devolo

GIGAGATE

Manual

devolo
The Network Innovation

devolo

GIGAGATE

Contents

1 Preface

Thank you for placing your trust in this devolo product.

devolo GigaGate helps you set up your own gigabit network in just a few easy steps. The devolo GigaGate Base lets you transmit your Internet data to the devolo GigaGate Satellite using high-speed gigabit WiFi. You can connect a total of five network devices to the satellite using network cables and connect them to the Internet. Additional devices such as smartphones, tablets or laptops can be added to the home network over a separate and secure WiFi network.

1.1 About this manual

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

After a brief introduction to WiFi, the different frequency bands as well as an introduction to the devolo GigaGate in **Chapter 2**, **Chapter 3** devolo GigaGate tells you how to successfully start using the adapter in your network. **Chapter 4** describes the configuration options for the integrated configuration interface in detail. Information about the environ-

mental compatibility of the device and our warranty terms can be found in **Chapter 5** and conclude the manual.

Icons

This section contains a brief description of the icons 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 devolo GigaGate as described in these instructions to prevent damage and injuries.

The device may be used only indoors.

1.1.2 CE conformity

The product conforms to the basic requirements of **directives 2014/53/EU**, **2014/35/EU** and the other relevant requirements of the Radio and Telecommunications Terminal Equipment Act (**FTEG**).

The product is intended for operation in the EU, Switzerland and Norway.

The product is a Class B product. This class may cause interference when used in residential environments.

> *A printout of the CE declaration is included with the product. You can also find it online at* 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 unplugging the mains plug from the power socket. Then contact qualified specialist personnel (after-sales service) exclusively. **Damage** is deemed to have occurred, for example,

● if the power cable or 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.

If installing on a wall using screws, make sure that no gas, water or power lines in the wall get damaged. **There is a danger of electric shock!**

devolo devices may be operated only on a **mains power supply** as described on the **nameplate**.Only use the power cable or mains adapter included for the mains supply.

To disconnect devolo devices from the mains supply, unplug the device itself or its mains plug from the power socket.

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

devolo devices must only be used indoors.

Only use the devolo device at a dry location.

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

⚠ DANGER due to overheating

devolo devices should be installed only 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).

DANGER due to overheating

The housing of the device can get hot during operation. Make sure that your device is installed so that it is protected from being touched.

1.2 devolo on the Internet

For detailed information on our products and dLAN, visit www.devolo.com. The **WiFi** area not only contains product descriptions and documentation, but also updates to 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 What is WLAN?

WiFi refers to a **WLAN** (**W**ireless **L**ocal **A**rea **N**etwork), 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 usually required to set up a network of multiple devices. This turns a WiFi router into an access point as well as a modem for Internet access and into a router for acting as a go-between within the network.
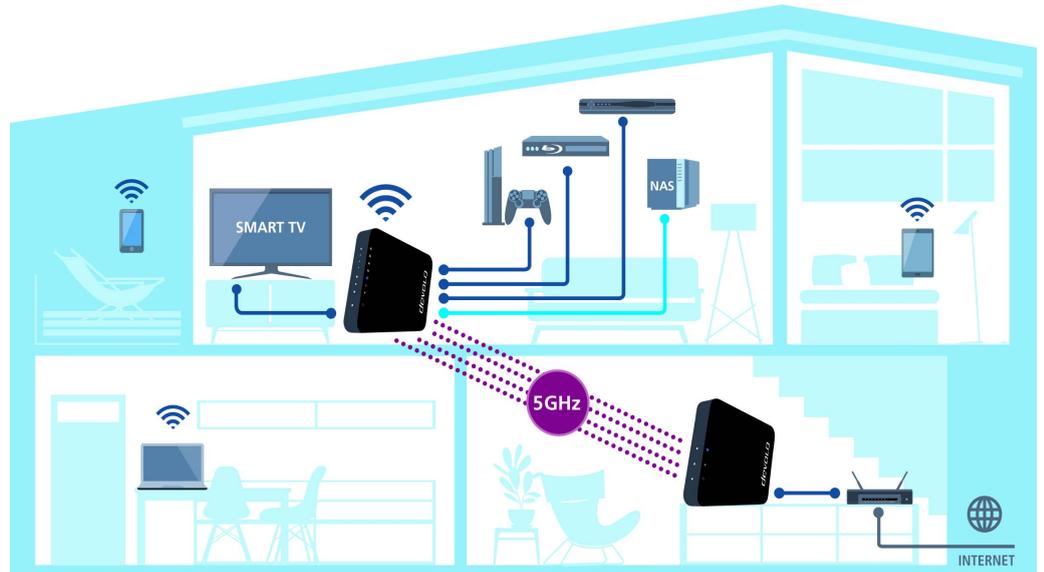

Fig. 1: devolo GigaGate ensures you have WiFi and Internet throughout your home

The wireless network established by an access point has only limited range. The reception range of the access point, also known as a "radio cell", is impeded by the walls of a building. In some cases, stable connections are often only possible between WiFi devices within a single room.

Since 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 WiFi network, wireless networking naturally presents special security challenges. WiFi networks therefore use a number of security measures, such as a concealed network name (SSID - Service Set Identifier), data encryption and access control via the MAC addresses of the devices (clients).

2.1.1 Wi-Fi or WLAN?

Wi-Fi is an invented 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.

2.1.2 Differences in WiFi frequency bands

The devolo GigaGate supports WiFi frequencies of 2.4 GHz and 5 GHz for an optimal WiFi transmission rate.

Both frequency bands have their pros and cons and showcase their strengths best when combined together.

2.4 GHz frequency band

The 2.4 GHz frequency band is used by many everyday wireless devices, e.g. by cordless phones, microwaves, Bluetooth devices and network devices that rely on the 802.11b, 802.11g and 802.11n WiFi standards. The high level of spread is also a decisive disadvantage because there are only a few channels free of overlap in the 2.4 GHz frequency band that can be used in parallel and without interference for WiFi. In addition, the large number of devices present often causes interference that makes using the Internet very slow over WiFi. In theory, the maximum transfer rate a product can attain when using the 802.11n WiFi standard is up to 300 Mbps. In a home network, however, everyday factors that contribute to attenuation such as furniture, vases or concrete walls result in a lower transfer rates.

5 GHz frequency band

The 5 GHz frequency band is used by significantly fewer devices than the 2.4 GHz band, which means it is not as overloaded and experiences less interference. In theory, users have up to 19 channels available when using 802.11ac. The 802.11ac WiFi standard achieves

a transfer rate of up to 1300 Mbps thanks to the larger channel bandwidth and improved data transmission technology.

2.2 The devolo GigaGate

Fig. 2: devolo GigaGate Base and Satellite

The devolo GigaGate **Base** is equipped with:

● One LED that indicates the devolo GigaGate **Base** operation
● One LED that indicates the status of the connection between the **Base** and **Satellite**

⚠ *The LED status display can be disabled on the GigaGate configuration interface (see Chapter* **4.3.2 Basic settings***).*

● One gigabit network jack (1000 Mbps)
● Four internal WiFi antennas that use 4x4 Quantenna technology (point-to-point connection),
● Fold-down feet
● Four holes (on each side) for wall mounting
● One power socket for the included mains adapter.

The devolo GigaGate **Satellite** is equipped with:

● One LED that indicates the devolo GigaGate **Satellite** operation
● an LED that displays the status of the connection between the **Satellite** and **Base**
● One WiFi button with LED status display which enables WiFi devices to connect using **WPS**
● One gigabit network jack (1000 Mbps)
● Four Fast Ethernet ports (100 Mbps)
● Four internal WiFi antennas that rely on 4x4 Quantenna technology (point-to-point connection) as well as two internal WiFi antennas, which can be used to establish a WiFi connection to other network devices

- Fold-down feet
- Four holes (on each side) for wall mounting
- One power socket for the included mains adapter.

devolo GigaGate Base　　　　　　　　　　　　　　**devolo GigaGate Satellite**

Holes for
wall mounting

Fast
Ethernet

Gigabit LED

WiFi LED
with WiFi button

Home LED
With house button

Power LED
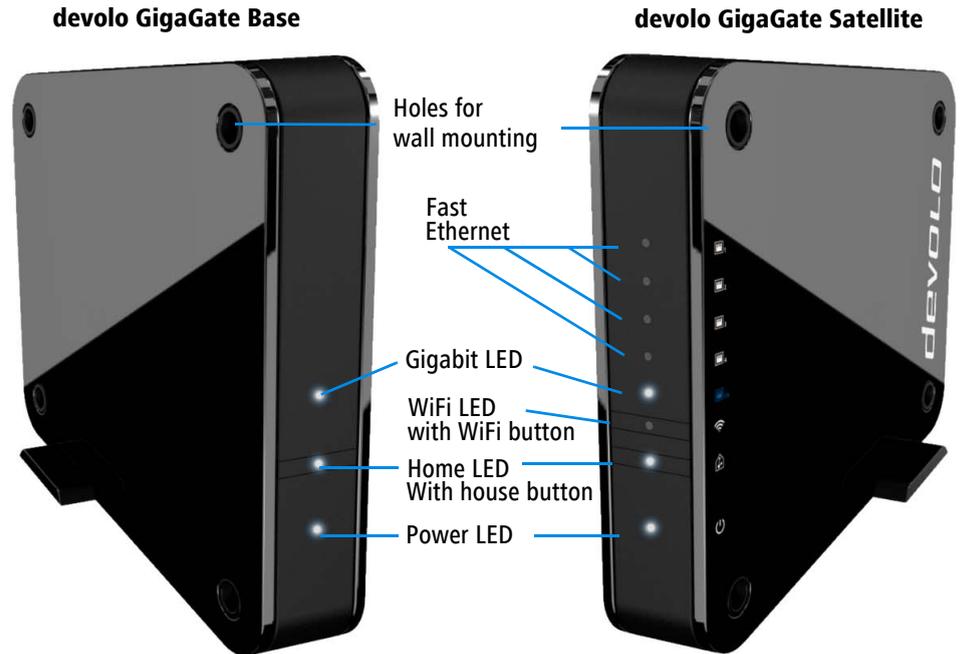
Fig. 3: Front side of the GigaGate device

devolo GigaGate Base   **devolo GigaGate Satellite**

Fast
Ethernet

Gigabit LAN

Reset button

Power supply

Fold-down
feet
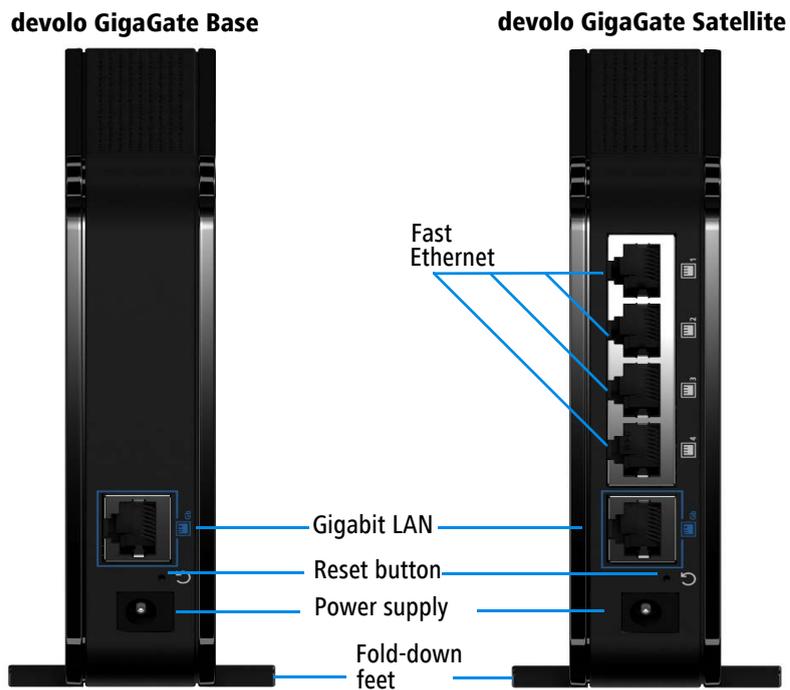
Fig. 4: Rear side of the GigaGate device

Flashing behaviour of the LEDs

LED	Flashing behaviour	Meaning
White LED	Lights up steady	Network-compatible devices are connected to devolo GigaGate devices using a network cable
White LED	Flashes at intervals of **0.5 sec.** (on/off) Lights up steady	A secure WiFi connection (WPS) is established between the devolo GigaGate and a network device There is an encrypted WiFi connection between the devolo GigaGate and a network device

LED	Flashing behaviour	Meaning
White LED	Flashes at intervals of **2 sec.** (on/off) Lights up steady	A gigabit connection is established between the base and the satellite Data transmission rate in optimum range
Red LED	Lights up steady	Data transmission rate not in optimum range
White LED	Flashes at intervals of **2 sec.** (on/off) Lights up steady	devolo GigaGate devices are in the start-up process devolo GigaGate devices are supplied with power and are ready to operate

2.2.1 WiFi button

The WiFi button controls the following WiFi functions:

Connecting WiFi devices via WPS

● If the device is still on **factory defaults**, tap **the WiFi button** in order to activate **WPS**.
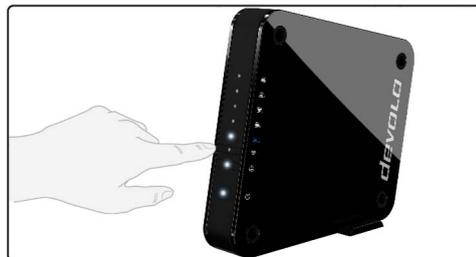
Fig. 5: WiFi button on the GigaGate Satellite

Information on incorporating WiFi-compatible terminal devices using WPS can be found in Chapter 4.3.4 **Mobile devices***.*

WPS, developed by the WiFi Alliance, is one of the encryption standards in a WiFi network. The objective of WPS is to make it easier to add devices to an existing network.

2.2.2 Network jacks

The total of five devolo GigaGate **Satellite** network jacks allows you to connect your computer, your multifunctional device, your network attached storage (NAS), your SmartTV and your game console to the Internet using commercially available network cables without having to purchase a separate switch. Additional network devices can be connected to the Internet using WiFi connection of the devolo GigaGate **Satellite**.

At least one Cat 5e cable (1000 Mbps) is necessary (contained in the scope of delivery) for the optimal speed of both gigabit ports (1x Base, 1x Satellite). The four Fast Ethernet ports require at least one Cat 5 cable to achieve the full transmission rate of 100 Mbps.

2.2.3 Reset

The **Base** and **Satellite Reset** button (the small opening between the power connection and the gigabit 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 devolo GigaGate 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.*

2.2.4 WiFi antennas

The four internal WiFi antennas on the devolo GigaGate **Base** have 4x4 Quantenna technology. A total of four parallel point-to-point connections with a speed of up to 1,300 Mbps are set up here for the devolo GigaGate **Satellite** using the less interference-prone 5 GHz frequency band.

The devolo GigaGate **Satellite** also has two internal antennas which can be used to establish a WiFi connection to other network devices.

3 Initial use

This chapter covers everything you need to know to set up your devolo GigaGate. We provide a brief description of the connection to both devices and briefly introduce the devolo software. Further, detailed information is available at www.devolo.com.

3.1 Package contents

Please ensure that the delivery is complete before beginning with the installation of your devolo GigaGate.

- **Starter Kit**
    - ○ devolo GigaGate Base
    - ○ devolo GigaGate Satellite
    - ○ Two mains adapters with power cables
    - ○ Two network cables (Cat 5e, 1000 Mbps)
    - ○ Hard copy of installation guide
    - ○ CE declaration

or

- **Expansion**:
    - ○ devolo GigaGate Satellite
    - ○ One mains adapter with power cable
    - ○ One network cable (Cat 5e, 1000 Mbps)
    - ○ Hard copy of installation guide

- ○ CE declaration

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

3.2 System requirements

- **Operating systems**: Windows 7 (32 bit/64 bit), Windows 8 (32 bit/64 bit), Windows 8 Pro (32 bit/64 bit), Windows 10 (32 bit/64 bit), Windows 10 Pro (32 bit/64 bit), Linux (32 bit/64 bit), Mac (OS X 10.6)
- **Network jack**

⚠ *You require a router with a free gigabit network connection for the optimal transmission rate of the devolo GigaGate. Connect the devolo GigaGate Base and the router using the included network cable.*

3.3 Connecting the devolo GigaGate

⚠️ *The device may be used only indoors.*

▌ ■ *Write down the devolo GigaGate Satellite WiFi key before adding your WiFi-compatible terminal devices to the network. You will find this unique WiFi key on the label on the underside of the housing.*

Enter the devolo GigaGate Satellite WiFi key on your laptop, tablet or smartphone later on as a network security key to establish an encrypted connection with the WiFi network.

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

3.3.1 Connecting the devolo GigaGate Base

① Connect the devolo GigaGate **Base** to an available network jack on your Internet access device (e.g. your WiFi router) using the network cable provided.

② Plug the provided power cable for the devolo GigaGate **Base** into an electrical socket. As soon as the Power LED lights up white continuously (after approximately 60 sec.), the **Base** is ready to operate.

To disconnect devolo devices from the mains supply, unplug the device itself or its mains plug from the power socket.

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

3.3.2 Connecting the devolo GigaGate Satellite

① Place the devolo GigaGate **Satellite** in the desired location.

② Plug the provided power cable for the devolo GigaGate **Satellite** into an electrical socket. As soon as the Power LED lights up white continuously (after approximately 60 sec.), the **Satellite** is ready to operate.

■ The devolo GigaGate **Base** and the devolo GigaGate **Satellite** connect automatically over gigabit WiFi. The Home LED flashes while the connection is established. Once the WiFi connection between the devolo GigaGate **Base** and the devolo GigaGate **Satellite** is established, the Home LED on both devices lights up continuously. To disconnect devolo devices from the mains supply, unplug the device itself or its mains plug from the power socket.
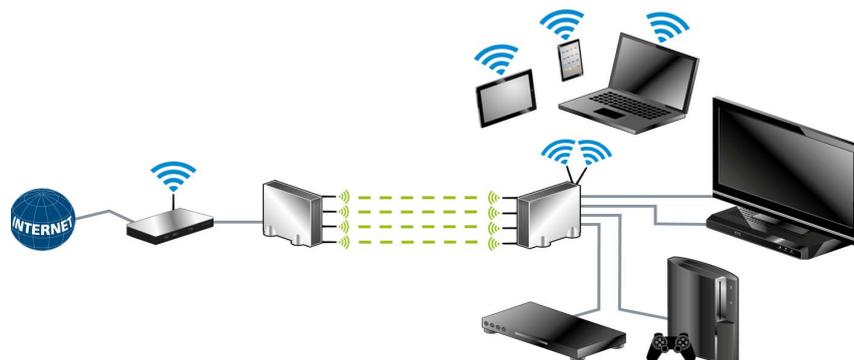
Fig. 6: Setting up the devolo GigaGate connections

Connecting devices to the devolo GigaGate Satellite using network cables

③ Use a network cable to connect your powered devices to the devolo GigaGate **Satellite**. The internet connection over the network cable is established automatically.

⚠ *For optimal transmission rates, connect the gigabit network cable included in the scope of delivery to the corresponding gigabit network jack. Additional network cables are required to connect additional devices.*

Connecting devices to the devolo GigaGate Satellite WiFi network using the WiFi button

④ Select the WPS setting on your tablet or smartphone.

> ∎ *For devices with the Android operating system, you can find the WPS settings under WiFi/Advanced Settings. The Apple iOS operating system does not support WPS.*

⑤ Briefly press the WiFi button to establish an encrypted WiFi connection.

or

⑥ Use the **WiFi Protected Setup (WPS)** setting in the devolo GigaGate user interface to connect your devices to the WiFi network using a PIN.

Connecting devices to the devolo GigaGate Satellite WiFi network using the network key

Devices without WPS functionality can also be connected to the devolo GigaGate **Satellite** WiFi network.

① Select the network name (SSID – Service Set Identifier) of the devolo GigaGate WiFi network on your laptop or computer.

② Enter the **WiFi key** you wrote down earlier as the network security key to establish the WiFi connection.

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

3.4 Installation of devolo software

Installing devolo Cockpit software

The devolo **Cockpit** computer program finds all of the accessible devolo devices in your network and displays information about these devices. The software takes you to the configuration interface to configure your **WiFi 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 device 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.

■ *You can find more information about the devolo Cockpit software online at www.devolo.com/cockpit.*

4 Network configuration

The devolo GigaGate 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

This enables you to access the built-in online configuration interface for the devolo GigaGate:

● Open your operating system's start menu and select **devolo Cockpit software**. Click the corresponding devolo GigaGate entry to go to the configuration interface of the device.

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 using the option **Management** (adjacent symbol) ⌀ **Device security**, you have to enter this first.

4.2 devolo Cockpit software

The **devolo Cockpit software** is a monitoring and encryption program that detects all accessible dLAN and WiFi devices in your home network and combines them into one secure network. All accessible devices in your home network appear after starting the devolo Cockpit software. This may take a moment.
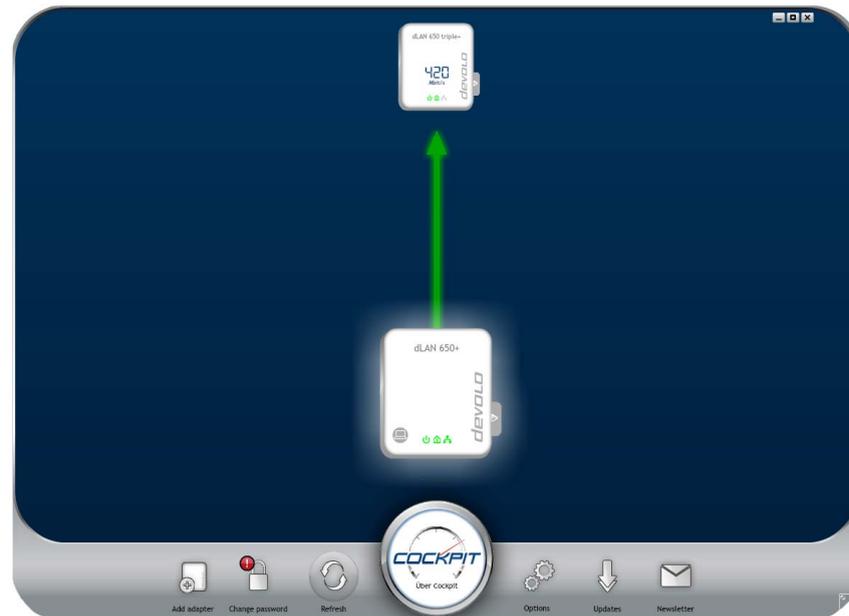
Fig. 7: The devolo Cockpit in action

All devices found in the network appear as adapter icons with the corresponding product name. The adapter in the middle of the network identified with the symbol shown here symbolises your locally connected device. If you have multiple devices connected locally, you can jump back and forth between them. Clicking an adapter icon with the mouse enables the corresponding dLAN device and highlights it.

The coloured connecting lines of the adapters illustrate the current transmission quality:

● **Green**: the network connection is suitable for HD video streaming.
● **Orange**: the network connection is suitable for SD video streaming and online gaming.
● **Red**: the network connection is suitable for simple data transfer and Internet access.

If data transmission from one device to another is actually taking place, the data rate is displayed on the respectively highlighted adapter.

Settings and functions

You can configure settings for the devolo GigaGate **Base** and devolo GigaGate **Satellite** or for the network

● using the tabs arranged on the side for each adapter.

To do so, click the upper icon on the tabs arranged on the side.

Configuration options on the tabs arranged on the side:

You can reach the respective configuration interface of your devolo GigaGate **Base** and devolo GigaGate **Satellite** through the **device configuration page**.

4.3 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.

The three (**Base**) or four central areas (**Satellite**) of the configuration interface are displayed on the bottom edge of the screen. Click the button of an area to move directly into it.
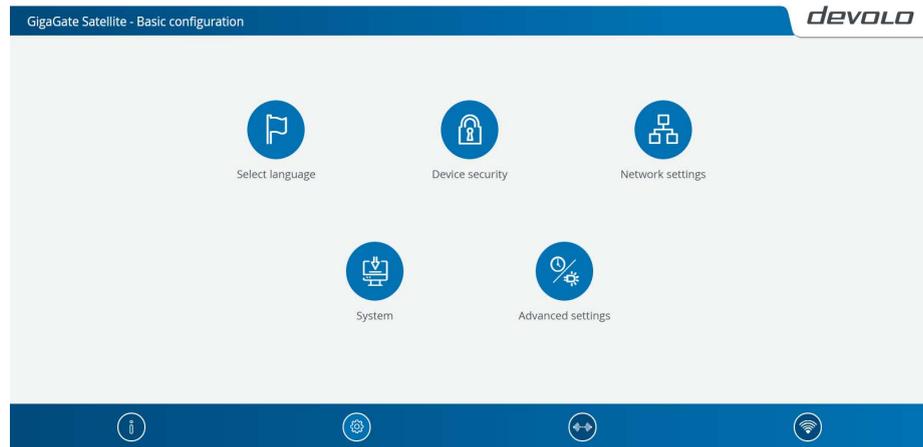

Fig. 8: devolo GigaGate Satellite interface

Base/Satellite: You can find all information about this devolo GigaGate in the **Status overview** area as well as information about the devices connected to the **Satellite**. In addition to setting up an access key to protect the device against unauthorised access, the devolo GigaGate firmware can also be updated here.

Base/Satellite: Configuration options for language selection, device security and for the connected network devices are located in the **Basic configuration** area.

Base/Satellite: You can change the name of the bridge, hide the SSID as well as configure various WiFi settings in the **Bridge service** area.

Satellite: You can connect devices automatically using the WPS pin or manually using the WiFi network in the **Mobile devices** area. In addition, the network name, encryption or WiFi mode can be changed here.

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.

4.3.1 Status overview

In the **Status overview** area, change the settings for the network as well as for individual devolo GigaGate devices.

Satellite:

● Bridge status and frequency band in use
● WiFi status and frequency band in use
● Ethernet status

Base:

● Bridge status and frequency band in use
● Ethernet status
● Firmware version
● Access password
● Network settings

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

Configuring the bridge status

● Bridge status ⬦ Configure Bridge
  ○ WiFi bridge on/off

Using the **on/off** switch, the devolo GigaGate **Base** can be switched on and off manually. After clicking **OK**, the device is deactivated and is no longer accessible over WiFi.

⚠️ *In order to form a new connection to the WiFi bridge, connect your laptop to the devolo GigaGate Base using a network cable. Switch the WiFi bridge back on in the configuration interface.*

Defining the bridge network name

❍ Bridge network name

The **network name (SSID)** defines the name of your wireless network between the devolo GigaGate **Base** and devolo GigaGate **Satellite**.

Assigning the WiFi key

❍ Key

The devolo GigaGate **Satellite** creates an encrypted WiFi connection to the devolo GigaGate **Base** using the WiFi key entered here.

You can either use the pre-set password or create your own password to secure your WiFi network.

Selecting the WiFi standard

❍ Mode

Here, you can select the supported WiFi standards for the devolo GigaGate **Base**:

802.11a+n+ac: Default setting with high level of compatibility. With this selection, the devolo GigaGate **Base** supports the listed WiFi standards 802.11a, 802.11n and 802.11ac.

802.11a+n: With this setting, the devolo GigaGate **Base** only supports the two WiFi standards 802.11a and 802.11n.

802.11a: This setting exclusively supports the WiFi standard 802.11a.

Setting the channel bandwidth

❍ Channel bandwidth

Here, you can set the channel bandwidth of the individual WiFi standards. The available options are:

20 MHz: Suitable for the WiFi standards 802.11a, 802.11b and 802.11g. Up to four non-overlapping WiFi channels are available here.

40 MHz: Suitable for the Wi-Fi standard 802.11n. Up to two non-overlapping WiFi channels are available here.

80 MHz: Default setting. Suitable for the WiFi standard 802.11ac. Up to five non-overlapping channels are available here.

Reading MAC address of the devolo GigaGate Base

● 5 GHz ⟳ Bridge monitor

   ○ Connected Bridge devices

Here, the connected devolo GigaGate **Base** is shown with the MAC address and the date of the last login.

▌ *The MAC address provides a unique identifier for the hardware interface of every individual network device (e.g. the WiFi adapter of a computer or Ethernet port of a printer). It consists of six two-digit hexadecimal numbers, each separated by a colon (e.g. 00:0B:3B:37:9D:C4).*

Deactivating the WiFi function of the devolo GigaGate Satellite

● WiFi status ⟳ Access point

   ○ Wi-Fi on/off

Using the **on/off** switch, the WiFi function of the devolo GigaGate **Satellite** can be switched on and off manually. After clicking **OK**, the WiFi function of the device is deactivated.

⚠ ***The WiFi function of the devolo GigaGate is enabled by default.***

Changing the network name (SSID)

   ○ Bridge network name

The **Bridge network name** determines the name of your wireless network. You can see this name when logging onto the WiFi, allowing you to identify the correct WiFi network.

Here, you can customise the WiFi network name (SSID) manually. This network name is important for connecting to other WiFi-compatible devices later on.

Hiding the network name (SSID)

   ○ Hide SSID yes/no

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

▌ *Some WiFi adapters have difficulty connecting to such hidden wireless networks. If the connection with a hidden name poses problems, first try setting up the connection with a visible network name and then hiding the network name afterwards.*

Selecting the WiFi encryption

⭘ Encryption

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

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.

WPA2 (Wi-Fi Protected Access 2): Default setting. The encryption standard is based on secure AES encryption (Advanced Encryption Standard). A 128-bit key is used for securing the WiFi connection between devolo GigaGate **Satellite** and the WiFi-compatible device.

WPA/WPA2 (Wi-Fi Protected Access): With this setting, the devolo GigaGate **Satellite** supports both displayed encryption standards. Using this is recommended if both newer and older devices without WPA2 support are connected to the WiFi network.

None: Encryption not set. Without encryption, data is transmitted from the client computers to the devolo GigaGate **Satellite** in your wireless network unprotected and there is also no password required to connect.

⚠ *You should always encrypt the connections in your WiFi network. Otherwise anyone within range could penetrate into your network.*

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

⚠ *WPA2 is the WiFi encryption set by default for devolo GigaGate. The default WiFi key is the WiFi key for the devolo GigaGate Satellite.   You will find the key on the label on the underside of the housing.*

Creating a WiFi key

⭘ Key

Using the WiFi key given here, the devolo GigaGate **Satellite** creates an encrypted WiFi connection to WiFi-compatible devices.

You can either use the pre-set password or create your own password to secure your WiFi network.

To do so, enter a corresponding number of characters into the **Key** field.

Selecting the WiFi standard

⭘ Mode

Here, you can select the supported WiFi standards:

802.11b+g+n: Default setting with highest level of compatibility. With this selection, the devolo GigaGate **Satellite** supports the listed WiFi standards 802.11b, 802.11g and 802.11n.

802.11b+g: With this setting, the devolo GigaGate **Satellite** only supports the two WiFi standards 802.11b and 802.11g.

Setting the channel bandwith

○ Channel bandwidth

Here, you can set the channel bandwidth of the individual WiFi standards. The available options are:

Auto: The devolo GigaGate **Satellite** searches for the most suitable channel bandwidth automatically, depending on the connected WiFi devices, and establishes the connection.

20 MHz: Suitable for the WiFi standards 802.11a, 802.11b and 802.11g. Up to four non-overlapping WiFi channels are available here.

40 MHz: Suitable for the Wi-Fi standard 802.11n. Up to two non-overlapping WiFi channels are available here.

Selecting the channel

○ Channel

For operation as an access point, a (transmission) channel must be specified. There are 13 channels available. We recommend retaining the default setting **Auto**, since the devolo GigaGate **Satellite** regularly selects the channel itself with this setting. If no stations are connected, the device automatically selects a channel every 2 hours.

Auto: The devolo GigaGate **Satellite** establishes the most suitable channel automatically, depending on the connected WiFi devices and the WiFi mode used.

1-13: The WiFi channel can also be set manually. Channel selection ranges from 1 to 13.

Monitoring devices connected via the network

○ Ethernet status

All devices connected by network cable are clearly arranged and sorted by Ethernet port.

High-speed port (1000 Mbps): Suitable for devices with a gigabit connection that require a constantly high transfer rate, e.g. network attached storage (NAS) devices.

Media ports (100 Mbps): Suitable for all devices that have a Fast Ethernet port. The transfer rate is ideal for streaming videos and browsing the web.

Update firmware

● Firmware version ⟳ Firmware update

Shows the firmware currently installed on the devolo GigaGate **Satellite**.

❍ Automatic firmware update on/off

The firmware of the devolo GigaGate 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 devolo GigaGate to perform firmware updates automatically, enable the **Automatic firmware update** option and start the update procedure with **Search for newer firmware and update now**.

or

❍ Updating firmware

To update the firmware to the latest version manually, start by going to the devolo website, www.devolo.com, and downloading the appropriate file for the devolo GigaGate to your computer. Select this under **File name** and click **Update firmware**.

After a successful update, the devolo GigaGate restarts automatically.

■ The ⌂ icon on the front side of the device flashes red during the update procedure. After a successful update, the devolo GigaGate restarts automatically.

■ *Using the* **Updates** *button in* **devolo Cockpit,** *you can also update firmware automatically through our website* www.devolo.com*. This procedure requires an active Internet connection. For more information about* **devolo Cockpit***, visit* www.devolo.com/cockpit.

Saving the device configuration

❍ Save device configuration

All active configuration settings can be transferred to your computer for backup purposes, stored there as a file and reloaded to the devolo GigaGate **Satellite**. 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.

Restoring the device configuration

❍ Restore device configuration

The previously saved configuration of the devolo GigaGate **Satellite** can be restored here.

Restoring the device configuration

○ Resetting the device configuration

Using this setting, the devolo GigaGate **Satellite** can be reset to the factory defaults.

⚠ *Your personal WiFi settings are lost in the process. The last-assigned passwords for the devolo GigaGate are also reset.*

Encrypting access to the configuration interface

● Access password ⮑ Set access password

Access to the configuration interface can be protected with a password by using **Set access password**.

By default, the configuration interface of the devolo GigaGate is **not** protected by a **password**. You should, however, enable protection after installing the devolo GigaGate by assigning a **personalised password** in order to prevent third-party access to the configuration interface.

⚠ *You should always encrypt access to your devolo GigaGate device to protect your configuration from external access.*

⚠ *The* admin *user name is set by default and cannot be changed.*

Configuring network settings

● Network settings ⮑ Configure network

All relevant information for the network is displayed in the network settings, such as the IP address, subnet mask and name server.

○ DHCP client

As a component of your network, the devolo GigaGate also communicates via the TCP/IP protocol. The IP address required for this can either be entered manually or obtained **automatically** (default setting) from a **DHCP server**.

⚠ Manual configuration requires that you enter the IP address, subnet mask, default gateway and the name server.

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

4.3.2 Basic settings

In the **Basic settings** area, you will find some familiar settings from the **Status overview** as well as additional settings for **Language selection** and **Advanced settings** for individually adjusting your devolo GigaGate device.

Satellite:

- Select language
- Device security
- Network settings
- System
- Advanced settings

Base:

- Select language
- Device security
- Network settings
- System
- Advanced settings

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

Selecting the menu language

- Select language

Select your desired menu language here.   The available options are:

- ○ German
- ○ English
- ○ French
- ○ Italian
- ○ Dutch
- ○ Portuguese
- ○ Spanish

Save your entry with **OK**.

Setting the date and time

- Advanced settings ⇨ Date and time
  - ○ Retrieve date and time automatically on/off

Using the **on/off** switch, the devolo GigaGate **Base** and the devolo GigaGate **Satellite** can be assigned a date and time from a time server automatically. Alternatively, the time zone and time server can also be selected manually.

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 devolo GigaGate can automatically synchronise the date and time.

⚠️ *The time server pool.ntp.org is enabled by default.*

○ Adjust to daylight saving time automatically on/off

Here, you can specify that the time of the devolo GigaGate devices shifts to daylight saving time automatically.

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

Deactivating the LEDs on the device

○ LED settings ⏻ Device LEDs on/off

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.

Save your entry with **OK**.

⚠️ *You are still notified of error states on devolo GigaGate devices despite switching off the LED.*

Deactivating the buttons on the device

○ Button ⏻ Device buttons on/off

Here, you can deactivate buttons on the front side of devolo GigaGate devices (home button, WiFi button).

Save your entry with **OK**.

Assigning individual device names

○ Device name

Here, you can assign the devolo GigaGate devices an additional name. This is shown in the upper part of the configuration interface:

GigaGate **Satellite** (your assigned name)
GigaGate **Base** (your assigned name)

Viewing license information

○ License information

You can find the license information about the devolo GigaGate here.

4.3.3 Bridge operation

In the **Bridge operation** area, you will find settings for naming the network of the devolo GigaGate devices, for encryption, for WiFi mode and the option to connect other devolo GigaGate **Satellite** devices with the devolo GigaGate **Base**.

● Bridge configuration

You can find more information on devolo GigaGate configuration in Chapter **4.3.1 Status overview**.

● Bridge expansion

You can expand your existing devolo GigaGate network with additional devolo GigaGate **Satellite** devices.

Pairing additional devolo GigaGate Satellite devices with the devolo GigaGate bridge

○ Bridge pairing via push button (home button) ⟳ Start pairing

Click/touch **Start pairing** to automatically establish a connection.

○ Bridge pairing using security ID

Enter the security ID (Sec ID) for the devolo GigaGate **Base** in the configuration interface of the devolo GigaGate **Satellite**. This is found on the underside of the device.

Take note of the security ID for all devolo GigaGate devices before the networking procedure. This unique ID is found on the label on the underside of the housing. It consists of 16 letters. Make sure that all devolo GigaGate devices are connected to the mains supply and, if applicable, to the computer or the corresponding network components.

4.3.4 Mobile devices

In the **Mobile devices** area, you will find settings for integrating WiFi-compatible terminal devices into the WiFi network of the devolo GigaGate **Satellite**. Installation of new WiFi devices can either happen automatically or using the entry of the WPS pin. In addition, the network name, encryption or WiFi mode of the devolo GigaGate **Satellite** can be changed here.

The devolo GigaGate offers two different variants for transmitting these security keys:

WPS via PBC (push button) (WiFi button):

① Start the encryption process on the devolo GigaGate

- ○ either by pressing the **WiFi button** on the **front panel of the** devolo GigaGate **Satellite** or
- ○ by going into the interface under devolo GigaGate **Satellite** ▷ **Mobile devices** ▷ **Terminal devices, automatic (WPS)** ▷ **WPS via PCB (Push Button)** and pressing the **Start setup** button.

② Then either press the WPS key of the WiFi device you are adding or enable the WPS mechanism in the WiFi settings of the WiFi device. Now the devices exchange their security keys and establish a secure WiFi connection. The WiFi LED on the front panel indicates the synchronisation process by flashing.

WPS via PIN:

① To interconnect WiFi devices in your wireless network securely by means of PIN variants, enter an individualised key in the configuration interface under devolo GigaGate **Satellite** ▷ **Mobile devices** ▷ **Terminal devices, automatic (WPS)** ▷ **WPS via PIN** and start the encryption process by pressing the **Start setup** button.

② Open the configuration interface of the WiFi station to be added and transmit the PIN selected on the devolo GigaGate **Satellite**. Confirm the encryption process as described there. Now the devices exchange their security keys and establish a secure WiFi connection. The WiFi LED on the front panel indicates the synchronisation process by flashing.

Deactivating WPS encryption

● Terminal devices, automatic (WPS)
  ○ Wi-Fi Protected Setup (WPS) on/off

You can enable or disable the WPS encryption of your devolo GigaGate.

5 Annex

5.1 Frequency range and transmitting power

Technical specifications in the 5 GHz frequency range

Frequency range	5 GHz
IEEE standard	802.11 a/h 802.11 n 802.11 ac
Indoor frequency range	5150 − 5350 MHz
Indoor & outdoor frequency range	5150 − 5725 MHz (802.11 a/h, n) 5150 − 5350 MHz / 5470 − 5725 MHz (802.11 ac)
Channel bandwidth	20 MHz (802.11 a/h) 20, 40 MHz (802.11 n) 20 MHz, 40 MHz, 80 MHz, 160 MHz (802.11 ac)
Max. indoor transmission power (EIRP)	200 mW (channel 36 − 64) / 23 dBm
Max. transmitting power	1,000 mW (channel 100 − 140) / 30 dBm

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

5.2 Channels and carrier frequencies

Channels and frequencies in the 5-GHz band

Channel	Carrier frequency
36	5180 MHz
40	5200 MHz
44	5220 MHz
48	5240 MHz
52	5260 MHz
56	5280 MHz
60	5300 MHz
64	5320 MHz
100	5500 MHz
104	5520 MHz
108	5540 MHz
112	5560 MHz
116	5580 MHz
120	5600 MHz
124	5620 MHz
128	5600 MHz
132	5660 MHz
136	5680 MHz
140	5700 MHz

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

5.3 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.

5.4 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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