dLAN®

TV SAT Multituner Kit

devolo

The Network Innovation

devolo dLAN® TV SAT

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1 Preface

1.1 Thank you for placing your trust in this devolo product

The dLAN TV SAT Multituner Kit lets you keep up with the hot trend of mobile television and makes complex satellite system cabling a thing of the past! The devolo device not only uses a household's electrical wiring to transmit TV signals, thereby changing any power outlet into an antenna socket, it enables unencrypted satellite TV reception on your tablet and/or smartphone together with the devolo dLAN TV SAT App. Your Wi-Fi Internet access device just has to be connected to the dLAN network with the included dLAN adapter.

You can add a devolo dLAN TV SAT to IP Receiver or any other SAT>IP certified receiver at any time with an additional dLAN adapter.

For more information on the topic of **SAT>IP** *and possible* **scenarios**, *see* **7.1 Troubleshooting**. *Additionally, the website* www.devolo.com *contains a lot of SAT information for you.*

1.1.1 About this manual

After a brief introduction to the basics of dLAN and SAT>IP as well as a short summary of the dLAN TV SAT Multituner Kit's functions in **Chapter 2**, **Chapter 3** shows you how to successfully start using your device.
Chapter 4 provides a detailed description of the configuration options for the integrated configuration interface of the dLAN TV SAT Multituner. In **Chapter 5** you learn how to watch satellite TV on your tablet or smartphone using the devolo dLAN TV SAT App.
For more information on configuring your dLAN network, see **Chapter 6**.
Tips for bandwidth optimisation, information about product safety, the environmental compatibility of the device and our warranty terms can be found in **Chapter 7** and conclude the manual.

The **CE** declaration for this product and the technical data are on the included product **CD**.

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.

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

devolo on the Internet

For detailed information on our products or "dLAN", visit www.devolo.com. The **Service Centre** area contains downloadable product descriptions and documentation, as well as updates to devolo software and device firmware.

To avoid damage to this or other devices, use the enclosed components only for their **intended purpose**:

The dLAN TV SAT Multituner is intended for the reception of DVB-S/S2 satellite signals and their transfer to the connected SAT>IP receiver or to an Internet-based terminal device (e. g. smartphone or tablet).

The dLAN adapter is intended for connecting the network device (e.g. Wi-Fi Internet access device) to the dLAN network.

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.

With dLAN adapters, not only network signals can easily be transferred via the mains supply. Video signals in HD standard and audio signals in digital CD quality can be quickly and easily distributed everywhere in the house this way.

2.2 What does SAT>IP stand for?

SAT>IP is a new communication protocol for receiving and distributing satellite signals. It converts the television signals (DVB-S/S2) into signals that Internet-based terminal devices can read, so that satellite television is possible even on IP devices having no integrated satellite receiver (such as smartphones and tablets). The satellite signals can be forwarded within the home network either wirelessly or by cable.

2.3 The dLAN TV SAT Multituner Kit

- The twin tuner equipped with two satellite connections, for example, lets you record and play back different TV stations simultaneously on one receiver or to operate two receivers in one home simultaneously.
- Compatible with all common SAT>IP-certified set-top boxes.
- Comprehensive support for devolo's dLAN TV SAT to IP Receiver
- Simple configuration of the twin tuner via dLAN Cockpit or web browser
- With the devolo dLAN TV SAT App, smartphones and tablets become receiver devices for unencrypted satellite TV

- Integrated dLAN adapter—dLAN technology distributes the satellite signal very easily via household power lines.
- Particularly easy installation—no drilling, no mess!
- Can be expanded to up to two tuners per household. Enables the operation of up to 4 different terminal devices.

2.4 Sample applications

dLAN TV SAT Multituner Kit

The dLAN TV SAT Multituner Kit is the optimal solution for making satellite TV "mobile". Just download the **dLAN TV SAT App** from devolo on the Internet and receive unencrypted satellite TV on your **smartphone** or **tablet** over Wi-Fi. This requires an **existing Wi-Fi connection**, which (as shown in Figure 1 and 2) is connected via a **dLAN adapter** to the dLAN network and thus to the dLAN TV SAT App. The twin tuner receives two different satellite TV programmes at the same time, making it ideal for households with two or more TV receiver devices, regardless of whether they are smartphones, tablets or SAT>IP receivers.

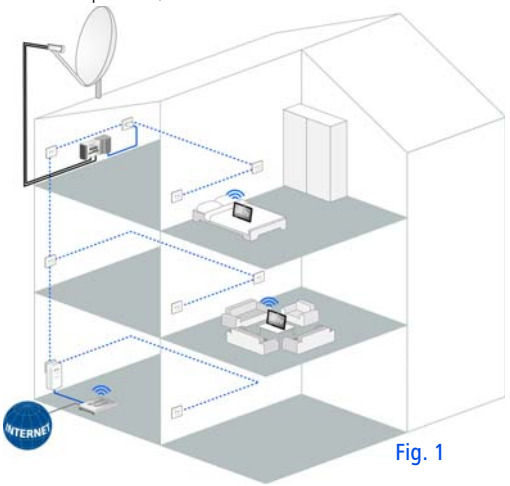


Fig. 1

As shown in Figure 2, you can add both the **dLAN TV SAT to IP Receiver** from devolo and any **other SAT>IP receiver** using an **additional dLAN adapter**.

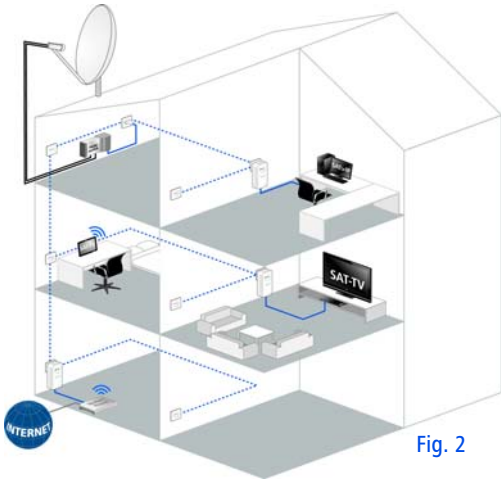


Fig. 2

For more information on the topic of **SAT>IP** *and possible* **scenarios**, *see* **7.1 Trouble-shooting**. *Additionally, the website* www.devolo.com *contains a lot of SAT information for you.*

3 Initial use

This chapter covers everything you need to know about the package and setting up your dLAN TV SAT Multituner Kit.

Fig. 3

3.1 Package contents

Please ensure that the delivery is complete before beginning with the installation of your dLAN TV SAT Multituner Kit.

- devolo dLAN TV SAT Multituner
  - One Euro 8 network cable
  - Two antenna cables (coaxial)
- devolo dLAN adapter
  - One network cable
- Hard copy of installation guide
- CD containing software and online documentation

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

3.2 System requirements

- **devolo dLAN TV SAT App**
  - **Compatible** with these **Apple** devices: iPhone 3GS, iPhone 4, iPhone 4S, iPhone 5, iPod touch (3rd Generation), iPod touch (4th Generation), iPod touch (5th Generation), iPad and requires iOS Version 5.1 or newer
  - **Compatible** with all **Android** devices having a dual core processor, NEON support (e.g. Tegra3) and Android 4.0.3 ("Ice Cream Sandwich") or newer
  - **Compatible** with **Windows 8** (available as of Q3/2013)
- **devolo dLAN adapter**
  - **Operating systems**: Windows XP (32-bit), Windows Vista Home Premium (32-bit/64-bit), Windows 7 Home Premium (32-bit), Windows 8 (32-bit/64-bit), Linux (Ubuntu), Mac (OS X) and all operating systems with network support
  - **Network connection**

Please note that the respective network device must have a network card or network adapter with a network interface.

To set up a dLAN network, you need two dLAN (AV) devices (200 Mbps or 500 Mbps).

3.3 The dLAN TV SAT Multituner

3.3.1 Indicators and connections

On the back of the housing next to the two antenna connections you will find the dLAN LEDs, the encryption button and a network jack.

Fig. 4

Antenna connections

This is where you connect the satellite system to the dLAN TV SAT Multituner using the coaxial cable. Once you have made the two connections, you can, for example, simultaneously watch television and record another programme; one satellite connection is used for the television and the other for the recording.

The power jack is located on the side of the housing.

Control lamps

The control lamps (LEDs) show the status for each of the dLAN connections by illuminating and/or flashing in different ways.

- **Power**: Lit a steady green if the dLAN TV SAT Multituner is ready to operate; flashes green if the dLAN TV SAT Multituner is in standby mode. A few seconds after the device is switched on, it goes into PowerSave mode by default.

- **PLC**
  - Is lit a steady green if the network connection is suitable for HD video streaming and online gaming; flashes when data is being transmitted.
  - Is lit a steady orange if the network connection is suitable for SD video streaming and online gaming; flashes when data is being transmitted.
  - Is lit a steady red if the network connection is suitable for simple data transfer and Internet access; flashes when data is being transmitted.
- **Ethernet Link/Act**: Is lit a steady green when a connection to the Ethernet network exists; flashes when data is being transmitted.

Encryption button

Data encryption at the touch of a button; for a functional description of the encryption button, please continue reading in chapter **6 dLAN network**.

Network connection

This is where you connect the dLAN TV SAT Multituner, for example, to your structured wiring via a commercially available network cable.

3.3.2 Setup instructions

Positioning on level surface

If you place the dLAN TV SAT Multituner on a **level surface**, select a **stable base**.

Wall mounting

Make sure that no gas, water or power lines in the wall get damaged. There is a danger of electric shock!

Use **suitable fasteners** for the respective base to ensure a **reliable** and **secure** wall mounting.

3.3.3 Connecting the dLAN TV SAT Multituner

① Use one or two coaxial cables with an F-connector to connect the satellite system to the antenna input of the dLAN TV SAT Multituner.

② Plug the Euro 8 cable into the power jack of the dLAN TV SAT Multituner and the power plug into an available power outlet. Thanks to the integrated dLAN adapter, the dLAN TV SAT Multituner is connected directly to the dLAN network (see also **3.4.2 Connecting the dLAN adapter**). To secure your dLAN network, continue with your network configuration.

For more information, refer to the chapter **7 dLAN network**.

3.4 The dLAN adapter

3.4.1 Indicators and connections

The dLAN adapter has a monitoring light (LED), two network jacks and an encryption button.

Monitoring light

The monitoring light (LED) shows all of the statuses for the dLAN adapter by illuminating and/or flashing in different ways:

- The LED **flashes at uniform intervals** (of 2 s) if the dLAN adapter is connected to the **mains supply** but there is **no dLAN connection**.
- The LED **lights up** if the dLAN adapter **is ready to operate** and there is a **dLAN connection**.
- The LED **flashes quickly** if the encryption process (**pairing**) is being performed in the dLAN network.
- The LED **flashes at irregular intervals** (0.5 s/ 2 s) if the dLAN adapter is in **PowerSave mode**.

Network jacks

This is where you connect the dLAN adapter to a computer and/or other network device using commercially available network cables.

Encryption button

Data encryption at the press of a button; for information on how the encryption button functions, refer to Chapter **6 dLAN network** or the respective manual on our Internet site: www.devolo.com.

Integrated electrical socket

Plug the mains adapter of your Wi-Fi Internet access device into the socket of the dLAN adapter. The integrated mains filter eliminates any noise of connected devices and significantly improves data transmission in the home network.

Please note that all dLAN devices to be connected to your network are also connected to your household electrical wiring. A dLAN device switches into standby mode after a short time if no network device (such as a computer) connected to the network interface is switched on. In Standby mode, the dLAN device cannot be accessed via the power supply grid. As soon as the network device (e.g. computer) connected to the network interface is switched on again, your dLAN device can also be reached again via the electrical wiring.

3.4.2 Connecting the dLAN adapter

This section describes how to connect your dLAN adapter to Wi-Fi Internet access device.

① Use the included network cable to connect the dLAN adapter to the network port of your Wi-Fi Internet access device.

② Plug the dLAN adapter into a free electrical outlet.

Additional network devices that are connected via a multiple socket are connected to the mains power supply by plugging the multiple socket into the integrated electrical socket of the dLAN adapter.

③ Once you have connected at least two dLAN devices (see also **3.3.3 Connecting the dLAN TV SAT Multituner**), your dLAN network has been set up. To secure your dLAN network, continue with the configuration as described in chapter **6 dLAN network**.

3.5 Installing devolo software

3.5.1 Software for Windows

devolo **dLAN Cockpit** finds all reachable dLAN adapters in your dLAN network, displays information about these devices and encrypts your dLAN network individually.

To install the software, insert the included CD-ROM in the CD drive of your computer. This has to be connected to the dLAN network by an **additional dLAN adapter**.

If AutoPlay is active on your computer, the installation will start automatically. Otherwise, open the directory with the Windows Explorer by right-clicking on **Start** *(or the* **Windows logo***) and selecting* **Explorer** *from the context menu. Then start the installation wizard manually.*

During the installation process, you will be given the choice of installing all software components (**Standard installation**) or selecting individual ones (**Custom installation**).

To take full advantage of the functions of your device, we recommend installing all of the applications.

You will be asked for permission to transfer anonymous performance data related to your dLAN adapter to devolo. The data sent to devolo pertains only to the performance values of your dLAN devices. The data is anonymised and will be used exclusively for statistical purposes. By providing it, you can help us improve our products. You can find the installed software applications in the **Start** ▷ **All Programs** ▷ **devolo** program group.

3.5.2 Software for Mac (OS X)

The **software** ▷ **mac** folder contains the dLAN configuration software.

3.5.3 Software for Linux (Ubuntu)

The **Software** ▷ **Linux** folder contains the dLAN configuration software.

4 Tuner configuration

The dLAN TV SAT Multituner 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 TV SAT Multituner by using **dLAN Cockpit** software under **Start** ▷ **All Programs** ▷ **devolo** ▷ **dLAN Cockpit**, you can get to the device's configuration interface by clicking on the tab for the dLAN TV SAT Multituner.

Then the program determines the current IP address and starts the configuration in the web browser. You will come directly to the configuration interface.

4.2 Menu description

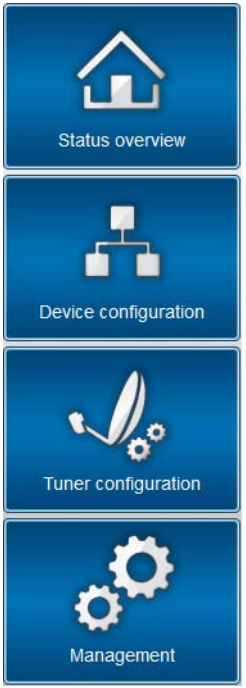
All menu functions are described in the corresponding interface as well as in the associated chapter in the manual. The sequence of the description in the manual follows the structure of the menu.

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

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

Select the desired language in the language selection list.

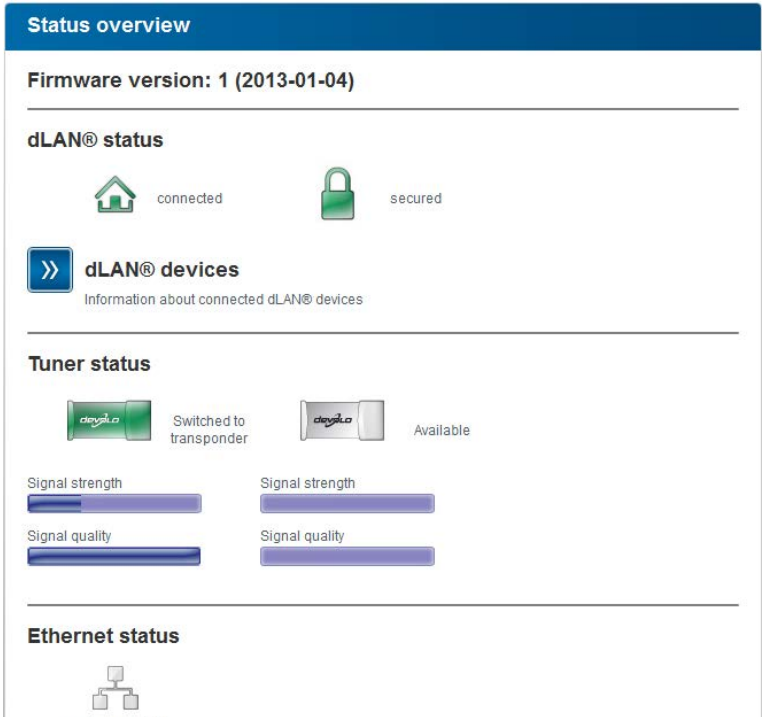
The four central areas of the configuration interface are displayed on the left edge. Click the button of an area to move directly into it.



- In the **Status overview** area, you get general information about the dLAN TV SAT Multituner and all connected dLAN and LAN devices.
- You can change or modify the various device settings for network and dLAN under **Device configuration**.
- You can set the recording priority in the **Tuner configuration** area.
- The **Management** section is for resetting, securing and restoring your individual configurations. In addition, you can update the firmware of your dLAN TV SAT Multituner here.

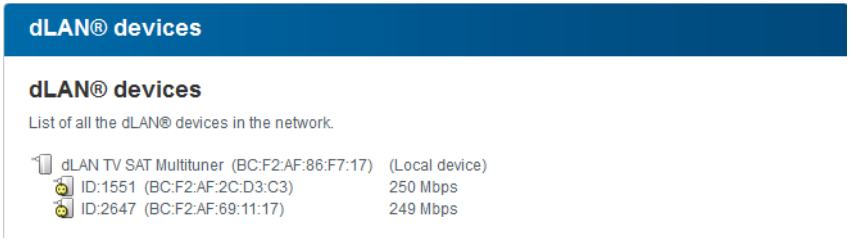
4.3 Status overview

In the **Status overview** area you can track the status of the tuner and your connected dLAN and LAN devices.

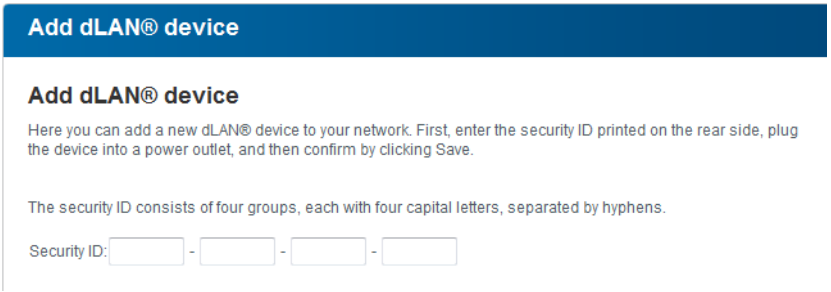


4.3.1 dLAN status

To display all connected dLAN devices, click either the **house** icon or the **dLAN devices** arrow. 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. Clicking or tapping the **lock** icon brings you directly to the **dLAN settings** (see **4.4.2 dLAN settings**).



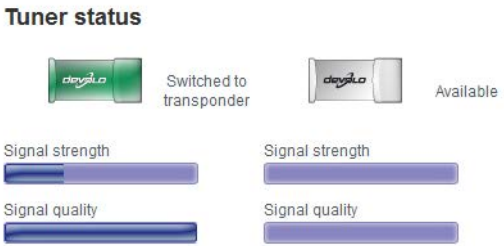
You can add additional dLAN devices to your dLAN network by tapping or clicking on **Add device**. To do this, enter the security ID for the respective dLAN adapter in the **Security ID** field and confirm with **Save**.



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 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 power grid and computers or other network components as appropriate.

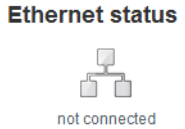
4.3.2 Tuner status

Under **Tuner status** you can see which tuner is switched to a transponder. In addition, you can check the signal strength and signal quality.



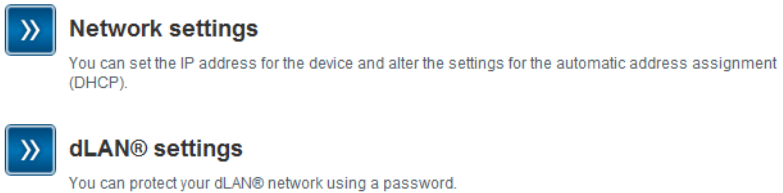
4.3.3 Ethernet status

The status and connection speed for the network jack is shown in this area.



4.4 Device configuration

In the configuration area of the device you can modify settings for network and dLAN.



4.4.1 Network settings

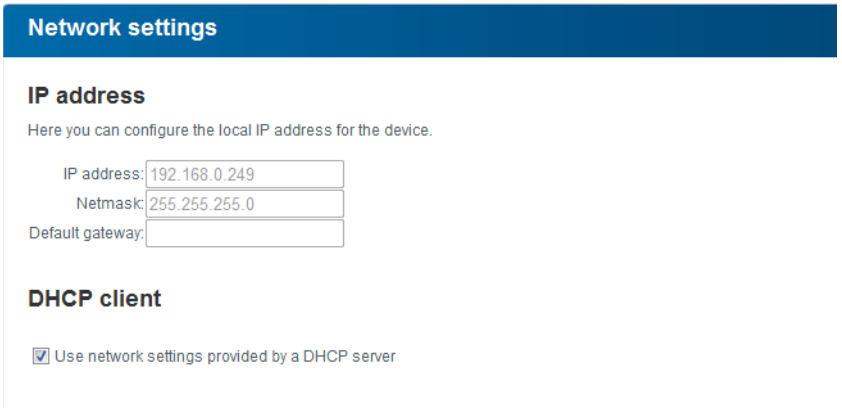
The dLAN TV SAT Multituner also communicates via the TCP/IP protocol as a component of your home network. The IP address required for this can either be entered manually or obtained **automatically** from a **DHCP server**.

The option **Use this to accept network settings automatically from a DHCP server** is enabled in the factory defaults.

If a DHCP server is already present in the network for giving out IP addresses, have the option **Use this to accept network settings automatically from a DHCP server** enabled so that the dLAN TV SAT Multituner automatically receives an address from it.

You can also assign a static IP address by making entries under **IP address** (e.g. '192.168.0.249') and **Netmask** (e.g. 255.255.255.0).

If you happen to forget the IP address of your dLAN TV SAT Multituner, *proceed as described under* **4.1 Calling up the built-in configuration interface**.

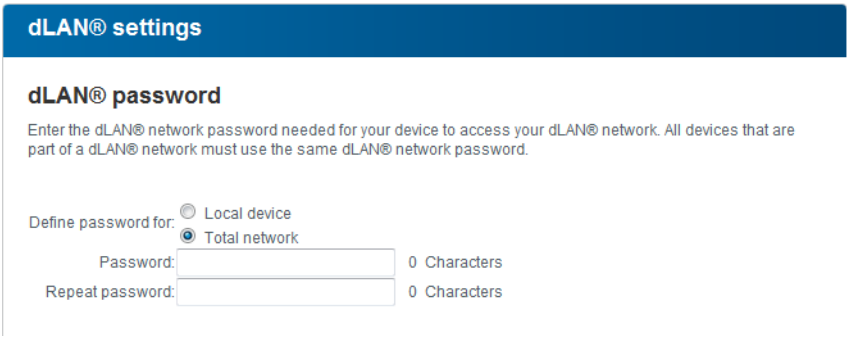


4.4.2 dLAN settings

In a dLAN network, all connected components must use the same password. The dLAN password can be defined in **dLAN Cockpit**, via the **dLAN encryption button** (see Chapter **4 dLAN network**) or at this spot in the configuration interface. You can choose to configure the password **locally** or for the **entire** ("Total") network.

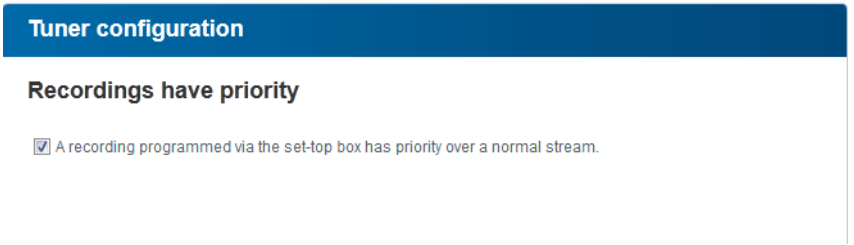
If you only change the password for a **Local device**, you exclude it from your **Total** dLAN **network**.

***The dLAN default password is* HomePlugAV.**



4.5 Tuner configuration

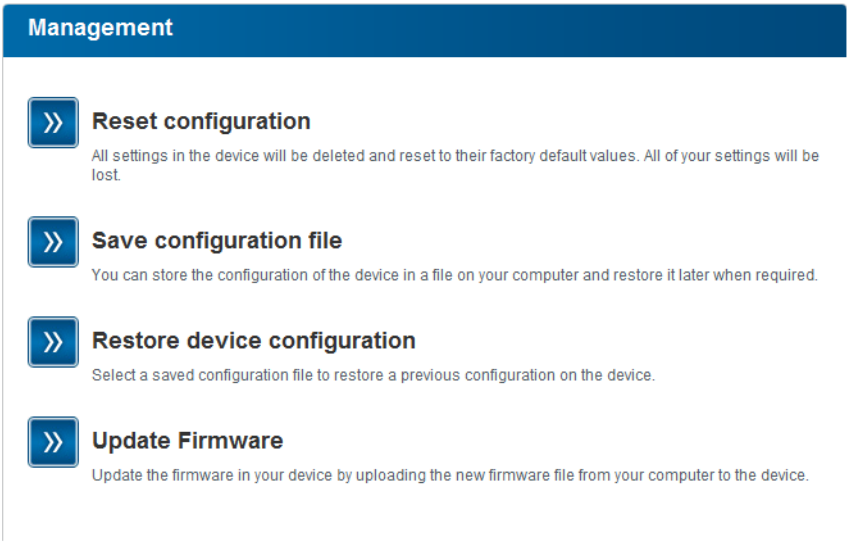
If you have occupied both satellite connections on the dLAN TV SAT Multituner and a recording initiated on the dLAN TV Sat to IP Receiver is to have priority over a live stream (data transmission via Internet), enable the option **A recording programmed via the set-top box has priority over a normal stream**.



If you have enabled the above option, your recording will definitely be made, even if two live streams are running simultaneously, for example, on a tablet and on the receiver. In this case, a live stream is automatically cancelled. There will be no message concerning this.

4.6 Management

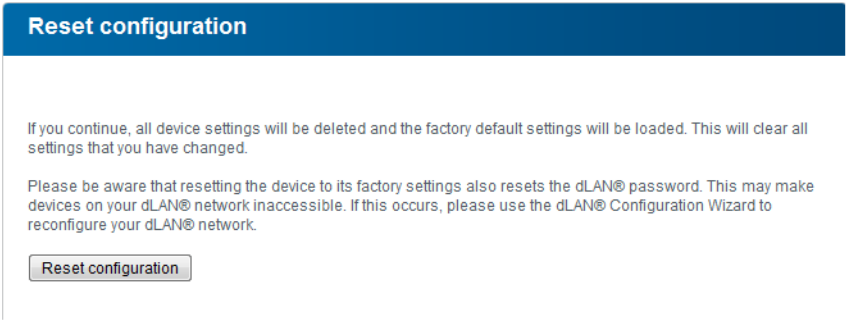
In the **Management** area you can reset the current configuration to the factory defaults, save it to your computer as a file or restore it from there and update the firmware of the dLAN TV SAT Multituner.



4.6.1 Resetting the configuration

With the **Management** ⇨ **Reset configuration** command, the dLAN TV SAT Multituner is reset to the original factory defaults. In doing so, you lose your personal settings.

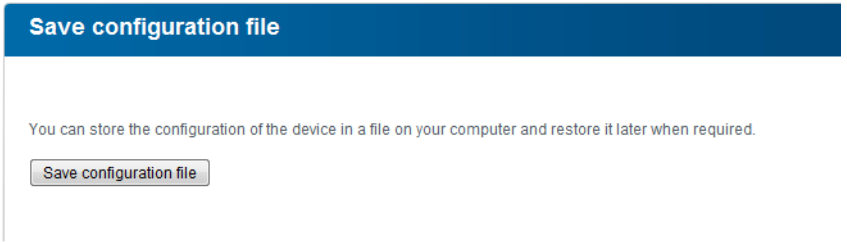
The last-assigned dLAN password for the dLAN TV SAT Multituner is also reset. To re-secure your dLAN network individually, read further at **4.3.3 Ethernet status**.



For backup purposes, all active configuration settings can be transmitted to your computer, stored there as a file and reloaded into the dLAN TV SAT Multituner. In this way, you can for example generate configurations for different network environments, with which you can set up the device quickly and easily.

4.6.2 Saving a configuration file

To save the active configuration to your computer as a file, select the corresponding button in the area **Management** ⇨ **Save configuration file**. Then enter a storage location and name for the settings file.



4.6.3 Restoring a configuration

An existing configuration file can be sent to the dLAN TV SAT Multituner in the area **Management** ◊ **Restore device configuration** and enabled there. Select a suitable file via the **Browse…** button and start the operation by clicking the **Restore device configuration** button.

4.6.4 Update firmware

The firmware of the dLAN TV SAT Multituner includes the software for operating the device. If necessary, devolo offers new versions on the Internet as a file download, for example to modify existing functions.

① To bring the firmware up to the latest version, first go to the devolo website, www.devolo.com, and download the appropriate file for the dLAN TV SAT Multituner to your computer.

② Then in the configuration dialogue, go to the area **Management** ▷ **Update Firmware**. Click **Browse…** and select the downloaded file.

③ Then start the update procedure with the **Update Firmware** button. After a successful update, the dLAN TV SAT Multituner restarts automatically.

Ensure that the update procedure is not interrupted. To do so, it is best to connect your computer to the dLAN TV SAT Multituner via dLAN or LAN rather than WLAN.

5 dLAN TV SAT App

With the free dLAN TV SAT App from devolo, you can also receive unencrypted satellite television on your smartphone or tablet. The prerequisite for this is an **existing Wi-Fi connection**, which is connected to the dLAN network via **the included dLAN adapter**.

5.1 System requirements

devolo dLAN TV SAT App

- **Compatible** with these **Apple** devices: iPhone 3GS, iPhone 4, iPhone 4S, iPhone 5, iPod touch (3rd Generation), iPod touch (4th Generation), iPod touch (5th Generation), iPad and requires iOS Version 5.1 or newer
- **Compatible** with all **Android** devices having a dual core processor, NEON support (e.g. Tegra3), USB host function and Android 4.0.3 ("Ice Cream Sandwich") or newer
- **Compatible** with **Windows 8** (available as of Q3/2013)

5.2 Installing dLAN TV SAT App

① After you have hooked up the dLAN TV SAT Multituner and connected it to the Wi-Fi Internet access device's dLAN adapter (see also **3 Initial use** and **6 dLAN network**), download the dLAN TV SAT App to your smartphone or tablet from the corresponding store.

The Wi-Fi Internet connection has to be connected to the dLAN network via an additional dLAN adapter.

You can find the devolo app most quickly by clicking on the magnifying glass in the store and searching directly for **devolo dLAN TV SAT App**.

② The app link to **dLAN TV SAT App** appears on the screen. Tapping it takes you to the TV menu.

5.3 Menu

The screen surface of the dLAN TV SAT App automatically adjusts to the orientation (horizontal/vertical) of the smartphone or tablet.

You can page through the menu and respective view or "surf" through the programme list by **swiping** *across the screen (left/right or up/down).*

The dLAN TV SAT App includes common TV programme functions which are briefly illustrated in the following.

5.3.1 Live television

The current programme list is displayed under **Live television**. Select a programme by tapping it. The programme screen contains information about **timeshifting** and **EPG**, which can be hidden manually by tapping or hides automatically after a short time.

If you press and hold the **horizontal bar** displayed at the right edge of the screen, you can modify the programme sequence by drag & drop.

The **bar graph** at the right edge of the screen shows the transmission quality of the **Wi-Fi** connection.

By tapping the **gear** at the upper edge of the screen you come to the **Image** and **Audio** setting; the **volume control** is controlled by the megaphone.

5.3.2 Settings

This is where country and satellite specifications are made. To select a channel you can use the preconfigured **Astra** list, which automatically searches for and lists all currently available channels if you tap Automatic detection.

By tapping **Search for selected satellites** you can also start a satellite search manually.

By tapping **Search for channels** you can also start a channel search manually.

Under **Timeshifting buffer**, specify the desired volume for timeshifting recordings.

By tapping **Play audio in the background**, the audio continues playing with the screen switched off.

At the bottom edge of the screen you see the **Wi-Fi access point** through which your smartphone or tablet is currently connected.

Under **Devices** you find information about the connected tuner.

6 dLAN network

6.1 Security in the dLAN

Before you can use a dLAN device in your dLAN network, first you have to connect it to other dLAN devices as a home network. Two specific pieces of information are especially important for this:

- Shared use of a dLAN password results in a delimited dLAN network.
- Shared use of the dLAN password serves as access control to the dLAN network as well as the encryption, and thereby the interception protection, of the transmitted data.

The dLAN password can be set in different ways:

- Automatically using the **encryption button** (see **6.2 dLAN network encryption at the touch of a button**)
- Manually using the **dLAN Cockpit** program (see **6.3 dLAN Cockpit**).

6.2 dLAN network encryption at the touch of a button

To encrypt a dLAN network, in which all associated devices are equipped with an encryption button, simply press the encryption button that is located on the device. Pressing this button will encrypt your dLAN network with a randomly generated password.

Adapters cannot be configured while in Standby mode.

The following section contains exact instructions on the basis of possible network scenarios:

Encrypting a new dLAN network consisting of two dLAN adapters

Once both dLAN adapters have been successfully connected, press each encryption button for **1 second within two minutes** of one another.

That's it! Your dLAN network is now protected against unauthorized access.

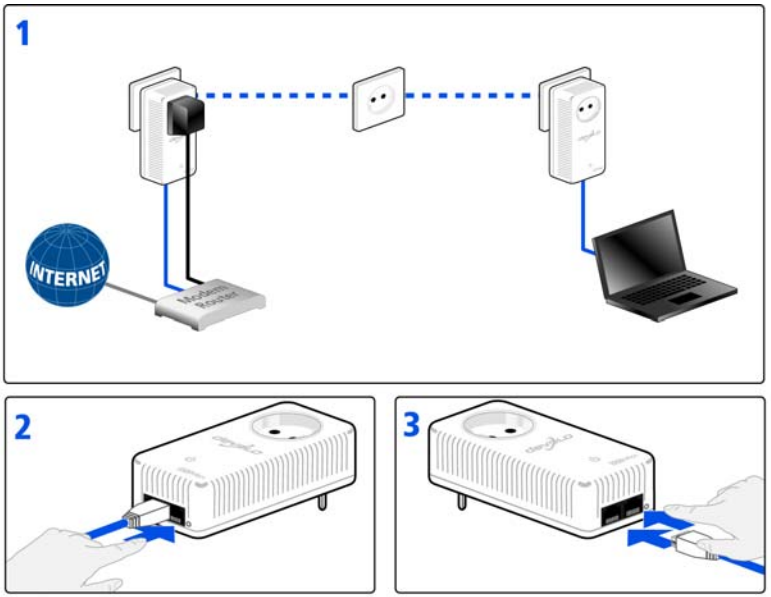


Fig. 5

Expanding an existing dLAN network with a new dLAN adapter

If you have already secured your existing dLAN network using the encryption button, use the same method to integrate other adapters. Once you have successfully connected the new dLAN adapter, first press the encryption button of one of your network's existing adapters (**1 second**), then press the encryption button of your new dLAN adapter (**1 second**) within two minutes.

That's it! The new dLAN adapter is now integrated in your network. To integrate additional dLAN adapters in your network, repeat the above steps.

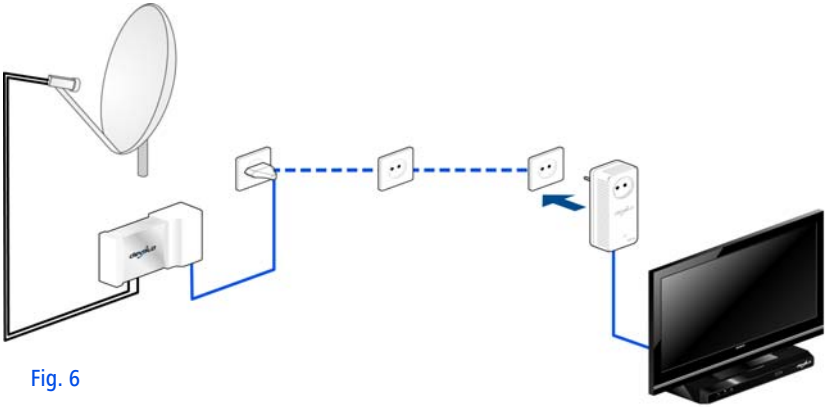


Fig. 6

Excluding a dLAN adapter from your network

To exclude a dLAN adapter from an existing network, press its encryption button **for at least ten 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 adapter in a different dLAN network, follow the steps described above, depending on whether you are setting up a new network or adding the adapter to an existing one.

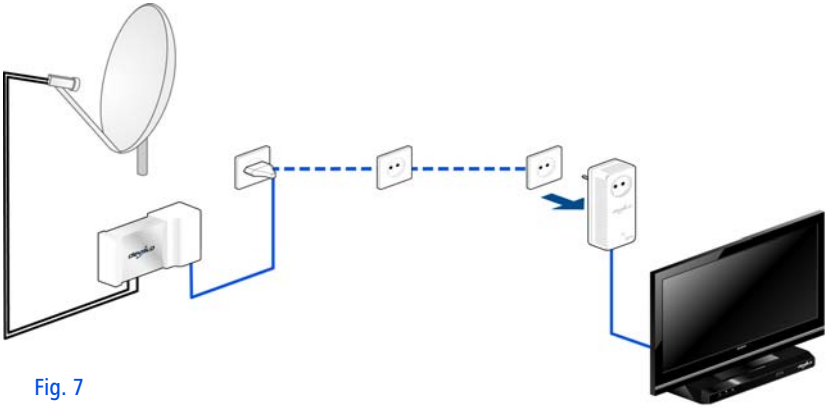
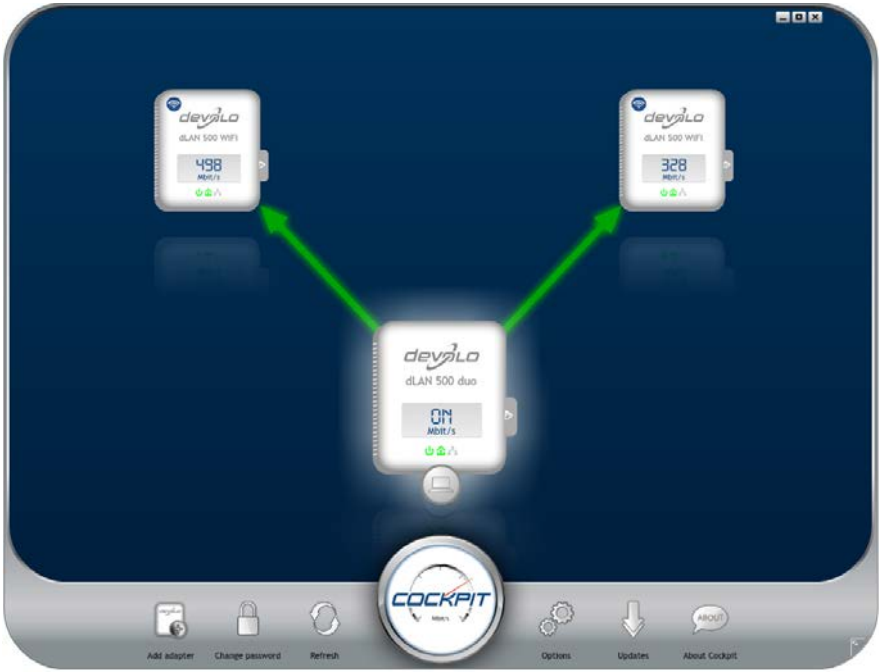


Fig. 7

6.3 dLAN Cockpit

devolo **dLAN Cockpit** is a monitoring and encryption program that detects all reachable dLAN devices in your home network and combines them in a secure network. Due to its logical graphic design, the dLAN Cockpit is easy and intuitive to operate. After installing the devolo software, it can be found in the **Start** ▷ **Programs** ▷ **devolo** program group.



After starting the dLAN Cockpit, all reachable dLAN devices in your home network will appear. This may take a moment.

All adapters found in the network appear with as adapter icon with a corresponding product name. The adapter in the middle of the dLAN network identified with the symbol shown here symbolises your locally connected device. If you have multiple dLAN 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 respectively highlighted device or for the network

- via the buttons at the bottom edge of the screen
- or via tabs arranged at the side of each adapter.

You can always use the **Refresh** button to display the current status of devices that have been found (if this hasn't happened automatically).

By means of the **Options** button or the corresponding tabs of the respective adapter, you can learn device information such as the firmware version used and the individual MAC address.

Options are given like assigning an **additional name**, resetting the respective device to the **factory default settings** or **removing** a **device** from the existing dLAN network.

The above-mentioned setting options vary depending on the function and features of your device.

You can also specify whether information on the performance of your dLAN adapters will be transferred to devolo.

The data sent to devolo pertains only to the performance values of your dLAN devices. The data is anonymised and will be used exclusively for statistical purposes. By providing it, you can help us improve our products.

The **Troubleshooting Guide** includes installation instructions and information about how to connect your devices optimally with one another.

6.3.1 Encrypting a network with dLAN Cockpit

If you use dLAN devices **without an encryption button**, data can be encrypted only via **dLAN Cockpit**.

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 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 power grid and computers or other network components as appropriate.

Scan for local adapter

After dLAN Cockpit is started, it searches for the dLAN adapter connected directly to your computer first.

Adding an adapter

Add all the dLAN devices you want to your dLAN network by selecting the **Add adapter** button. You will need the **16**-character security IDs of the adapters from the label on the housing. Enter it now in the **Security ID** field and confirm with **OK**. If a security ID is correct and the device can be reached in the dLAN network, it will be added to your network of configured adapters and also displayed in the program.

Entering a network password

After you have added all the dLAN devices you want to your dLAN network, select the **Change password** button to assign a shared network password that will apply for all registered adapters in your personal home network.

You can choose between your own password, a random password and the default password. To define your own password with a length of at least eight characters, enter this into the **Network password** text field. Alternatively, you can have a randomly selected, highly secure password assigned using the **Generate secure password** button. Use the **Factory default password** button to reset the dLAN adapter to the default password. Normally, the display of the password is hidden for security reasons. If you enable the option **Show characters**, the current password is displayed in legible form in the text field.

The factory default password is* HomePlugAV. *Assigning a specific password to a single adapter will exclude it from the remaining dLAN network.

If **dLAN Cockpit** is called up again later after a successful initial installation, for example to **integrate** a **new adapter** into a network, the application remembers the devices that were entered earlier. Enter the new device as described in the **Adding an adapter**

section. The **current network password** is assigned **automatically** to the newly added device.

7 Appendix

7.1 Troubleshooting

Reliability and ease of use are important aspects of the design of **dLAN TV SAT**. If, despite this, a problem should ever occur, this chapter contains a few useful hints intended to allow you to identify and remedy the problem. Additionally, the website www.devolo.com contains a lot of satellite information for you. If you need additional support, the "Preface" chapter at the beginning of this manual tells you how to contact our support department.

Can I also play back the recordings on a computer?

Yes. Recordings from the dLAN TV SAT to IP Receiver can also be played back on a computer. You will find the recordings under **DVR** ⇨ **RECS**. Below this are folders (sorted by the programme's recording date) in which there are **Chunk** files. In order for these Chunks to be able to be played back, for example, by VLC Player, they first have to be renamed as ".ts files".

Which DiSEqC (Digital Satellite Equipment Control) version is supported?

The dLAN TV SAT to IP Receiver supports DiSEqC versions 1.0 and 1.1.

Can I use the dLAN TV SAT to IP Receiver even in a multi-dwelling unit?

When the satellite signals from the dLAN TV SAT to IP Receiver are transmitted via the mains supply, power meters usually attenuate the signal transmission so much that transmission across the meter is not possible—for example, from apartment to apartment.

The typical installation in a multi-dwelling unit provides for a joint satellite system. Such a satellite system is usually connected via an electric mains circuit with its own power meter. There is no direct power connection into the apartment of the user (power meter for "joint power" and power meter for apartment). Thus satellite transmission of the dLAN TV SAT to IP Receiver from the joint satellite system into the apartment is often **not** possible.

Solution: You can use the dLAN TV SAT to IP Receiver within the apartment. Simply connect the dLAN TV SAT Multituner to an existing, available satellite connection socket.

How many dLAN TV SAT to IP Receiver can be operated simultaneously in an electric mains circuit?

You can use up to 3 systems simultaneously.

7.2 Important safety instructions

All safety and operating instructions should be read and understood before using the device, and should be kept for future reference.

- Never open the device. There are no user-serviceable parts inside the device.

Do not try to service this product yourself! Contact qualified technicians each and every time your device needs maintenance. There is a risk of electric shock!

- Use the devices in dry locations only.
- Make sure you provide a stable base.
- To wall mount the dLAN TV SAT Multituner
  - select suitable and secure fasteners for the respective base,
  - make sure that no gas, water or power lines in the wall get damaged.

There is a danger of electric shock!

- Use the dLAN TV SAT Multituner exclusively with an earthed antenna system compliant with IEC60728-11:2010.

The dLAN TV SAT Multituner is intended for the reception of DVB-S/S2 satellite signals and their transfer to the connected SAT>IP receiver or to an Internet-based terminal device (e. g. smartphone or tablet).
The dLAN adapter is intended for connecting the network device (e.g. Wi-Fi Internet access device) to the dLAN network.

- To disconnect the device from the power supply grid, pull the power plug. The power plug must be easily accessible.

Follow the safety notes below to decrease the risk of fire as much as possible:

- **Do not place any objects on** the **devices**.
- The devices may **not** be placed directly **next to** open **flame** (such as fire or candles).
- Do **not** keep the device in **direct sunlight**.
- **Never set up** the device **near** a **heater** or **radiator**.
- The device should be located only where sufficient ventilation can be ensured.

- **Do not** insert any **objects** into the **openings** of the device. Slots and openings on the case serve as ventilation. Never block or cover them.
- **Batteries** should **never** be exposed to large amounts of **heat**, such as direct sunlight, fire or other heat sources.

- Disconnect the device from the power supply grid before cleaning. Use a moist towel to clean the device. Never use water, paint thinner, benzene, alcohol or other strong cleaning agents when cleaning the device, as these could damage the case.
- Never use the device with a power supply that does not meet the specifications provided on the rating plate. If you do not know what type of power supply you have at home, contact your dealer or energy supplier.
- In the event of damage, disconnect the device from the power supply grid and contact customer service. This applies, for example, if
  - the power cable or plug is damaged.

There is a danger of electric shock!

- liquid has been spilled on the device or objects have fallen into the device.
- the device has been exposed to rain or water.
- the device does not work, even though the operating instructions have been followed properly.
- the device's case is damaged.

7.3 Bandwidth optimization

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

- Plug the dLAN adapter directly into a wall socket.

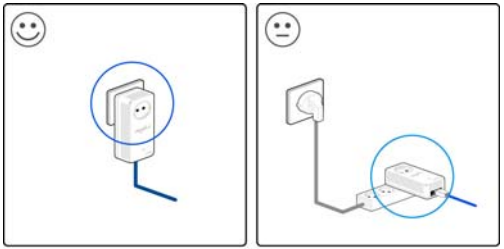
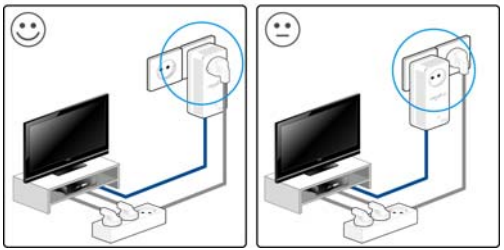


Fig. 8



- To take full advantage of the filter function of the dLAN adapter and to improve data transmission in the network, always plug the multiple socket or the network device into the electrical socket of the dLAN adapter.

7.4 Disposal of old devices

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

The icon with crossed-out wastebasket on the device means that this adapter is an electrical or electronic device that falls within the scope of application of the German Electrical and Electronic Equipment Act ("Elektrogesetz"). Since 24 March 2006, these types of devices may no longer be disposed of with household waste. Rather, in Germany, 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.

7.5 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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