted. There may be electromagnetic or radio frequency interference on the power line. In this case, put the devolo Magic adapters closer to each other or try to shut off the source of interference.	Can be disabled
4	Red and white LED	Flashes at intervals of **0.1 sec**. **red**/**2 sec**. **white**	Data transmission rate not in optimum range **	Can be disabled

	LED	Flashing behaviour	Meaning	LED status display (web interface*)
5	White LED	**Status 1**: Flashes at intervals of **0.5 sec**. (**on/off**) **Status 2**: Flashes at intervals of **1 sec**. (**on/off**)	**Status 1**: This devolo Magic adapter is in pairing mode and the system is searching for new devolo Magic adapters. **Status 2**: Someone has triggered the "Identify device" function on the web interface or in the devolo Home Network App. This function identifies the devolo Magic adapter being sought.	Cannot be disabled
6	White LED	Lights up steady	The devolo Magic connection does not have any issues and the devolo Magic adapter is ready to operate.	Can be disabled
7	White LED	Flashes at intervals of **0.1 sec.**. **on** / **5 sec**. **off**	The devolo Magic adapter is in standby mode.***	Can be disabled
8	Red and white LED	Flashes at intervals of **0.5 sec. red**/ **0.5 sec. white**	The devolo Magic adapter is carrying out a firmware update.	Cannot be disabled

* Information about the web interface can be found in Chapter **4 Network configuration**.

** Information on improving the transmission rate can be found in Chapter **5.2 Bandwidth optimization**.

***A devolo Magic adapter switches to standby mode after approximately 10 minutes if no active network device (e.g. computer) is connected to the network interface and the Wi-Fi is switched off. In this mode, the devolo Magic adapter cannot be accessed over the electrical wiring. As soon as the network device (e.g. computer) connected to the network interface is switched on again, your devolo Magic adapter can also be accessed over the electrical wiring again.

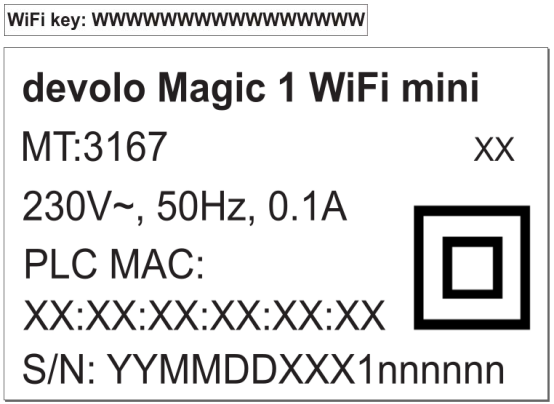
Check whether the adapter is connected to the mains supply correctly and whether the pairing operation has been carried out successfully. For more information about this, refer to **3.3 Connecting the devolo Magic 1 WiFi mini**.

2.3.2 Wi-Fi button

This button controls the following functions:

Wi-Fi on/off

In the **factory default settings**, the **Wi-Fi** setting is already **enabled** and the Wi-Fi encryption is set to **WPA2**. The default Wi-Fi key for the initial installation of the devolo Magic 1 WiFi mini is the device's Wi-Fi key. You will find the unique key on the label on the back of the housing.



Type plate

Before the networking procedure, write down the Wi-Fi key of the devolo Magic 1 WiFi mini. You can find the device's unique key on the label on the rear side of the housing.

In order to connect the devolo Magic 1 WiFi mini with your laptop, tablet or smartphone later via Wi-Fi, enter the noted Wi-Fi key as the network security key.

- 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 WiFi 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 adapter, continue reading with the *Chapter* **4.7.5 Config Sync**.

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 **4.4.7 WiFi Protected Setup (WPS)**.

2.3.3 Reading the Wi-Fi indicator light

The integrated Wi-Fi indicator light (**LED**) shows the status of the devolo Magic 1 WiFi mini by illuminating and/or flashing

	Wi-Fi-LED	**Flashing behavior**	**Meaning**	**LED status display (web interface*)**
1	White LED	Flashes at intervals of **0,1 sec. on / 5 sec. off**	The devolo Magic adapter is in WPS mode to integrate Wi-Fi-enabled devices via WPS.	Cannot be disabled
2	White LED	Lights up steady	Wi-Fi is switched on and active.	Can be disabled
3	White LED	Off	**Status 1**: The Wi-Fi LED is switched off and the devolo magic adapter is still ready for use. **Status 2**: The Wi-Fi function ist disabled.	Can be disabled

* Information about the web interface can be found in Chapter **4 Network configuration**.

2.3.4 Reset button

The **Reset** button (small opening next to the network jack) has two different functions:

Restart

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

Factory default settings

1. To remove a devolo Magic adapter from your devolo Magic network and successfully restore its entire configuration to the factory defaults, press and hold the reset button longer than 10 seconds.

You can use a pointed object (such as a paperclip) to press the Reset button.

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

2. Wait until the LED flashes white and then disconnect the devolo Magic adapter from the mains supply.

The devolo Magic adapter has been successfully removed from your existing devolo Magic network.

2.3.5 Network jack

You can use the network jack on the devolo Magic adapter to connect it to stationary devices such as computers, game consoles, etc. using a standard network cable.

2.3.6 Wi-Fi antennas

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

3 Initial use

This chapter tells you everything you need to know to set up and use your devolo Magic 1 WiFi mini. We describe how to connect the device and briefly describe the devolo software that comes with it.

3.1 Package contents

Please ensure that the delivery is complete before beginning with the installation of your devolo Magic 1 WiFi mini:

- **Single Kit**:
  - 1 devolo Magic 1 WiFi mini
  - Hard copy of installation guide
  - Printed security flyer
  - Simplified CE declaration

or

- **Starter Kit**:
  - 1 devolo Magic 1 LAN [1-1]
  - 1 network cable
  - Hard copy of installation guide
  - Printed security flyer
  - Simplified CE declaration

or

- **Multiroom Kit**:
  - 2 devolo Magic 1 WiFi mini
  - 1 devolo Magic 1 LAN [1-1]
  - 1 network cable
  - 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

- Operating systems supported by devolo Cockpit:
  - from Windows 7 (32-bit/64-bit),
  - from Ubuntu 13.10 (32-bit/64-bit),
  - from Mac (OS X 10.9)
- Network connection

Please note that your computer or other device must have a network card or network adapter with a network interface.

To set up a devolo Magic network, you need at least two devolo Magic adapters.

3.3 Connecting the devolo Magic 1 WiFi mini

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

In the following sections we describe how to connect the devolo Magic 1 WiFi mini and integrate it into a network. We clarify the exact procedures based on potential network scenarios.

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

3.3.1 Starter Kit – Automatic set-up for a new devolo Magic Powerline network

1. Connect the devolo Magic 1 LAN [1-1] to your Internet access device's network connection (e.g. your Internet router).
2. Connect the devolo devolo Magic 1 WiFi mini to the network connection of your computer or another network device using a network cable.

CAUTION! Tripping hazard
Lay the network cable in a barrier-free manner and ensure that the electrical socket and the connected network devices are easily accessible

3. Plug both devolo Magic adapters into available power sockets within 3 minutes. As soon as the LEDs on both adapters flash white at regular intervals of 0.5 sec., they are ready to operate and automatically start the process of establishing an encrypted connection to each other (see Chapter **2.3.1 Reading the Powerline indicator light**).

If the LEDs on both devolo Magic adapters light up in white, then your devolo Magic network has been set up according to your individual specifications and is protected from unauthorised access.

3.3.2 Addition – Expanding an existing Powerline network by adding another devolo Magic 1 WiFi mini

Before you can use the devolo Magic 1 WiFi mini in your devolo Magic network, first you have to connect it to your existing devolo Magic adapters as a network. This is accomplished by using a shared password.

1. Connect the devolo Magic 1 WiFi mini to the network connection of your computer or another network device using a network cable.
2. Plug the devolo Magic 1 WiFi mini into an available power socket. As soon as the LED flashes white at regular intervals of 0.5 seconds, the adapter is ready to operate but not yet integrated into a devolo Magic network (see Chapter **2.3.1 Reading the Powerline indicator light**).
3. Within 3 minutes, press the Powerline button on a devolo Magic adapter in your existing devolo Magic network for approximately 1 sec.

The new devolo Magic adapter pairs automatically so no button needs to be pressed. The LED of this adapter now also flashes white.

If the LEDs light up white on both devolo Magic adapters, the new adapter has been successfully integrated into your existing devolo Magic network.

For each pairing operation, only one additional adapter can be added at a time.

3.3.3 Changing the network password

A network password can also be changed in the following ways:

- Using the **web interface** of the devolo Magic adapter (see Chapter **4.5 Powerline**)

or

- Using **devolo Cockpit** or the **devolo Home Networking App**. For more information, refer to the following chapter.

3.3.4 Establish a Wi-Fi connection with the devolo Magic 1 WiFi mini

Establish the Wi-Fi connection with your laptop, tablet or smartphone by entering the previously noted Wi-Fi key as the network security key.

3.3.5 Integrating the devolo Magic 1 WiFi mini into an existing Wi-Fi network

To ensure that the devolo Magic 1 WiFi mini has the same Wi-Fi configuration as your Wi-Fi router, you can apply the Wi-Fi access data at the touch of a button 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 **Powerline button** on the front side of the devolo Magic 1 WiFi mini and then press the WPS button of the Wi-Fi router with the access data you want to apply.

or

- Activating WiFi Clone from the web interface. More information about this function can be found in Chapter **4.4.7 WiFi Protected Setup (WPS)**.

More information about the web interface can be found in Chapter **4 Network configuration**.

3.4 Installation of devolo software

Installing devolo Cockpit software

devolo Cockpit finds all accessible devolo Magic adapters in your devolo Magic network, displays information about these devices and encrypts your devolo Magic network individually. 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 Networking App

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

1. Download the devolo Home Networking App to your smartphone or tablet computer from the corresponding store.
2. The devolo Home Networking App is placed in your smartphone's or tablet's app list as usual. Tapping on the devolo Home Networking App icon brings you to the start menu.

You can find more information about the devolo Home Networking App online at www.devolo.com/devolo-app.

3.5 Removing the devolo Magic adapter from a PLC network

To remove a devolo Magic adapter 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 Chapter **3.3.2 Addition – Expanding an existing Powerline network by adding another devolo Magic 1 WiFi mini**.

4 Network configuration

The devolo Magic 1 WiFi mini 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 devolo Magic 1 WiFi mini in different ways:

- Using the **devolo Home Network App** on your smartphone or tablet, you can access the device's web interface by going to the devolo Home Network App **overview page** and tapping on the **gear/arrow**.

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

or

- Using the **Cockpit software** under **Start → All Programs → devolo →devolo Cockpit**, you can get to the device's web interface by clicking on the corresponding tab for the devolo Magic 1 WiFi mini. Then the program determines the current IP address and starts the configuration in the web browser.

> *By default, the web interface will open directly. However, if an access password has been set via the option* **System → Management**, *you have to enter that password first. Read more about this under* **4.7 System**.

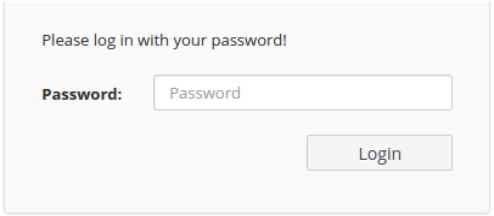
4.2 General information about the menu

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.

Logging in

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**.



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.

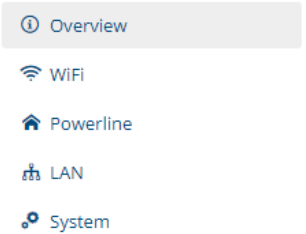


Fig. 5: Overview

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 table row in **Time Control** and **Parental Control**. In edit mode, the corresponding table rows have a blue background. 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.

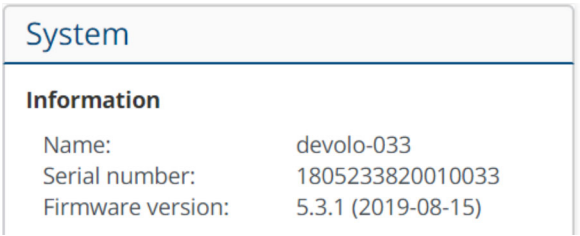
Click the **Arrow** icon to refresh a list.

4.3 Overview

The **Overview** area shows the status of the devolo Magic 1 WiFi mini and the connected LAN, Powerline (PLC) and Wi-Fi devices.

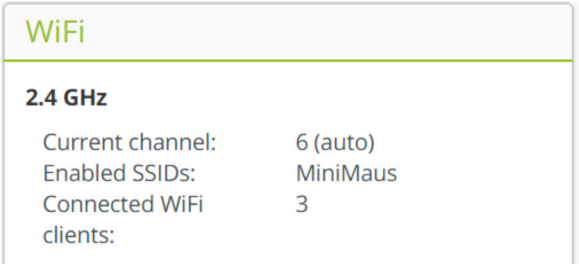
System

You can see status information for your device here.



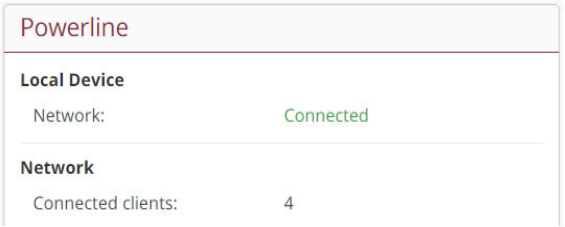
Wi-Fi

You can view status information for a wireless network such as frequency channels in use, SSIDs in use and connected Wi-Fi devices here.



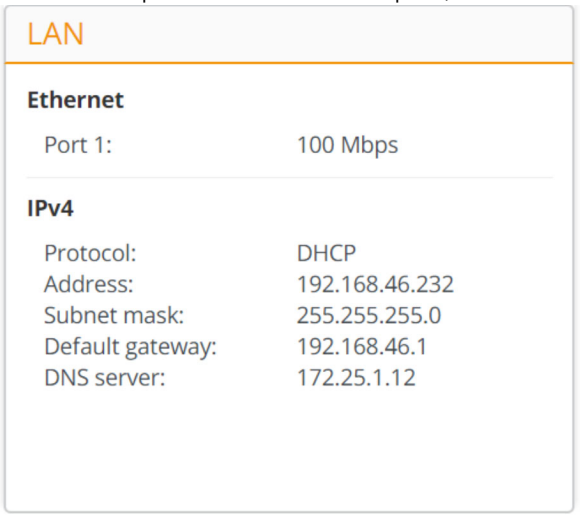
Powerline

You can view status information for your devolo Magic network and connected devices here.



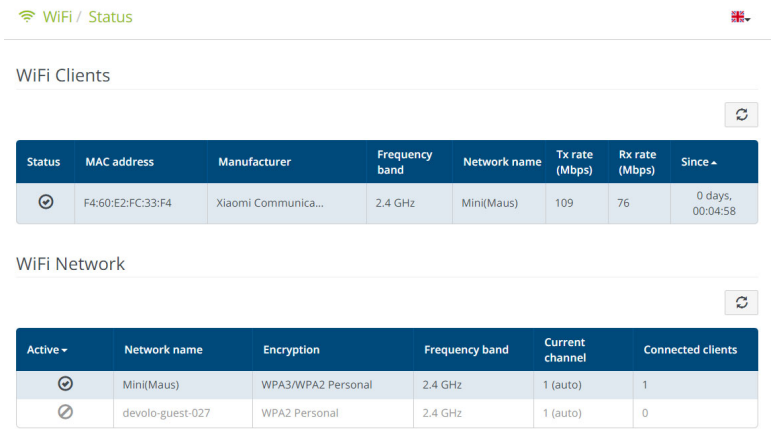
LAN

You can see status information for a cable-based network such as protocol information or the connection speed of the Ethernet port, etc. here.



4.4 Wi-Fi

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



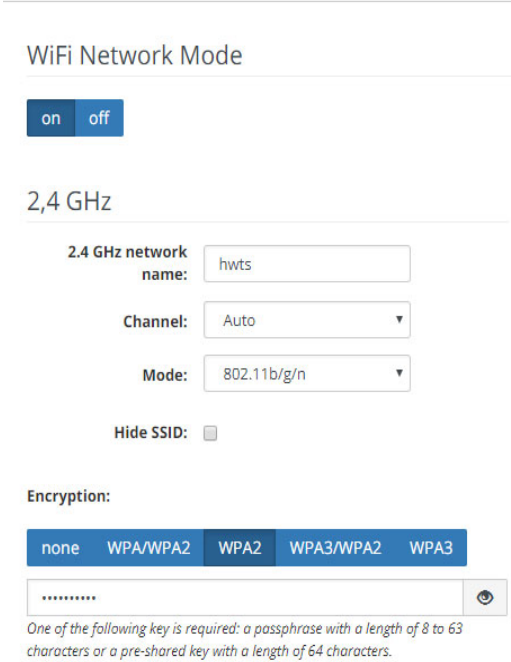
Wi-Fi status

4.4.1 Status

You can see the current status of your Wi-Fi network configuration here, e.g. the connected Wi-Fi stations, the MAC address, the selected frequency band, the SSID, the transfer rates and the connection duration.

4.4.2 WiFi networks

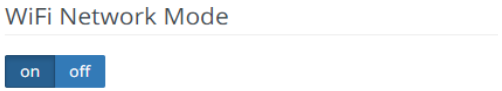
You can make all necessary changes to your Wi-Fi network here.



Wi-Fi networks

Wi-Fi network mode

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



- **On** – The 2.4 GHz frequency band is used
- **Off** – If desired, you can completely switch off the Wi-Fi section of your devolo Magic 1 WiFi mini here.

Keep in mind that after saving this setting, you will be disconnected from any existing wireless connection to the devolo Magic 1 WiFi mini. 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.

Channel

There are 13 channels available in the **2.4 GHz** frequency band. The channels recommended for Europe are the channels 1, 6 and 11. This ensures

the frequency bands of the channels do not overlap and any connection problems are avoided.

The channel selection default setting is **Automatic**. The devolo Magic 1 WiFi mini 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.

Channels

In the **Channel** field, you can manually select a 2.4 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.

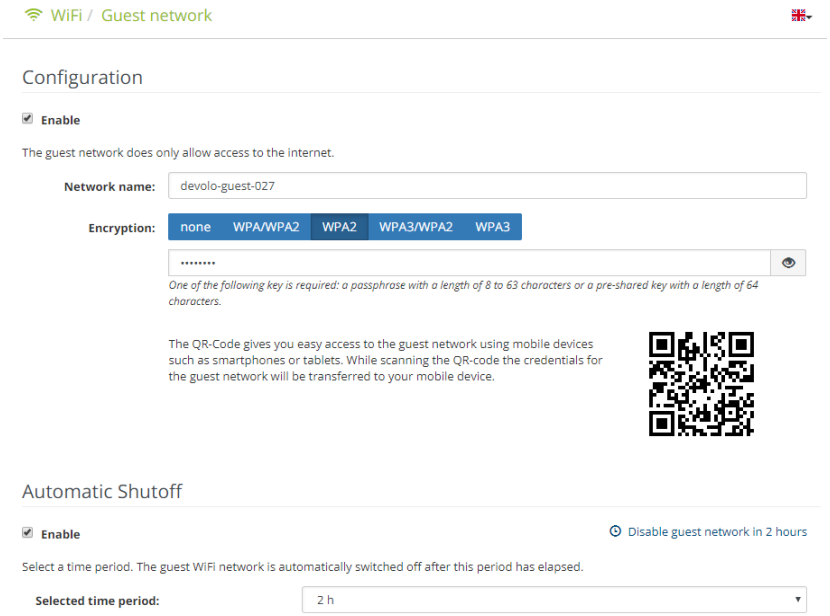
Some Wi-Fi stations have difficulty connecting to hidden wireless networks. If the connection to a hidden SSID poses problems, first try to set up the connection with a visible SSID and only then try to hide it.

Security

The **WPA3 Personal (WiFi 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.

4.4.3 Guest network

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.



Wi-Fi Guest 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.

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

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 (WiFi Protected Access)** security standard is available for this.

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 characters into the **Key** field.

QR code

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

4.4.4 Mesh

Mesh

All devolo Magic series WiFi adapters 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 end devices, such as smartphones or tablets, when switching to another Wi-Fi access point.

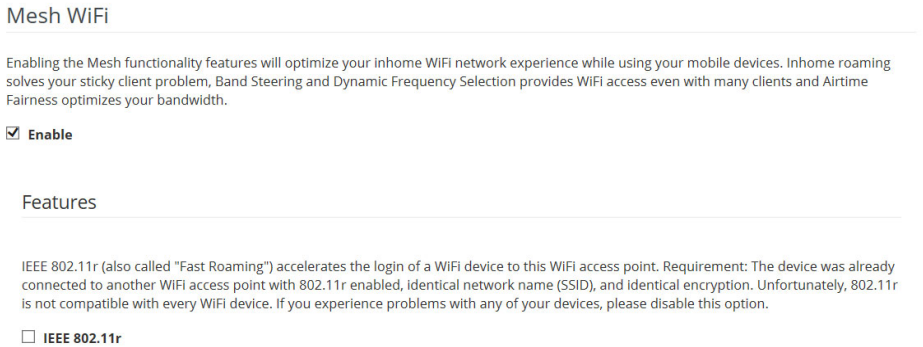
The feature **Fast roaming** *is not compatible with all Wi-Fi clients. If there will be connection problems with one of your devices, please deactivate these option.*

In factory default condition of the devolo Magic 1 WiFi mini **Fast roaming** is turned off by default.

- In addition, the new **air-time fairness** feature processes the requests of high-speed WiFi clients at higher priority. This prevents older devices, which may require more time for a download, from creating WiFi bottlenecks.

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

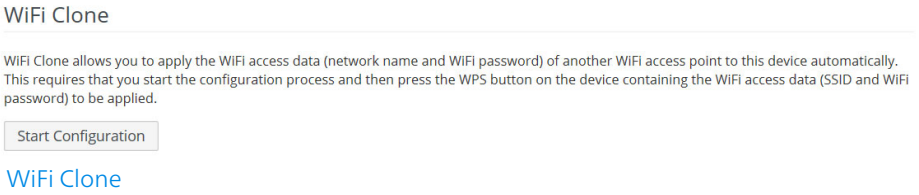
The mesh function of the devolo Magic 1 WiFi mini is switched on by default.



Mesh WiFi

WiFi Clone

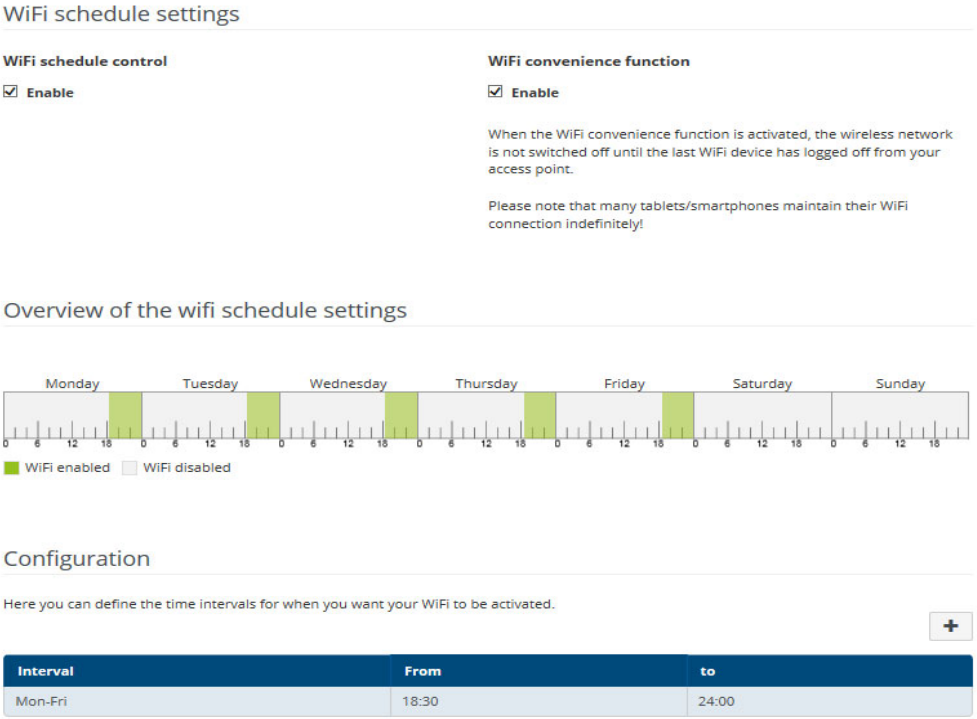
WiFi Clone makes it possible to simply copy the Wi-Fi configuration data of an existing Wi-Fi access point (e.g. your Wi-Fi router) to all Wi-Fi access points (Single SSID). Start the procedure with the **Start setup** option and then press the WPS button of the device with the Wi-Fi access data (SSID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



WiFi Clone

4.4.5 Schedule control

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



Wi-Fi schedule control

Enabling WiFi 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.

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.

4.4.6 Parental control

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 devolo Magic 1 WiFi mini ac has to be enabled and an active Internet connection is also required.

The time server pool.ntp.org is enabled by default. You can find more information in Chapter **4.7.2 Management**.

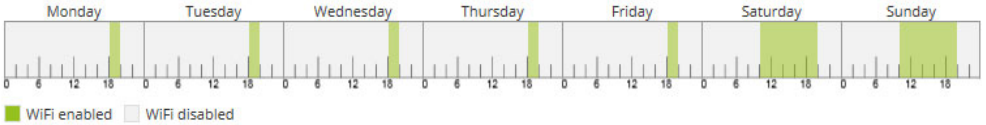
If you would like to set up a **time quota** (usage time in hours) or a **time period** (active from/to), activate the **Enable** option. Now enter the MAC addresses of the devices you want to set up parental control for.

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.

Parental control

☑ **Enable**

A1:55:EE:5E:14:8E



Configuration

Please note that WiFi schedule Settings have precedence over these settings!

You can limit access to certain Wi-Fi devices by the MAC address. Please define the time periods during which Wi-Fi access is allowed.

+

MAC address	Type			
A1:55:EE:5E:14:8E	Interval	Sat+Sun	10:00	20:00
A1:55:EE:5E:14:8E	Interval	Mon-Fri	18:15	20:00

Parental control

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.

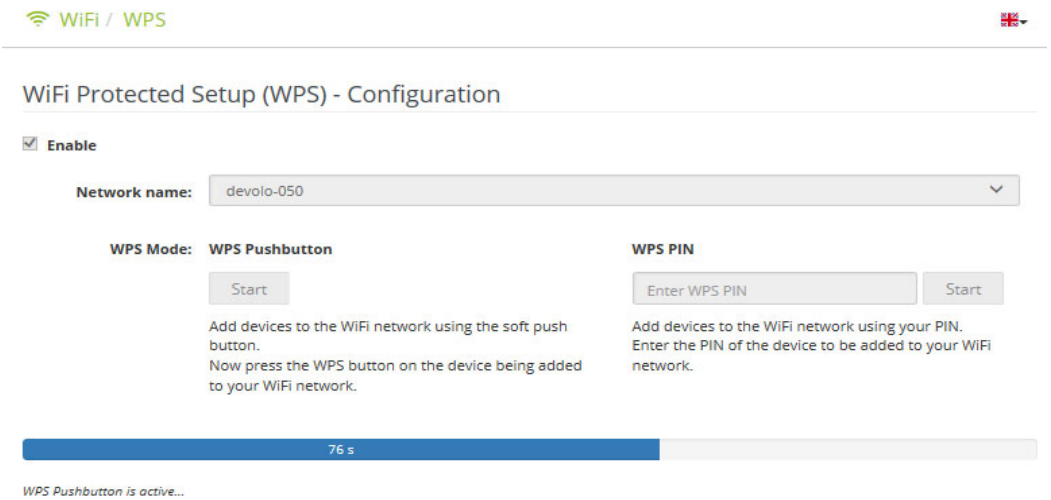
If you want to delete a time quota (time limit) or a time period from the list, click/touch the **dustbin** icon.

4.4.7 WiFi Protected Setup (WPS)

WiFi Protected Setup (WPS) is one of the international encryption standards developed by the WiFi 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.



WPS

The devolo Magic 1 WiFi mini offers two different variants for transmitting these encryption keys:

WPS using WPS pushbutton

1. Start the encryption process on the devolo Magic 1 WiFi mini
   - 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 **WiFi → WPS Pushbutton**.
2. 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 connection. 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 **WiFi → 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/WPA3** encryption standard. Therefore take note of the following automatic settings:

- If under **WiFi → WiFi networks**, the **No encryption** option is selected in advance, **WPA2** is set automatically. The newly generated password is displayed under **WiFi → WiFi networks** in the **Key** field.
- If under **WiFi → WiFi networks**, the **WPA/WPA2/WPA3** option is selected in advance, this setting **remains** with the previously assigned password.

4.4.8 Neighbour networks

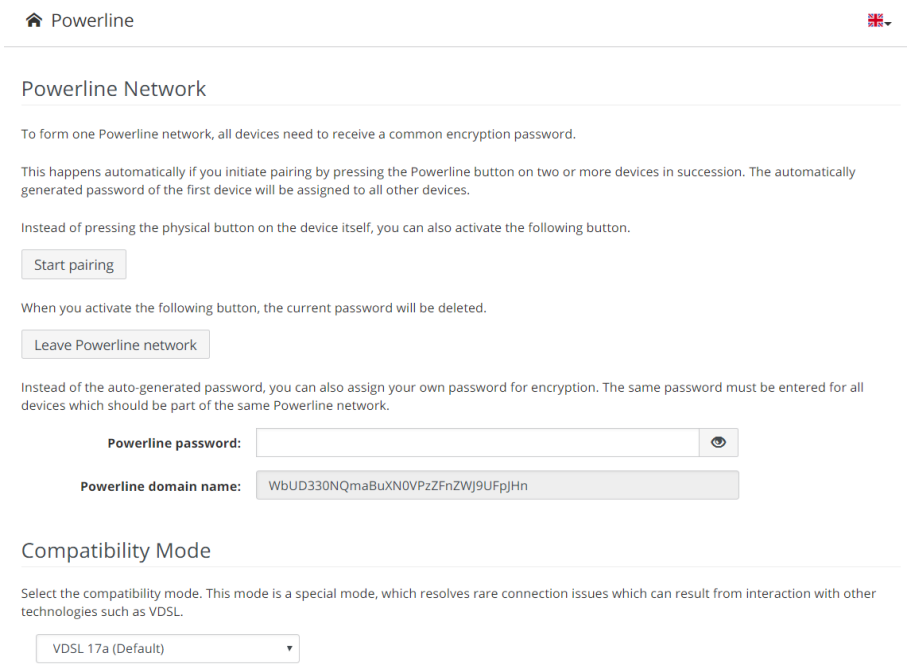
The **Neighbour networks** area displays visible wireless networks in your surroundings.

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

Neighbour networks

4.5 Powerline

Make all changes to your Powerline network in the **Powerline** area.



Powerline overview

Pairing – Establishing a Powerline connection

In order to use a new devolo Magic 1 WiFi mini in your devolo Magic network, first you have to connect it to your existing devolo Magic adapters devices as a network. This is accomplished by using a shared password. This can be assigned in different ways:

- Using **devolo Cockpit** or the **devolo Home Network App** (see Chapter **3.4 Installation of devolo software**),
- Only using the **Powerline button** (see Chapter **2.3 Pairing – Establishing a Powerline connection** and **3.3 Connecting the devolo Magic 1 WiFi mini**)
- Using the web interface, in the **Powerline** menu; as described below:

Pairing – Using physical button and on-screen button

1. First, press the Powerline button on a devolo Magic adapter in your existing network.
2. Then, click **Start pairing** to start the pairing operation. This may take some time.

As soon as the new devolo Magic adapter is integrated into your existing network, it appears in a list of available and established connections (see Chapter **4.5 Powerline**).

Pairing – Using custom password

You can also assign your network a custom Powerline password you pick yourself. Enter this password for each devolo Magic adapter in the **Network password** field and confirm your settings by clicking the **Disk** icon.

Note that the custom password is not assigned to the whole Powerline network automatically. Instead, you must assign it separately to each of your devolo Magic adapters.

Unpairing – Removing an adapter from a network

1. To remove a devolo Magic adapter from your devolo Magic network, click **Leave Powerline network**.
2. Wait until the LED flashes red and then disconnect the devolo Magic adapter from the mains supply.

Compatibility mode

Using as VDSL connection may negatively impact the performance of the bandwidth connection. Select from among the following settings in order to mitigate any potential negative effects.

Signal transmission profiles:

- Full power
- VDSL 17a
- VDSL 35b

Get in touch with your internet provider to find out which signal transmission profile is the best option for your internet connection.

The SISO operating mode and the VDSL 17a signal transmission profile are configured by default.

Connections

The table lists all available and connected devolo Magic adapters for your network along with displaying the following details:

Device ID: Device ID (number) of the respective devolo Magic adapter in the devolo Magic network

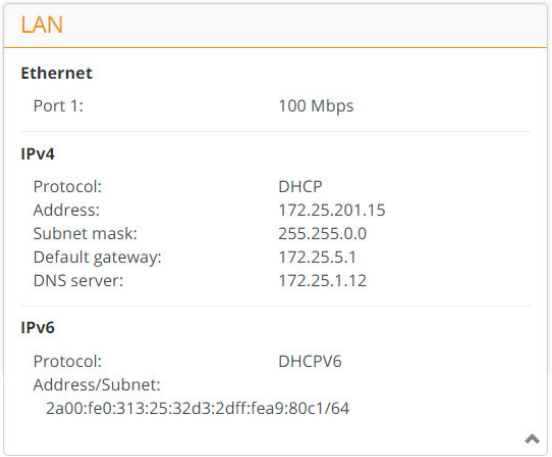
MAC address: MAC address of the respective devolo Magic adapter

Transmit (Mbps): Rate for transmitting data

Receive (Mbps): Rate for receiving data

4.6 LAN

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



LAN status

4.6.1 Status

You can see the current LAN status of the devolo Magic adapters here. The **Ethernet** area shows the network devices connected to the two network connectors **Port 1** (e.g. PC, NAS, etc.).

IPv4/IPv6

Depending on how the devolo Magic 1 WiFi mini is connected to the Internet (IPv4 or IPv6), current network information is displayed, such as **Address**, **Subnet mask**, **Standard gateway** and **DNS server**.

4.6.2 IPv4/IPv6 configuration

In the factory default settings, only the **Get IP configuration 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 **Get IP configuration from a DHCP server** option enabled so that the devolo Magic 1 WiFi mini 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 devolo Magic adapter (see Chapter **4.7.3 Configuration**) to ensure that your changes take effect.

IPv6 configuration

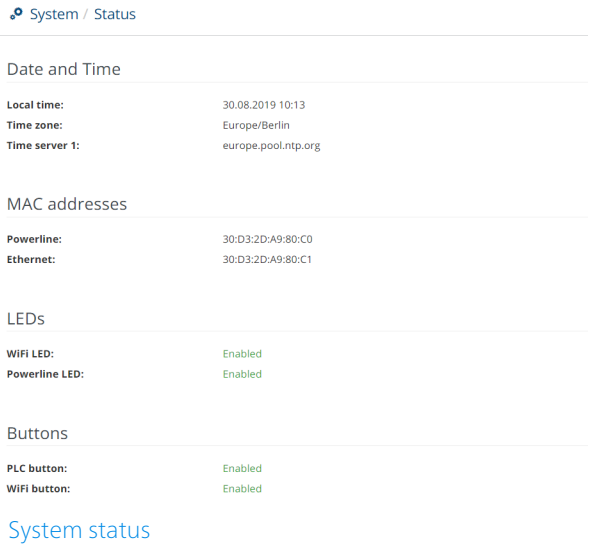
If you want automatic IP address assignment and there is already a DHCP server present on the network for assigning IP addresses (e.g. your Internet router), enable the **Get IP configuration from a DHCP server** option to ensure that the devolo Magic 1 WiFi mini automatically receives an address from 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.

4.7 System

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



4.7.1 Status

Here you can view the most important information on the devolo Magic adapter, including the current date and time, time zone, MAC address of the adapter, status of the Wi-Fi and Powerline LEDs and the two operating buttons (Powerline button and Wi-Fi button).

4.7.2 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 password**, a login password can be set for accessing the web interface.

By default, the built-in web interface of the devolo Magic 1 WiFi mini is not protected by a password. We recommend assigning a password when the installation of the devolo Magic 1 WiFi mini 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!

In **Power Management**, you can enable Powersave mode and Standby mode on the devolo Magic 1 WiFi mini.

If **Powersave mode** has been enabled, the devolo Magic 1 WiFi mini switches to PowerSave mode automatically whenever reduced data transmission over ethernet is detected.

The latency (time for transmitting a data packet) may be negatively affected if very slow data transmission is detected.

If **Standby** mode is enabled, the devolo Magic 1 WiFi mini automatically switches to Standby mode if no ethernet connection has been enabled, i.e. if no network device (e.g. computer) is switched on and connected to the network interface and if Wi-Fi is disabled.

In this mode, the devolo Magic 1 WiFi mini is not accessible over the Powerline network. As soon as the network device (e.g. computer) connected to the network interface is switched on again, your adapter can also be accessed over the electrical wiring again.

Powersave mode is disabled in the devolo Magic 1 WiFi mini factory default settings.

Standby mode is enabled in the devolo Magic 1 WiFi mini factory default condition.

The **LED settings** let you disable the LED status display of the **WiFi** and **Powerline** LEDs. An error status is indicated by corresponding flashing behaviour regardless of this setting

For information on the LED behaviour of the devolo Magic adapter in standby mode, refer to Chapter **2.3.1 Reading the Powerline indicator light**. *and* **2.3.3 Reading the Wi-Fi indicator light**.

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

The operating buttons are enabled in the devolo Magic 1 WiFi mini 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 devolo Magic 1 WiFi mini automatically switches between standard time and summer time.

4.7.3 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 devolo Magic 1 WiFi mini in the **System** → **Configuration** area and enabled there. Select a suitable file via the **Browse ...** button and start the operation by clicking the **Restore** button.

Resetting the device configuration

The devolo Magic 1 WiFi mini is reset to the original factory defaults in the **System** → **Configuration** area with the **Factory Settings** option.

Doing so causes you to lose your personal Wi-Fi and PLC settings. The last-assigned passwords for the devolo Magic 1 WiFi mini 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 devolo Magic 1 WiFi mini. 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 devolo Magic 1 WiFi mini, select the **Reboot** button in the **System** → **Configuration** area.

4.7.4 Firmware

Current firmware

The currently installed firmware of the devolo Magic 1 WiFi mini is displayed here.

Download updated firmware

The firmware of the devolo Magic 1 WiFi mini 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.

1. If you have downloaded an updated firmware file for the devolo Magic 1 WiFi mini to your computer, navigate to the **System** → **Firmware** → **Update firmware** area. Click **Browse …** and select the downloaded file.
2. Confirm the update procedure with **Update firmware**. After a successful update, the devolo Magic 1 WiFi mini restarts automatically.

Ensure that the update procedure is not interrupted.

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 devolo Magic 1 WiFi mini 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 devolo Magic 1 WiFi mini automatically updates its firmware. The option is enabled by default.

4.7.5 Config Sync

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

- Wi-Fi network
- Guest network
- Mesh WiFi
- 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

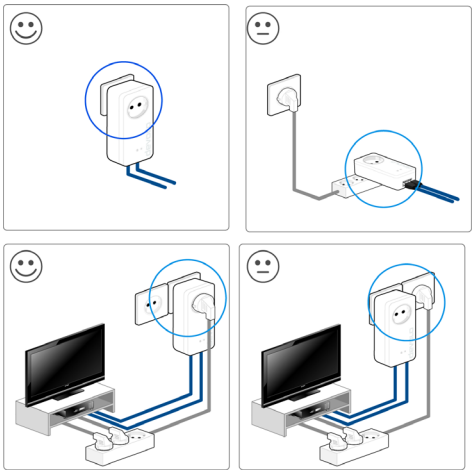
5.1 Technical specifications

Security	**128 Bit AES**
Device port	1x Ethernet RJ45
Power consumption	Maximum: 7.7 W Typical: 4.4 W Stand-by: 1.0 W
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)	68 x68 x 41 (HxWxD)
Ambient conditions	10-90% Humidity, non-condensing
Certifications	CE

5.2 Bandwidth optimization

To significantly improve the transmission capacity of the network, we recommend that you comply with the following "connection rules":

- Plug the devolo Magic 1 WiFi mini directly into a wall socket. Avoid using power strips. This may impair the transmission of the PLC signals.
- If there are several sockets in the wall directly next to each other, they behave like a power strip. Individual sockets are optimal.



devolo Magic bandwith optimization

5.3 Frequency range and transmitting power

Technical specifications in the 2.4-GHz frequency range

Frequency range	2.4 GHz
IEEE standard	802.11 b 802.11 g 802.11 n
Indoor frequency range	–
Indoor & outdoor frequency range	2399.5 – 2484.5 MHz
Channel bandwidth	20 MHz (802.11 b/g) 20, 40 MHz (802.11 n)
Max. indoor transmission power (EIRP)	100 mW / 20 dBm
Max. transmitting power	100 mW / 20 dBm

5.4 Channels and carrier frequencies

Channels and frequencies in the 2.4 GHz band

Channel	Carrier frequency
1	2412 MHz
2	2417 MHz
3	2422 MHz
4	2427 MHz
5	2432 MHz
6	2437 MHz
7	2442 MHz
8	2447 MHz
9	2452 MHz
10	2457 MHz
11	2462 MHz
12	2467 MHz
13	2472 MHz

5.5 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.

5.6 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/warranty.

Index