dLAN® 550 WiFi

devolo

devolo dLAN® 550 WiFi

Contents

1 Preface

Thank you for placing your trust in this dLAN 550 WiFi.

The dLAN 550 WiFi allows you to set up your own home network with almost no effort. Because the clever dLAN technology transmits the data over the household electrical wiring, you do not have to lay any new cables.

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 "dLAN" and "Wi-Fi (WLAN)" basics and the presentation of the dLAN 550 WiFi in **Chapter 2**, **Chapter 3** will cover successfully setting up your dLAN 550 WiFi and integrate it in your network. **Chapter 4** describes configuration options in detail for the built-in configuration interface, including access to the Wi-Fi. Tips for bandwidth optimization, information of environmental compatibility of the device and our warranty conditions can be found in **Chapter 5** and conclude the manual.

Description of the symbols

Here we briefly describe the meaning of the symbols used in this manual.

Very important note. Failure to observe this note may result in damage.

Important note that should be observed.

Additional information, background material and configuration tips for your device.

1.1.1 Intended use

Use the adapter as described in these instructions to prevent damage and injuries.

The device is designed for indoor use only.

CE 0680

1.1.2 CE conformity

This product complies with the technical requirements of the directive **1999/5/EC (R&TTE)**, the **EMC** directive **2004/108/EC** and the other relevant provisions of the **FTEG**.

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

The product is class A equipment. Class A devices may cause interference when used in residential environments

> *"99/05/CE" (R&TTE directive) is a directive similar to the EMC directive. It applies to radio equipment and telecommunication terminal equipment. Observance of these directives is verified by the use of harmonized European norms.*
>
> *The CE declaration of this product is separately included (in print) and can be found under www.devolo.com.*

1.1.3 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 due to electricity

Users should never **open** devolo devices. **Opening the device poses a risk of electric shock!**

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 power outlet. 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 (e.g. rain or water).
● if the devolo device is inoperable.
● if the housing of the devolo device is damaged.

devolo devices may only be operated using a **mains power supply**, as described on the **nameplate**.

To disconnect devolo devices from the mains supply, pull the device itself or its mains plug from the power outlet. **The power outlet and all connected network devices should be easily accessible so that you can pull the mains plug quickly if needed.**

Only use devolo devices at a dry location.

Disconnect devolo devices from the mains supply to clean! Avoid solvent cleaning agents since they can cause damage to the housing. Only use a dry towel for cleaning.

⚠ DANGER due to overheating

Multiple devolo devices must not **be interlocked**.

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 when operating.
● 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** an open **flame** (such as fire or candles).
● devolo devices must **not be exposed to direct heat radiation** (e.g. radiator, direct sunlight).

1.2 devolo on the Internet

For detailed information on our products or "dLAN", visit www.devolo.com. Under **Home Users ▷ Products** you can find downloadable product descriptions and documentation, as well as updates to devolo software and device firmware.

If you have any further ideas or suggestions related to our products, we would be delighted to hear from you at support@devolo.com!

2 Introduction

dLAN is an intelligent, secure technology that lets you set up a home network easily, quickly and economically via your household electrical wiring, without the need for complex and expensive dedicated cabling.

2.1 What exactly is dLAN?

dLAN (**d**irect **L**ocal **A**rea **N**etwork) uses the household power grid to transfer data between computers equipped with suitable adapters and other network components. As a result, any power outlet can be used as a network access point. The data is modulated prior to transfer and sent as a signal via household power lines. State-of-the-art technology ensures that the power and data networks do not interfere with one another. Networking via dLAN is fast and secure. The data is encrypted using a key to prevent interception by third parties.

2.2 What is WLAN?

WLAN (**W**ireless **L**ocal **A**rea **N**etwork) refers to the use of radio technology to network computers and other devices. While it is possible to wirelessly connect computers in pairs (peer-to-peer, p2p), a central access point is required to set up a network of multiple devices. Such access points are frequently combined in a single device with modems for Internet access and routers to manage network traffic.

The wireless network established by an access point using a specific channel (from 1 to 13) and name (SSID) has a limited range. The range of the access point, which is also known as a "radio cell", is impeded by

building walls. In some cases, stable connections are often only possible between WLAN devices within a single room.

As it is not possible to rely on hardware such as network cables (in a LAN) or household wiring (in a dLAN) to control access to a WLAN, wireless networking naturally presents special security challenges. WLANs therefore use a number of security measures, such as a concealed network name, data encryption and access control via the MAC addresses of the network adapters.

2.2.1 Wi-Fi or WLAN?

Wi-Fi is a brand name of the Wi-Fi Alliance, a consortium that certifies devices with wireless interfaces. In many countries, Wi-Fi is also used synonymously with WLAN, which if taken strictly, is incorrect, because **Wi-Fi** designates the **wireless standard** and **WLAN** the **wireless network**.

2.3 The dLAN 550 WiFi

The dLAN 550 WiFi is equipped with

● An encryption button (home icon) with LED status display,
● A Wi-Fi button with LED status display,

⚠️ *The LED status display can be deactivated on the configuration interface of the adapter (see* **4.6 Management***).*

● One network jack
● One reset button
● Two internal Wi-Fi antennas

Fig. 2

2.3.1 Encryption button

This button controls the following functions:

Encrypting the dLAN network

● To encrypt your dLAN network individually, press **each encryption button** on the connected devices for approx. **1 second** – within 2 minutes.

● To remove a dLAN device from your network, press the **encryption button** on the corresponding device **for at least 10 seconds**.

▪ *For more information, refer to Chapter* **3.3 Connecting the dLAN 550 WiFi**.

Indicator lights

The integrated indicator lights (**LEDs**) show the dLAN status for the dLAN 550 WiFi by illuminating and/or flashing:

▪ *Check whether the adapter is connected to the mains supply correctly and whether the encryption process has been carried out successfully. For more information about this, refer to* **3.3 Connecting the dLAN 550 WiFi**.

● The LED **flashes red quickly** at regular intervals if the dLAN 550 WiFi is connected to the **mains supply** but there is **no dLAN connection**.

● The LED **lights up white** if the dLAN 550 WiFi **is ready to operate** and a **dLAN connection** exists.

● The LED **flashes white quickly** at regular intervals if the encryption process (**pairing**) is being performed in the dLAN network.

● The LED **flashes white** at **irregular** intervals if the dLAN 550 WiFi is in **PowerSave mode**.

● The LED **flashes red** at regular intervals if the transmission rate of the dLAN 550 WiFi is not in the optimum range. For information on improving the transmission rate, refer to Chapter **5.1 Bandwidth optimization**.

WiFi Move Technology

WiFi Move Technology is a function for synchronising the Wi-Fi settings of all WiFi adapters. Activate the synchronisation either using the functions on the configuration interface (see Chapter **4.3.6 WiFi Move**) or at the touch of a button on the adapter.

① **First** press the encryption button with the home icon (for about **1 second)** on an **existing** dLAN 550 WiFi that has the **entire Wi-Fi configuration** which is to be transferred to all other dLAN 550 WiFi adapters. Then, **within 2 minutes**, press each encryption button on the new **dLAN 550 WiFi** devices (for about **1 second**).

② The WiFi adapters are now **continuously connected** to each other and, from now on, share changes to the **Wi-Fi configuration** with each other **automatically**.

2.3.2 Wi-Fi button

The Wi-Fi button controls the following Wi-Fi 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 WiFi key for the initial installation of the dLAN 550 WiFi is the adapter's Wi-Fi key. You will find the unique key on the label on the back of the housing.
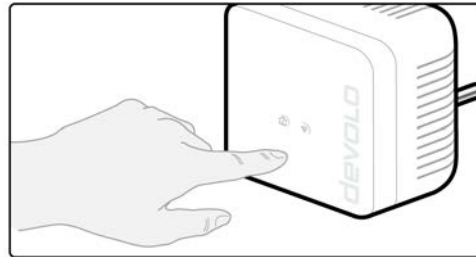
Fig. 3

● 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**, **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.

*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 **4.3.7 Wi-Fi Protected Setup (WPS)**.*

Indicator lights

The integrated indicator lights (**LEDs**) show the Wi-Fi status for the dLAN 550 WiFi by illuminating and/or flashing:

● When the **Wi-Fi** connection is **switched off**, the **LED is also off**.

● When **a Wi-Fi** connection is switched on, the LED lights up **white**.

● **White** flashing and illumination behaviour

○ The LED lights up when there is a connection to the Wi-Fi network.

○ The LED **flashes briefly** during WPS pairing.

2.3.3 Network jack

The network jack can be used to connect a computer or another network device to the dLAN 550 WiFi via a commercially available network cable.

2.3.4 Reset

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

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

● To change the configuration of the dLAN 550 WiFi back to the **factory defaults**, press the Reset button **for more than 10 seconds**. Keep in mind that all settings that have already been configured will be lost!

▪ *You can use a pointed object (such as a paper clip) to press the reset button.*

2.3.5 Wi-Fi antennas

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

3 Initial use

This chapter covers everything you need to know to set up your dLAN 550 WiFi. We provide a description of how the device is connected and briefly introduce the devolo software.

3.1 Package contents

Please ensure that the delivery is complete before beginning with the installation of your dLAN 550 WiFi.

● **Single**:
   ○ dLAN 550 WiFi
   ○ Hard copy of installation guide/CE declaration
   ○ Documentation under www.devolo.com

or

● **Starter Kit**:
   ○ dLAN 550 WiFi
   ○ dLAN 550 duo+
   ○ Network cable
   ○ Hard copy of installation guide/CE declaration
   ○ Documentation under www.devolo.com

or

● **Network Kit**:
   ○ 2 dLAN 550 WiFi
   ○ dLAN 550 duo+
   ○ Network cable
   ○ Hard copy of installation guide/CE declaration
   ○ Documentation under www.devolo.com

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

3.2 System requirements

● **Operating systems**: Windows 7 Home Premium (32 bit/64 bit), Windows 8 (32 bit/64 bit), Windows 8 Pro (32 bit/64 bit), Windows 10 (x86/x64), Linux (Ubuntu 12.4), Mac (OS X 10.6) and all operating systems with network support

● **Network connection**

⚠ *To set up a dLAN network, you need at least two dLAN devices (200 Mbps, 500 Mbps, 600 Mbps or 1200 Mbps).*

3.3 Connecting the dLAN 550 WiFi

⚠️ **The device may be used only indoors.**

■
ℹ️ *Note the WiFi key of the dLAN 550 WiFi before the networking procedure. You will find the adapter's unique key (WiFi key) on the label on the back of the housing.*

In order to connect the dLAN 550 WiFi to your laptop, tablet or smartphone later via Wi-Fi, enter the noted WiFi key as the network security key.

In the following sections we describe how to connect the dLAN 550 WiFi and integrate it into the network. We clarify the exact procedures based on potential network scenarios:

3.3.1 Single – Expanding an existing network

① Plug the dLAN 550 WiFi into a wall socket. The adapter is ready to operate once the indicator light of the encryption button with the home icon turns white (after approx. 40 seconds).

⚠️ **To disconnect the dLAN 550 WiFi from the mains supply, unplug the device. The power outlet and all connected network devices should be easily accessible so that you can pull the mains plug quickly if needed.**

Integrating the dLAN 550 WiFi into an existing dLAN network

Before you can use the dLAN 550 WiFi in your dLAN network, first you have to connect it to your existing dLAN devices as a network. This is accomplished by using a shared dLAN password. This forms a delimited dLAN network. Shared use of the dLAN password is used both for access control for the dLAN network and for encryption (and thus interception protection) of the transmitted data. The dLAN password can be set in different ways:

dLAN network encryption at the touch of a button (home icon)

② **First** press the encryption button (for about **1 second**) on an adapter in your existing network and then, **within 2 minutes**, press the encryption button with the home icon (for about **1 second**) on the new dLAN 550 WiFi.

The new dLAN 550 WiFi is now integrated into your existing dLAN network.

or

dLAN network encryption using devolo Cockpit App with your smartphone or tablet. For more information, refer to Chapters **3.4 Installation of devolo software**.

or

dLAN network encryption using devolo Cockpit computer software. For more information, refer to Chapters **3.4 Installation of devolo software**.

or

dLAN network encryption by entering the dLAN password in the configuration interface. More information can be found in Chapter **4.5 Device configuration**.
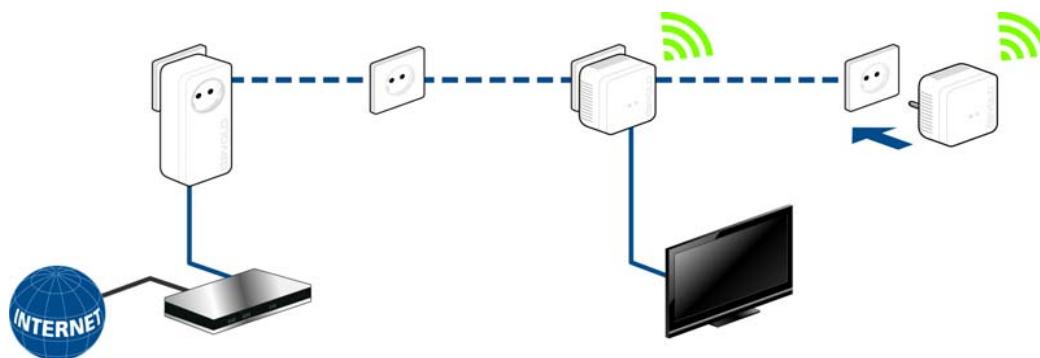
Fig. 5

Integrating the dLAN 550 WiFi into an existing Wi-Fi network

③ Establish the Wi-Fi connection with your laptop, tablet or smartphone by entering the previously noted WiFi key as the network security key.

For the dLAN 550 WiFi to show the same Wi-Fi configuration as your Wi-Fi router, you can apply the Wi-Fi access data at the touch of a button. The **WiFi Clone** function can be enabled in different ways:

Enabling WiFi Clone at the touch of a button

④ First press the **encryption button** with the **home icon** on the front side of the dLAN 550 WiFi and then press the WPS button on the Wi-Fi router with the access data you want to apply.

or

Enabling WiFi Clone via the configuration interface. For more information about this function, refer to Chapter **WiFi Clone**.

⑤ To integrate the dLAN 550 WiFi into an existing **Wi-Fi network with devolo WiFi devices of the 500 series** (e. g. dLAN 500 WiFi or dLAN 500 Wireless+), you have to transfer the settings of your existing Wi-Fi configuration **man-ually** to the configuration interface of the dLAN 550 WiFi.

■ *For more information on the configuration interface, refer to Chapter **4 Network configuration**.*

3.3.2 Starter Kit and Single – Setting up a new dLAN network

① Connect the dLAN 550 duo+ to your Internet access device's network jack.

② Plug the dLAN 550 WiFi into a wall socket. The adapter is ready to operate once the indicator light of the encryption button with the home icon turns white (after approx. 40 seconds).

⚠ **To disconnect the adapter from the mains supply, unplug the device. The power outlet and all connected network devices should be easily accessible so that you can pull the mains plug quickly if needed.**

Connecting a dLAN 550 duo+ and a dLAN 550 WiFi as a dLAN network

Before you can use the adapter in a dLAN network, first you have to connect it as a network. This is accomplished by using a shared dLAN password. This forms

a delimited dLAN network. Shared use of the dLAN password is used both for access control for the dLAN network and for encryption (and thus interception protection) of the transmitted data.

The dLAN password can be set in different ways:

dLAN network encryption at the touch of a button

③ **First** press the encryption button (for about **1 second**) of **dLAN 550 duo+** and then, **within 2 minutes**, press the encryption button with the home icon (for about **1 second**) of **dLAN 550 WiFi**.

④ Your dLAN network is now set up and protected against unauthorised access.

or

dLAN network encryption using devolo Cockpit App with your smartphone or tablet. For more information, refer to Chapters **3.4 Installation of devolo software**.

or

dLAN network encryption using devolo Cockpit computer software. For more information, refer to Chapters **3.4 Installation of devolo software**.

or

dLAN network encryption by entering the dLAN password in the configuration interface. More information can be found in Chapter **4.5 Device configuration**.
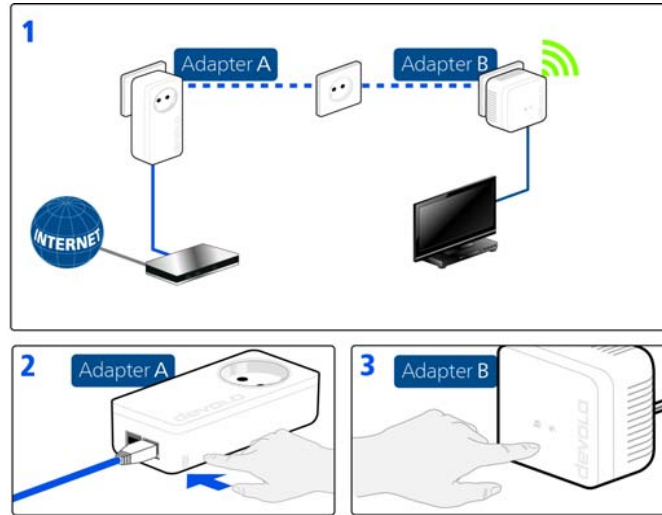
Fig. 6

Integrating additional dLAN 550 WiFi adapters into a Wi-Fi network

⑤ Establish the Wi-Fi connection with your laptop, tablet or smartphone by entering the previously noted WiFi key as the network security key.

For the dLAN 550 WiFi to show the same Wi-Fi configuration as your Wi-Fi router, you can apply the Wi-Fi access data at the touch of a button. The **WiFi Clone** function can be enabled in different ways:

Enabling WiFi Clone at the touch of a button

⑥ First press the **encryption button** with the **home icon** on the front side of dLAN 550 WiFi and then press the WPS button of the Wi-Fi router with the access data you want to apply.

or

Enabling WiFi Clone via the configuration interface. For more information about this function, refer to Chapter **WiFi Clone**.

⑦ To interconnect the dLAN 550 WiFi adapters via Wi-Fi, **first** press the encryption button with the home icon (for about **1 second)** on the existing **WiFi adapter** that has the **entire Wi-Fi config-uration** which is to be transferred to the new dLAN 550 WiFi adapter now, and **then** press the encryption button with the home icon on the new **dLAN 550 WiFi** (for about **1 second**).

⑧ The existing **WiFi adapter** transmits both the **dLAN** as well as the **entire Wi-Fi configuration** to the new dLAN 550 WiFi adapter.

⑨ To integrate additional dLAN 550 WiFi adapters into your Wi-Fi network repeat this step.

The WiFi adapters are now **continuously connected** to each other and, from now on, share changes to the **Wi-Fi configuration** with each other **automatical-ly**.

▪ *To customise your Wi-Fi network security, in-stall devolo Cockpit and proceed with configur-ing your network. To do so, read Chapters* **3.4 Installation of devolo software** *and* **4 Net-work configuration***.*

3.4 Installation of devolo software

Downloading devolo Cockpit App

The **devolo Cockpit App** is devolo's **free app** also for checking and configuring Wi-Fi, dLAN and LAN con-nections for the dLAN 550 WiFi (via smartphone or tablet). The smartphone or tablet connects to the dLAN 550 WiFi at home via **Wi-Fi**.

① Download the **devolo Cockpit App** to your smartphone or tablet from the corresponding store.

▪ *The quickest way to find the app is by clicking the magnifying glass in the store and searching directly for* **devolo***.*

② **devolo Cockpit** is placed in the app list of your smartphone or tablet as usual. Tapping on the **devolo Cockpit** icon brings you to the start menu.

▪ *For more information on the devolo Cockpit App please visit* www.devolo.com/cockpit*.*

Installing devolo Cockpit software

The devolo **Cockpit** computer program finds all accessible dLAN adapters in your dLAN network, displays information about these devices and encrypts your dLAN network individually. The software takes you to the configuration interface to configure your **Wi-Fi network** on a computer.

Software for Windows

The devolo Cockpit software is available at www.devolo.com/cockpit. After you have downloaded the installation file to your PC, start it by double-clicking on it.

Use the installation wizard to install devolo **Cockpit** for using the adapter with the Windows operating system. You can find the installed application in the **Start** ⊳ **All Programs** ⊳ **devolo** program group.

Software for Mac (OS X)

The devolo Cockpit software is available at www.devolo.com/cockpit. After you have downloaded the installation file to your PC, start it by double-clicking on it.

Software for Linux (Ubuntu)

The devolo Cockpit software is available at www.devolo.com/cockpit. After you have downloaded and installed the installation file to your PC, start the file.

■ *For more information on the devolo Cockpit software please visit www.devolo.com/cockpit.*

3.5 Uninstallation

To remove a dLAN 550 WiFi adapter from an existing network, press this adapter's encryption button with the home icon for **at least 10 seconds**. The device will be assigned a new randomly generated password and will thus no longer be able to access the network. To integrate the device into a different network, follow the steps described above, depending on whether you are setting up a new network or adding the adapter to an existing one.
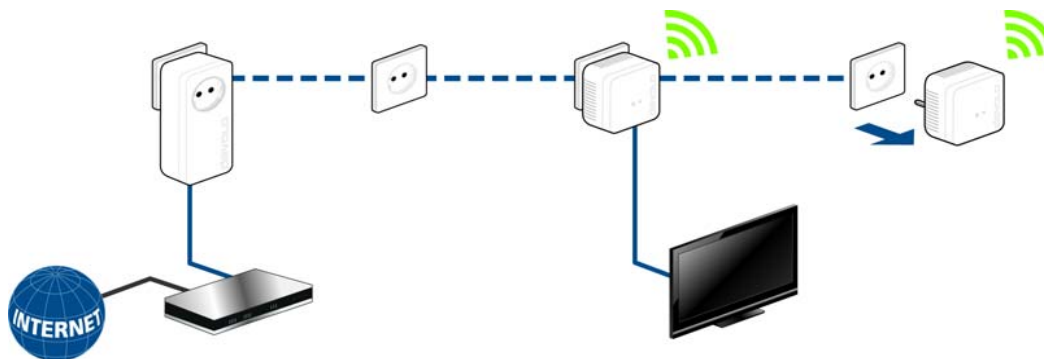
Fig. 6

4 Network configuration

The dLAN 550 WiFi has a built-in configuration 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 configuration interface

You can access the built-in online configuration interface for the dLAN 550 WiFi in different ways:

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

▪ *You can find more information on devolo Cockpit App in Chapter* **3.4 Installation of devolo software**.

● Using the **devolo Cockpit** software under **Start ⟩ All Programs ⟩ devolo ⟩ devolo Cockpit**, you can get to the device's configuration interface by clicking on the corresponding tab for the dLAN 550 WiFi.

Then the program determines the current IP address and starts the configuration in the web browser.

▪ *You can find more information on devolo Cockpit software in Chapter* **3.4 Installation of devolo software**.

By default, the configuration interface will open directly. However, if a login password was set via the option **Device configuration ⟩ Device security**, you have to enter this first (refer to **4.6.4 System**).

4.2 Menu description

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.

Click **OK** to save the settings of the respective area of the configuration interface.

Click **Cancel** to leave the respective area of the configuration interface.

The four central areas of the configuration interface are displayed on the bottom edge of the screen. Click the button of an area to move directly into it.

All of the device's Wi-Fi functions are in the **Wi-Fi configuration** area, where you can configure settings.

In the **Status overview** area, you get general information about all connected dLAN, Wi-Fi and LAN devices.

You can find all of the dLAN functions in the **Device configuration** area.

In addition to the language selection, the **Management** area includes configuration options for the network, device security and management, i.e. resetting, securing and restoring your individual configurations and updating firmware.

4.3 Wi-Fi configuration

In the **Wi-Fi configuration** area, configure settings for the Wi-Fi network and its security:

● Access point
● Wi-Fi time control
● Guest account
● Parental controls
● Wi-Fi filters
● WiFi Move
● Wi-Fi Protected Setup (WPS)

Click or tap the respective icon to go the corresponding area.

4.3.1 Access point

Wi-Fi on/off

You can enable or disable the Wi-Fi function of your dLAN 550 WiFi:

● To **enable** the device, press the **Wi-Fi button** on the front side **once briefly**.
● To **disable** the device, press the **Wi-Fi button** on the front side for **3 seconds until the LED goes out**.

or

● On the configuration interface under **Wi-Fi configuration** ⟡ **Access Point**, use the **Wi-Fi off/on** button.

or

● Enable the Wi-Fi time control. For more information, refer to Chapter **4.3.2 Wi-Fi time control**.

> ⚠️ ***The Wi-Fi function of the dLAN 550 WiFi is enabled by default.***

If you want to operate the adapter exclusively as a simple dLAN device via the built-in Ethernet connections you can completely shut off the Wi-Fi function.

For operation as a Wi-Fi access point, configure the Wi-Fi parameters for your wireless network as follows:

Network name

For operation as an access point, a (transmission) channel must be specified. There are 13 channels available. We recommend keeping the default setting **Auto**, since in this setting the dLAN 550 WiFi selects the channel regularly and independently. If no stations are connected, the device automatically selects a channel every 2 hours.

SSID

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

If you enable the **Hide SSID** option, your wireless network remains hidden. In this case, potential network users must know the exact network name and enter it manually to be able to establish a connection.

Some Wi-Fi adapters have difficulty connecting to such hidden wireless networks. If the connection to a hidden name (SSID) poses problems, first try to establish the connection with a visible network name (SSID) and only then try to hide it.

Encryption

WPA2 is the Wi-Fi encryption set by default for dLAN 550 WiFi. The default Wi-Fi key is the WiFi key of the dLAN 550 WiFi. You will find the key on the label on the back of the housing.

The **WPA** and **WPA/WPA2 (Wi-Fi Protected Access)** security standards are available for securing data transmission in your wireless network.

These methods allow for individualised keys consisting of **letters and numbers with a length of up to 63 characters**. You can simply enter this using the keyboard, without having to convert it into hexadecimal format first.

No encryption

You should always encrypt the connections in your Wi-Fi network. Otherwise anyone within range could penetrate into your network.

Without encryption, not only are all data transmitted from client computers to the dLAN 550 WiFi in your wireless network without protection, but there is also no password prompt to establish the connection. If no other security measures are set up, such as a Wi-Fi filter (see Chapter **4.3.5 Wi-Fi filters**), third parties could gain access to your network at any time and, for example, share your Internet connection. Each instance of access is visible to you in the Wi-Fi monitor.

Save all modified settings before leaving this configuration area again by pressing **OK** to confirm them.

⚠ *Keep in mind that after saving this setting, you will be disconnected from any existing wireless connection to the dLAN 550 WiFi. In this case, configure the device via Ethernet or dLAN. When activating the encryption, also make sure that the Wi-Fi settings (network name and key) of the access point always match the settings on the clients, as otherwise you will be (unintentionally) excluding devices from your network.*

4.3.2 Wi-Fi time control

To be able to use the Wi-Fi time control, enable the time control option.

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.

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

⚠ *Manually switching the access point on or off (i.e. using a button) always has priority over automatic time control. The configured time control would take effect automatically during the next defined time period.*

4.3.3 Guest account

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 SSID, time limit and Wi-Fi password. This way your visitors can surf the Internet without having access to your local network.

To set up a guest account, enable the **Guest account** option. You can also enable or disable the guest account in the **devolo Cockpit App** using the **Guest account** button.

If you would like to restrict this to Internet use, enable the **Only allow Internet use** option as well.

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

Automatic shutoff

If you would like to set a time limit for the guest account, enable the option **Automatically shut off guest account after ...** and enter the desired time limit.

⚠️ *Note that the guest account depends on the device and can be active only as long as the device itself.*

Encryption

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 (Wi-Fi 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 this using the keyboard, without having to convert it into hexadecimal format first.

4.3.4 Parental controls

You can regulate Internet access for specific devices based on time using this function. For instance, to protect your children from excessive Internet use, you can define how long they may use the Internet per day.

Synchronisation with an Internet time server is necessary to be able to use the parental controls. In this case, the **time server** (**Management ⇨ Management ⇨ Date and time ⇨ Retrieve date and time automatically)** for the dLAN 550 WiFi has to be enabled and an active Internet connection is also required.

⚠️ *The time server is enabled by default.*

If you would like to set up a daily time quota, enable the option **Turn on parental controls**. Now enter the MAC addresses for the devices for which you would like to set up a time quota. You can enter the MAC addresses manually or select them from the list of currently known devices (see **Status overview ⇨ Wi-Fi monitor**). Confirm each entry with **OK**.

Wi-Fi devices with a time limit

Here you can find a list of all the Wi-Fi devices for which the Internet access time is limited.

Each device is displayed with its MAC address, name, time remaining and the specified time quota.

If you would like to delete a device from this list, highlight it and confirm this with the **recycle bin**.

Click or tap **Edit** to go to the settings menu for the time quota. If you would like the time quota to be moni-

tored, enable the option **The time limit will be monitored**.

The **daily** time quota can be specified in hours and minutes.

A **time quota** can only be used if it matches the **time periods** defined in the **Wi-Fi time control** and if the **dLAN 550 WiFi is enabled** and there is an Internet connection. (see **4.3.2 Wi-Fi time control**).

The time quotas for the **parental controls** and the time periods for **Wi-Fi time control** are defined **per weekday.**

⚠ *If you set a time quota, it will not be enabled until the next day (midnight).*

4.3.5 Wi-Fi filters

In addition to encryption (see **4.3.1 Access point**), you can secure your wireless network even more by using a Wi-Fi filter to limit access to Wi-Fi devices. Even if the encryption is switched off, the device will not establish a connection.

⚠ *The Wi-Fi filter should be used only as an additional option for Wi-Fi encryption. By using it you can limit access to your wireless network, but without encryption it is relatively easy for third parties to eavesdrop on all of your data transmissions.*

To use the Wi-Fi filter, **enable the filter**. Now you can manually enter different network devices to provide access to your dLAN 550 WiFi using what is known as their MAC address, or you can take them from a list of known devices (see **6.3.2 Wi-Fi monitor ▷ Wi-Fi monitor**). Create new entries with ➕ . Save your entries with **OK**.

Permitted Wi-Fi devices

Network devices connected to your dLAN 550 WiFi are automatically listed; that is, to enable an already connected device for the dLAN 550 WiFi, simply select the MAC address of this device and confirm it with the **plus** sign. This then appears under **Permitted Wi-Fi devices**. To remove an approved device, select its MAC address and confirm it with the **recycle bin**.

⚠ *The Wi-Fi filter can only be set for devices connected directly to the access point (not the guest account).*

∎ *The MAC address designates the hardware interface of each individual network device uniquely (e.g. the Wi-Fi adapter of a computer or the Ethernet port of a printer). It consists of six double-digit hexadecimal numbers, each separated by a colon (e.g. 00:0B:3B:37:9D:C4).*

You can easily determine the MAC address of a Windows computer by opening the window with the command prompt under **Start** ⇨ **All Programs** ⇨ **Accessories** ⇨ **Command Prompt**. Enter the command **IPCONFIG /ALL** here. The MAC address is displayed under the designation **Physical address**.

⚠ ***Keep in mind that you also have to enter the Wi-Fi MAC address of your own computer if you are connected to the dLAN 550 WiFi not via the Ethernet port, but via Wi-Fi. Otherwise you will block your own access to the device via Wi-Fi by activating the Wi-Fi filter.***

Save all modified settings before leaving this configuration area again by pressing **OK** to confirm them.

4.3.6 WiFi Move

WiFi Move Technology is a function for synchronising the Wi-Fi settings of all devolo WiFi adapters connected to your network.

⚠ ***The Wi-Fi function and WiFi Move Technology of the dLAN 550 WiFi are enabled by default.***

You can enable synchronisation of the Wi-Fi settings either by using the functions in this menu or by pressing the respective encryption button with the home icon on the corresponding adapters. To learn how to synchronise the Wi-Fi settings at the touch of a button, refer to Chapters **2.3.1 Encryption button** and **3.3 Connecting the dLAN 550 WiFi**.

WiFi Move Technology support enabled

Switch on WiFi Move Technology (if necessary) by clicking/tapping under **Wi-Fi configuration** ⇨ **WiFi Move**. All **WiFi adapters** are now **continuously connected** to each other and, from now on, share changes to the **Wi-Fi configuration** with each other **automatically**.

In addition, you can see when the last synchronisation took place and which devices are connected via WiFi Move Technology.

WiFi Clone

WiFi Clone lets you apply the Wi-Fi access data of an existing Wi-Fi access point (such as your Wi-Fi router) at the touch of a button. 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.

4.3.7 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. The dLAN 550 WiFi offers two different variants for transmitting these encryption keys:

WPS via PBC (Push Button Configuration):

① Start the encryption process on the dLAN 550 WiFi

○ either by pressing the **Wi-Fi button** on the **front panel of the device** or

○ by pressing the **Start setup** button on the user interface under **Wi-Fi configuration** ▷ **Wi-Fi Protected Setup (WPS)**.

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:

① To interconnect Wi-Fi devices in your wireless network securely by means of PIN variants, enter an individualised key in the configuration interface under **Wi-Fi configuration** ▷ **Wi-Fi Protected Setup (WPS)** ▷ **PIN** and start the encryption process by pressing the **Start setup** button.

② Open the configuration interface of the Wi-Fi client to be added and transmit the PIN selected on the dLAN 550 WiFi. Confirm the encryption process as described there. 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.

Use of the **WPS** method implies the use of the **WPA/WPA2** encryption standard. Therefore take note of the following automatic settings:

● If **Wi-Fi configuration** ⊳ **Access Point** ⊳ **No encryption** is selected in advance, **WPA2** is set automatically. The newly generated password is displayed under **Wi-Fi configuration** ⊳ **Access Point** in the **Key** field.

● If **Wi-Fi configuration** ⊳ **Access Point** ⊳ **WPA/WPA2** is selected in advance, this setting remains with the previously assigned password.

4.4 Status overview

In the **Status overview** area, you get general information about all connected dLAN, Wi-Fi and LAN devices.

Information about the dLAN 550 WiFi is also displayed in this menu on the left next to the status of the connected Wi-Fi, dLAN and LAN devices. On the right in the menu you will find the corresponding link to go directly to the menu.

Wi-Fi status

Here you can see whether the Wi-Fi function of your dLAN 550 WiFi is switched on or off, as well as whether encryption is used and which frequency band has been configured.

Clicking or tapping **Access Point** takes you directly to the Wi-Fi settings. More information about Wi-Fi network security can be found in Chapter **4.3.1 Access point**.

Clicking or tapping **Configure guest account** takes you directly to the corresponding menu. More information about configuring the guest account can be found in Chapter **4.3.3 Guest account**.

Click or tap **Wi-Fi monitor** to display all of the known Wi-Fi devices. If there is an Internet connection and a time server has been found, each Wi-Fi device known since the last system start is displayed along with its name, MAC and IP address, the last login date and, if possible, the speed.

dLAN status

The colour of the lock icon tells you whether an individualised dLAN password or the default password is set (green = individualised password, red = default password). Click or tap **dLAN devices** to display all of the connected dLAN devices. For more information about this, refer to Chapters **4.5.2 dLAN devices** and **4.5.2 dLAN devices**.

Clicking or tapping **Configure dLAN** takes you to the **dLAN settings**. For more information, refer to Chapter **4.5.1 dLAN settings**.

⚠️ *Before the networking procedure, note the security IDs of all dLAN adapters. This unique identifier of each dLAN device is located on the label on the back of the housing. It consists of 4 x 4 letters separated by dashes (e.g. ANJR-KMOR-KSHT-QRUV). Ensure that all dLAN adapters are connected to the mains supply and computers or other network components as appropriate.*

Ethernet status

The status (red = not connected, green = connected) and connection speed of the network jacks are displayed here.

Firmware version

The firmware version is displayed here. Clicking or tapping **Firmware update** takes you directly to the corresponding menu. For more information about the firmware update, refer to Chapter **4.6.4 System**.

Access password

For security you can set a login password for access to the configuration interface. The colour of the lock icon tells you whether an individualised login password or no password at all is set (green = individualised password, red = no password). Clicking or tapping **Set access password** takes you directly to the corresponding menu. More information about creating an access password can be found in Chapter **4.6.4 System**.

Network configuration

Network settings such as the IP address and subnet mask of the dLAN 550 WiFi are displayed here. Clicking or tapping **Configure network** takes you directly to the network settings. For more information, refer to Chapter **4.6.3 Network settings**.

4.5 Device configuration

🏠 You can find everything about your dLAN in the **Device configuration** area. Click or tap the respective icon to go the corresponding area.

4.5.1 dLAN settings

In a dLAN network, all connected components must use the same password. The dLAN password can be defined in the **devolo Cockpit App** or the **devolo Cockpit** program by using the **encryption button** with the **home icon** or at this location in the configuration interface. You can configure the password for the **entire** network.

⚠️ *The dLAN default password is **Home-PlugAV.***

4.5.2 dLAN devices
Each connected dLAN device, regardless of whether it is connected locally or remotely in the network, is displayed with its MAC address, name and type.

4.5.3 Add a dLAN device
You can add additional dLAN devices to your dLAN network.

Via encryption button (with home icon)

First press the encryption button (for about **1 second**) on an adapter in your existing network and then, **within 2 minutes**, press the option **Start setup** (for about **1 second**) on the new dLAN 550 WiFi.

Via security ID

To do so, enter the security ID for the respective dLAN adapter in the **Security ID** field and confirm it with **Start setup**.

⚠️ *Before the networking procedure, note the security IDs of all dLAN adapters. This unique identifier of each dLAN device is located on the label on the back of the housing. It consists of 4 x 4 letters separated by dashes (e.g. ANJR-KMOR-KSHT-QRUV). Ensure that all dLAN adapters are connected to the mains supply and computers or other network components as appropriate.*

4.6 Management

In addition to the language selection, the **Management** area includes configuration options for the network, device security and management, i.e. resetting, securing and restoring your individual configurations and updating firmware.

Click or tap the respective icon to go the corresponding area.

4.6.1 Language selection
Select your desired menu language here. Save your entry with **OK**.

4.6.2 Device security

Here you can set a login password for access to the configuration interface.

By default, the configuration interface of the dLAN 550 WiFi is **not** protected by a **password**. However, after installing the dLAN 550 WiFi, you should create a **custom password** to protect the configuration interface from being accessed by third parties.

① To do so, first enter (if present) the current password and then enter the desired new password twice. Now the configuration interface is protected against unauthorised access with your custom password!

② Call up the configuration interface again later; the following window appears first:
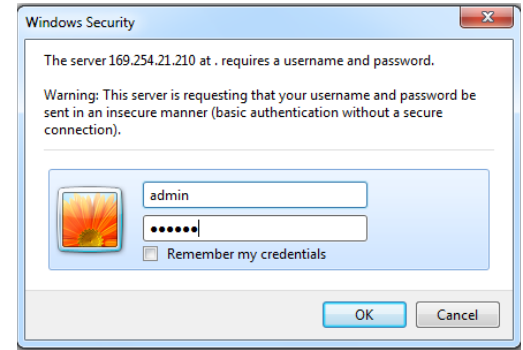
③ Enter **admin** in the **User name** field and your custom password in the **Password** field.

⚠ **The admin user name cannot be changed.**

4.6.3 Network settings

As a component of your network, the dLAN 550 WiFi also communicates via the TCP/IP protocol. The IP address required for this can either be entered manually or obtained **automatically** from a **DHCP server**.

The option **Network settings are automatically retrieved from a DHCP server** is enabled by default.

⚠️ *If a DHCP server is already present in the network for giving out IP addresses, have this option enabled so that the dLAN 550 WiFi automatically receives an address from it. This is usually the router.*

To assign a static IP address, first disable the option **Network settings are automatically retrieved from a DHCP server** and make your individual entries.

Save your entries with **OK**.

▌ ● *If you happen to forget the IP address of your dLAN 550 WiFi, proceed as described under **4.1 Calling up the built-in configuration interface**.*

4.6.4 System

Here you can reset the current configuration to the factory defaults, save it to your computer as a file or restore it from there and update the firmware of the dLAN 550 WiFi.

⚠️ *Ensure that the update procedure is not interrupted. To do so, it is best to connect your computer to the*

dLAN 550 WiFi via dLAN or LAN rather than Wi-Fi.

Automatic firmware update

The firmware of the dLAN 550 WiFi 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. If you would like the dLAN 550 WiFi to perform firmware updates automatically, enable the **Automatic firmware update** option and start the update procedure with **Search for newer firmware and update now**.

The 🏠 icon on the front side of the device flashes red during the update procedure. After a successful update, the dLAN 550 WiFi restarts automatically.

Update firmware

To bring the firmware up to the latest version manually, start by going to the devolo website, www.devolo.com, and downloading the appropriate file for the dLAN 550 WiFi to your computer.

In the **Management ⟳ System** area click **File name…** and select the downloaded file.

Then start the update procedure with **Update firmware**. After a successful update, the dLAN 550 WiFi restarts automatically.

■ *Via the* **Updates** *button in* **devolo Cockpit***, you can also carry out automatic firmware up-dates from our website*, www.devolo.com*. This procedure requires an active Internet connec-tion. For more information, refer to the Internet* www.devolo.com/cockpit*.*

Saving the device configuration

To save the enabled configuration to your computer as a file, select the corresponding button in the **Management ▷ System ▷ Save device configuration** area. Then enter a storage location and name for the set-tings file.

Restoring the device configuration

An existing configuration file can be sent to the dLAN 550 WiFi in the **Management ▷ System** area and enabled there. Select a suitable file via the **File name…** button and start the operation by clicking the **Restore device configuration** button.

Resetting the device configuration

The dLAN 550 WiFi is reset to the original factory de-faults in the **Management ▷ System** area with the **Reset device configuration** option.

⚠ *Doing so causes you to lose your per-sonal Wi-Fi and dLAN settings. The last-assigned passwords for the dLAN 550 WiFi 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 dLAN 550 WiFi. 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.

4.6.5 Management

Date and time

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. The option **Retrieve date and time automatically** is activated by default so that the dLAN 550 WiFi can automatically synchro-nise the date and time.

Select your **Time zone** and the **Time server**. If you have enabled the option **Adjust to daylight saving time automatically**, the adapter automatically ad-justs to daylight saving time.

LED settings

The LED status display can be disabled by enabling the option **Device LEDs**, such as for avoiding unwanted lighting in a bedroom. The LED status display is activated in the factory default state.

License information

You can find the license information about the dLAN 550 WiFi here.

5 Appendix

5.1 Bandwidth optimization

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

● Plug the device directly into a wall socket.
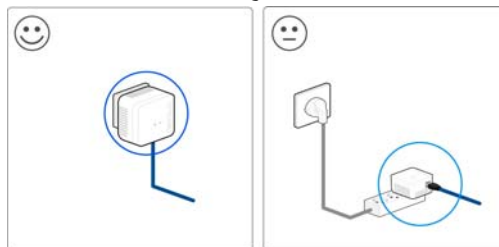● Avoid multiple socket. This may impair the transmission of the dLAN signals.

Fig. 7

5.2 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 adapter 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.

5.3 Warranty conditions

The devolo AG warranty is given to purchasers of devolo products in addition to the warranty conditions provided by law and in accordance with the following conditions:

1   Warranty coverage

a) The warranty covers the equipment delivered and all its parts. Parts will, at devolo's sole discretion, be replaced or repaired free of charge if, despite proven proper handling and adherence to the operating instructions, these parts became defective due to fabrication and/or material defects. Alternatively, devolo reserves the right to replace the defective product with a comparable product with the same specifications and features. Operating manuals and possibly supplied software are excluded from the warranty.

b) Material and service charges shall be covered by devolo, but not shipping and handling costs involved in transport from the buyer to the service station and/or to devolo.

c) Replaced parts become property of devolo.

d) devolo is authorized to carry out technical changes (e.g. firmware updates) beyond repair and replacement of defective parts in order to bring the equipment up to the current technical state. This does not result in any additional charge for the customer. A legal claim to this service does not exist.

2   Warranty period

The warranty period for this devolo product is three years. This period begins at the day of delivery from the devolo dealer. Warranty services carried out by devolo do not result in an extension of the warranty period nor do they initiate a new warranty period. The warranty period for installed replacement parts ends with the warranty period of the device as a whole.

3   Warranty procedure

a) If defects appear during the warranty period, the warranty claims must be made immediately, at the latest within a period of 7 days.

b) In the case of any externally visible damage arising from transport (e.g. damage to the housing), the person carrying out the transportation and the sender should be informed immediately. On discovery of damage which is not externally visible, the transport company and the sender are to be immediately informed in writing, at the latest within 3 days of delivery.

c) Transport to and from the location where the warranty claim is accepted and/or the repaired device is exchanged, is at the purchaser's own risk and cost.

d) Warranty claims are only valid if a copy of the original purchase receipt is returned with the device. devolo reserves the right to require the submission of the original purchase receipt.

4   Suspension of the warranty

All warranty claims will be deemed invalid

a) if the label with the serial number has been removed from the device,

b) if the device is damaged or destroyed as a result of acts of nature or by environmental influences (moisture, electric shock, dust, etc.),

c) if the device was stored or operated under conditions not in compliance with the technical specifications,

d) if the damage occurred due to incorrect handling, especially to non-observance of the system description and the operating instructions,

e) if the device was opened, repaired or modified by persons not contracted by devolo,

f) if the device shows any kind of mechanical damage, or

g) if the warranty claim has not been reported in accordance with 3a) or 3b).

5   Operating mistakes

If it becomes apparent that the reported malfunction of the device has been caused by unsuitable hardware, software, installation or operation, devolo reserves the right to charge the purchaser for the resulting testing costs.

6   Additional regulations

The above conditions define the complete scope of devolo's legal liability.

a)   The warranty gives no entitlement to additional claims, such as any refund in full or in part. Compensation claims, regardless of the legal basis, are excluded. This does not apply if e.g. injury to persons or damage to private property are specifically covered by the product liability law, or in cases of intentional act or culpable negligence.

b)   Claims for compensation of lost profits, indirect or consequential detriments, are excluded.

c)   devolo is not liable for lost data or retrieval of lost data in cases of slight and ordinary negligence.

d)   In the case that the intentional or culpable negligence of devolo employees has caused a loss of data, devolo will be liable for those costs typical to the recovery of data where periodic security data back-ups have been made.

e)   The warranty is valid only for the first purchaser and is not transferable.

f)   The court of jurisdiction is located in Aachen, Germany in the case that the purchaser is a merchant. If the purchaser does not have a court of jurisdiction in the Federal Republic of Germany or if he moves his domicile out of Germany after conclusion of the contract, devolo's court of jurisdiction applies. This is also applicable if the purchaser's domicile is not known at the time of institution of proceedings.

g)   The law of the Federal Republic of Germany is applicable. The UN commercial law does not apply to dealings between devolo and the purchaser.

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