

WiFi pro 1200e



devolo

devo WiFi pro 1200e

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1 Preface

Thank you for placing your trust in this product.

1.1 About this manual

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

After a presentation of the WiFi pro 1200e with sample applications in **Chapter 2**, **Chapter 3** will cover successfully setting up your WiFi pro 1200e. **Chapter 4** describes in detail the setting options of the built-in configuration interface and thereby also access to the Wi-Fi. Basic information to "MAC-address" "Wi-Fi" and "VLAN", information of environmental compatibility of the device and our warranty conditions can be found in **Chapter 5** and conclude the manual.

You can find the technical data for the WiFi pro 1200e on the Internet under www.devolo.com/en/business-solutions.

Description of the symbols

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



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



Important note that should be observed.



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

1.1.1 Intended use

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



The device is designed for indoor use only.

1.1.2 CE conformity



This product complies with the technical requirements of the directive **2014/53/EU**, **2014/35/EU**, **2014/30/EU** and the other relevant provisions of the **FTEG**.

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



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



"2014/53/EU" is a radio directive. It applies to radio equipment. Observance of this directive is verified by the use of harmonized European norms.

You can find the CE declaration of this product on the enclosed product CD or under www.devolo.com/en/business-solutions.

1.1.3 Safety notes

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



DANGER due to electricity

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

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

- if the power plug is damaged
- if the devolo device has been showered with liquid (e.g. rain or water).
- if the devolo device is inoperable.
- if the housing of the devolo device is damaged.

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

To disconnect devolo devices from the mains supply, pull the device itself or its mains plug from the power

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

Only use devolo devices at a dry location.

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



DANGER due to overheating

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

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

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

1.2 devolo on the Internet

For detailed information on our products, visit www.devolo.com/en/business-solutions.

The devolo business area not only contains product descriptions and documentation, but also updates of devolo software and your device's firmware. We especially recommend the descriptions of the "dLAN pro network," which are arranged according to **Application, Sectors** and **Integration**, where you can find lots of interesting background information.

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

2 devolo WiFi pro

The new WiFi pro series from devolo Business Solutions features six high-performance WiFi access points that are designed specifically for professional use and are ideal for environments with many mobile users (BYOD = Bring Your Own Device) and high data traffic.

Additional devices can easily be connected and supplied with power via additional Gigabit Ethernet ports with PoE support.

The professional devolo firmware provides administrators with numerous installation, set-up and monitoring options. All devices provide the IEEE 802.11ac wireless standard and reliably supply 2.4 GHz as well as 5 GHz devices. IEEE 802.1x and up to 16 SSIDs ensure maximum network security. The configuration of VLAN and dynamic VLAN is just as simple as configuring the legacy rate sets and viewing Syslog entries.

2.1 WiFi pro 1200e at a glance

- Wi-Fi access point for easy wall mounting using the provided mounting kit
- 2 external dual-band antennas for improved transmitting power
- 2 gigabit Ethernet ports for a direct high-speed connection
- PoE in—Operation via PoE (Power over Ethernet) possible in accordance with IEEE 802.3at; (802.3af when using 20 MHz wide channels)
- Improved wireless coverage thanks to adjustable RF output power and receiving sensitivity
- Improved range thanks to 2x2 MIMO technology
- Fastest Wi-Fi at speeds up to 1200 Mbps (IEEE 802.11ac at speeds up to 866 Mbps and IEEE 802.11n at speeds up to 300 Mbps)
- Concurrent 2.4 GHz and 5 GHz operation

- Supports up to 16 SSIDs (8 × 2.4 GHz and 8 × 5 GHz)—ideal for multiple departments, user groups, customers or guests



Fig. 1: WiFi pro 1200e

2.2 All about the network

This chapter describes application scenarios in order to provide an overview of the various WiFi pro networks possible with the WiFi pro 1200e.

2.2.1 WiFi pro 1200e as a Wi-Fi access point

As a Wi-Fi access point, the WiFi pro 1200e provides the other Wi-Fi stations with a network connection and Internet, either wirelessly or via Ethernet.

Figure 2 shows how the WiFi pro 1200e establishes the connection from Wi-Fi stations to the switch connected via Ethernet.

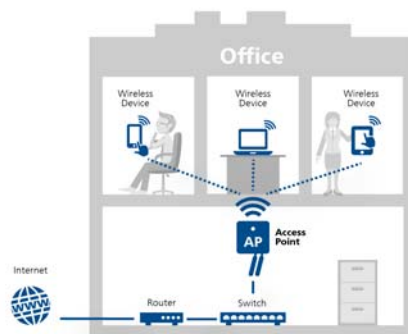


Fig. 2: Wi-Fi access point

2.2.2 WiFi pro 1200e as WDS bridge

Wireless bridging is the wireless connection of Wi-Fi networks and is used to expand network coverage.

WDS (Wireless Distribution System) is a process for data addressing in accordance with the IEEE 802.11 standard.

Figure 3 shows two different Wi-Fi networks, which are connected to each other via WDS using two WiFi pro 1200e or to the Internet router.

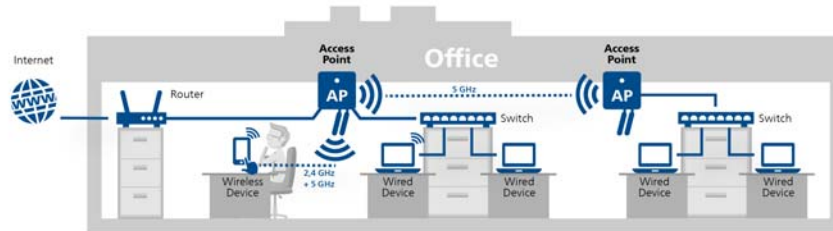


Fig. 3: WDS bridge

- ! To ensure optimal and reliable functionality of the WiFi pro 1200e, the device has to be operated in Wi-Fi networks consisting of devolo WiFi pro devices.

2.2.3 Static VLAN

VLANs provide the option of assigning the payload from WiFi users from various user groups (e.g. employees from various departments or guests) to any VLAN and, therefore, separating the data streams in your network from each other.

The payload is transmitted to or received by the LAN port using a prefixed VLAN tag.

Proper use of the VLANs requires a managed Ethernet switch to which the WiFi 1200e is connected.

The first VLAN that you create is configured automatically as the Management VLAN (**untagged**). The Management VLAN is used for configuration and operation of the WiFi access point. This includes communication with DHCP, DNS, RADIUS and a time server.

Once you have created additional VLANs, there is an option to change the Management VLAN or convert it to **tagged**. In this case, make sure that the port of the connected Ethernet switch is appropriately configured for this purpose.



If you can no longer access the WiFi pro 1200e due to a configuration error, you can reset it to its factory defaults by holding the reset button for 10 seconds using a pointed object (e.g. paperclip).



More information can be found in Chapter Reset.

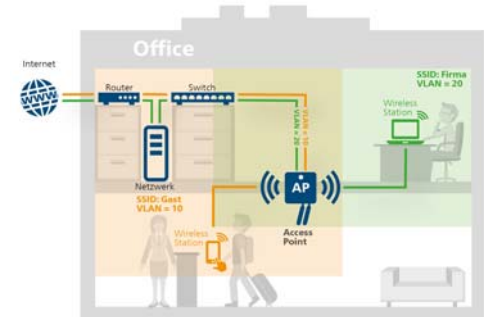


Fig. 4: Static VLAN

2.2.4 Dynamic VLAN

The use of dynamic VLANs (virtual LANs) in Enterprise WiFi provides a series of advantages for the administrator and WiFi users.

The following applies to WiFi users:

- The WiFi network (SSID) can be located more easily, because only one SSID is visible for various VLANs.
- This provides more bandwidth for payloads within a WiFi network, because each additional broadcast SSID worsens the efficiency of the radio interface.

The following applies to administrators:

- Central assignment of WiFi users to VLANs in the RADIUS server or an associated directory service.
- Dynamic change to the assignment without interaction by the WiFi user.

Here, a standard VLAN can be defined for an SSID. If the RADIUS server does not provide a VLAN assignment for a user, the user is assigned automatically to the default VLAN.

If no default VLAN is configured, these users are rejected from using the WiFi access point. Adding a VLAN is not required for this configuration. Management data

are transmitted **untagged** and the payloads from users are given the VLAN tag assigned by the RADIUS.

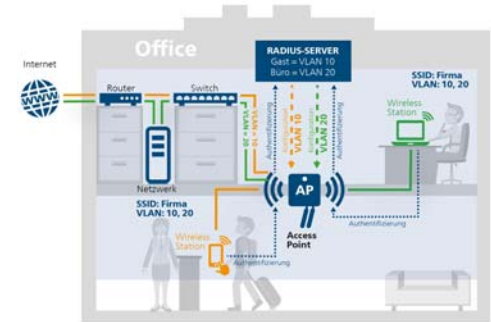


Fig. 5: Dynamic VLAN

3 Installation

This chapter covers everything you need to know to set up your WiFi pro 1200e. We describe functions as well as the installation and connection of the device.

3.1 Package contents

Please ensure that the delivery is complete before beginning with the installation of your WiFi pro 1200e:

- **Single Kit:**

- WiFi pro 1200e
- 12 V/2.5 A mains adapter
- 2 screw-on dual-band antennas
- Installation hardware for wall mounting
- Hard copy of installation guide and CE declaration of conformity
- Documentation at www.devolo.com/en/business-solutions

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

3.1.1 System requirements

The WiFi pro 1200e is not operating system-dependent. To display the web interface, all you need is an up-to-date web browser, such as IE, Firefox, Chrome, Safari, EDGE, etc.

3.2 Indicators and connections

The WiFi pro 1200e is equipped with:

- 1 indicator light
- 2 external dual-band antennas
- 1 12 V DC/2.5 A power jack



Use the mains adapter provided.

- 2 Gigabit Ethernet connections
 - 1 PoE in accordance with 802.3at (PoE in)
- Reset button



Fig. 5: WiFi pro 1200e

3.2.1 Indicator light

The WiFi pro 1200e indicator light (LED) is located on the top of the device and displays all statuses of the WiFi pro 1200e by illuminating and/or flashing in different ways:

- **Orange** flashing and illumination behaviour
 - The LED lights up if the 2.4 GHz Wi-Fi is activated.
- **Blue** flashing and illumination behaviour
 - The LED lights up if the 5 GHz Wi-Fi is activated.

- **Purple** flashing and illumination behaviour
 - The LED lights up if both Wi-Fi frequency bands are activated.
 - The LED flashes in 5 second cycles if both Wi-Fi frequency bands are deactivated.

3.2.2 Connections

The following connections (see fig. 7: WiFi pro 1200e) are located on the left side of the device. The connections are described from left to right.

12 V DC IN

Here, connect the WiFi pro 1200e to the power using the mains adapter provided.



To prevent damage to the device, the WiFi pro 1200e is supplied with power either only using the 12 V DC IN connection or only using the LAN 1 (PoE) connection.

LAN 1 (PoE)

This is where you can use an Ethernet cable to connect the WiFi pro 1200e to the network.

The PoE functionality allows the WiFi pro 1200e to be supplied with power through a connected PoE-compatible device (e.g. PoE switch).

To ensure full functionality, the WiFi pro 1200e must be supplied with IEEE 802.3at.

LAN 2

This is where you can use an Ethernet cable to connect the WiFi pro 1200e to the network.

3.2.3 Buttons

Reset

The Reset button has two different functions:

- **The device restarts** if you press the Reset button **for approximately 3 seconds**.
- To change the configuration of the WiFi pro 1200e 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.

3.2.4 Dual-band antennas

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

The connections are designed using reverse polarity SMA (RP-SMA).

3.3 Installing the WiFi pro 1200e

- ① Screw the 2 antennas handtight into the threads provided.



If mounting onto 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!

- ② Using the holder as a template, drill holes into the desired location and insert wallplugs.
- ③ Screw in the provided (longer) screws leaving a space of 3-4 mm between the head of the screw and the wall.
- ④ Screw in the holder onto the WiFi pro 1200e using the provided (shorter) screws.
- ⑤ Now, place the WiFi pro 1200e with the antennas pointing downward onto the screw heads in the wall along with the holder.



The ventilation slots on the top side of the WiFi pro 1200e must not be covered. Sufficient ventilation must be ensured!

3.3.1 Connecting the WiFi pro 1200e



To prevent damage to the device, the WiFi pro 1200e is supplied with power either only using the 12 V DC IN connection or only using the LAN 1 (PoE) connection.

- ⑥ Finally, to supply the WiFi pro 1200e with power:
 - **either** plug the barrel connector for the mains adapter into the **12 V DC** power connection on the WiFi pro 1200e and plug the mains adapter into a power outlet
 - **or** use a PoE cable to connect the **LAN 1 (PoE)** connection of the WiFi pro 1200e to the PoE connection of a device supplying power.



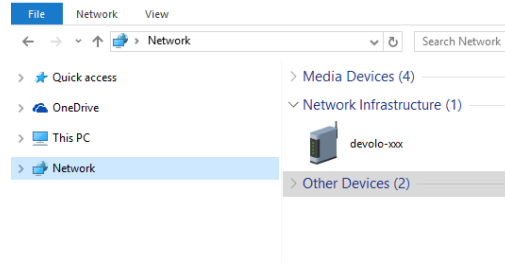
To disconnect the device from the mains supply, unplug the device from the power outlet or remove the PoE cable if the PoE supply is being used. The power outlet and all connected network cables should be easily accessible so that you can pull out the mains plug quickly if needed.

- ⑦ If you would like to connect the WiFi pro 1200e to your Internet router over Ethernet, connect both devices using an Ethernet cable.
- ⑧ You can find more information on configuring your WiFi pro 1200e in Chapter **4 Network configuration**.

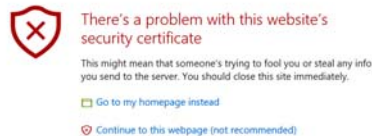
4 Network configuration

All settings for operating the device can be adjusted on the interface of the WiFi pro 1200e.

The WiFi pro 1200e can be accessed via the device's IP address (encrypted access via https).



You can also access the WiFi pro 1200e device interface using the network overview in Windows.



The host name of the WiFi pro 1200e is comprised of **devolo-XXX**; **XXX** are the last three digits of the serial number.



The option Use this to accept network settings automatically from a DHCP server is enabled for the WiFi pro 1200e in the factory defaults. The IP address of the WiFi pro 1200e can be found on your DHCP server.

4.1 General information about the menu

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

Logging in

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

You have to protect access to your device with a password!

Enter new password:

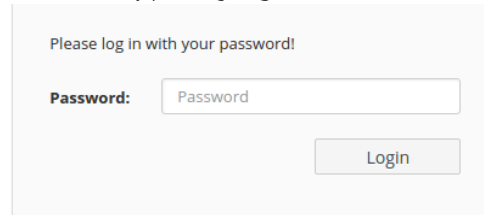
The minimum password length is 8.

Confirm new password:

Cancel

Save

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



Please log in with your password!

Password:

Logging out



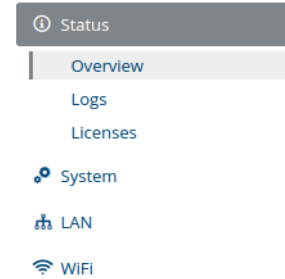
Log out of the web interface by clicking **Log out**.

Language selection



Select the desired language in the language selection list.

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



Making changes

As soon as a change is made, an asterisk (*) is displayed in the header of the corresponding menu page.

Required fields

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

Help text blank fields

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

Default settings

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

Default settings can of course be replaced with customised information.

Recommended settings

Some fields contain recommended settings for networks with a large number of users.



Settings intended to support a large number of users limit the performance and the compatibility of the network.

Recommended settings can of course be replaced with customised information.

Tables

You can make changes within a table by clicking the corresponding table row. In edit mode, the corresponding table rows have a blue background and the cursor becomes a hand.

Tables have a filter function to make them easier to work with. The search function can be limited even further using special characters like ! or " ".

Invalid entries

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

Buttons

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

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

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

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

4.2 Status

In the **Status** area, you can track the status of the WiFi pro 1200e as well as the status of your connected Wi-Fi and LAN devices.

4.2.1 Status/Overview

System

You can see status information for your device here.

System	
Information	
Name:	devolo-123
Firmware version:	2.1.0 (2016-03-16)
Uptime:	0 days, 00:52:43
CPU load (15 min.):	30%

LAN

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

LAN	
IPv4	
Protocol:	dhcp
Address/Subnet:	192.168.0.209/24
Default gateway:	192.168.0.100
Name server:	192.168.0.100
Ethernet	
LAN 1:	1000 Mbit/s
VLANs	
Configured VLANs:	3

Wi-Fi

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

WiFi	
5 GHz Radio	
Actual channel:	36 (5180 MHz)
Enabled SSIDs:	1/1
Connected WiFi stations:	0
2.4 GHz Radio	
Actual channel:	1 (2412 MHz)
Enabled SSIDs:	1/1
Connected WiFi stations:	0
Bridge	

4.2.2 Status/Events

You can see your WiFi pro 1200e syslog entries here.

Date ▾	Log Level	Origin	Message
Wed Mar 16 22:19:13 2016	daemon.notice	netifd	vlan1 (14159): Lease of 192.168.0.209 obtained, lease time 120
Wed Mar 16 22:19:13 2016	daemon.notice	netifd	vlan1 (14159): Sending renew...
Wed Mar 16 22:18:13 2016	daemon.notice	netifd	vlan1 (14159): Lease of 192.168.0.209 obtained, lease time 120
Wed Mar 16 22:18:13 2016	daemon.notice	netifd	vlan1 (14159): Sending renew...
Wed Mar 16 22:17:13 2016	daemon.notice	netifd	vlan1 (14159): Lease of 192.168.0.209 obtained, lease time 120
Wed Mar 16 22:17:13 2016	daemon.notice	netifd	vlan1 (14159): Sending renew...
Wed Mar 16 22:16:13 2016	daemon.notice	netifd	vlan1 (14159): Lease of 192.168.0.209 obtained, lease time 120
Wed Mar 16 22:16:13 2016	daemon.notice	netifd	vlan1 (14159): Sending renew...

You can search for specific entries using the **Search** field.

Reorganise the list by category by clicking the **column header**.

Refresh the list by clicking the **Arrow** icons. The list is refreshed automatically in 10 second intervals.

4.2.3 Status/Licence

Licence information for this product can be found in this area on the web surface.

4.3 System

Make changes to the device settings in the **System** area.

4.3.1 System/Status

You can see all status information for your device here.

Firmware version:	2.1.0 (2016-03-16)
Uptime:	0 days, 00:54:11
Local time:	3/16/16 10:19 PM
Time zone:	Europe/Berlin
Total memory:	59.68 MBytes
Free memory:	22.14 MBytes
CPU load:	0.05 / 0.16 / 0.28

MAC Addresses

LAN 1	30:D3:2D:45:70:F6
--------------	-------------------

LEDs

5 GHz WiFi LED (type status):	Enabled
2.4 GHz WiFi LED (type status):	Enabled

Buttons

Reset button:	Enabled
----------------------	---------

4.3.2 System/Management

To ensure that the WiFi pro 1200e can be found quickly in your network, assign the device a unique name and list the device location. You can also specify a contact person available to be notified

System name (hostname):	devolo-123
System location:	Lobby
System contact:	John Doe

Remote Syslog Server

Enable

Switch the remote Syslog server on if you want to record the syslog entries (see **4.2.2 Status/Events**) on another server. To do so, enter the name or the IP address and the port number of the corresponding server.

4.3.3 System/Time

A time server is a server on the Internet or in your network tasked with providing the exact time.

Time Zone

Europe/London

Time Server (NTP)

Search ...

display 1 of 1 entries

Time Server

europe.pool.ntp.org

Select the desired time zone in the **Time zone** drop-down menu.

Select the desired time server or add a desired time server using the plus icon and confirm the entry by pressing the **Save** button in the **Time server** drop-down menu.

4.3.4 System/Button/LEDs

You can switch the function of the LEDs and the buttons on the WiFi pro 1200e on or off here by activating or deactivating the corresponding checkboxes.

LED settings

Enable or disable the LEDs of your device.

- Enable 5 GHz WiFi LED (type status)**
- Enable 2.4 GHz WiFi LED (type status)**

Button settings

Enable or disable the buttons of your devices.

- Enable Reset/Restart button**

4.3.5 System/Find me!

A buzzer function is available to help locate a WiFi pro 1200e placed in hidden locations such as covered by a suspended ceiling. Set the desired duration of the tone on the time scale and confirm by pressing **Start** to play back the signal tone.

Buzzer

Set a duration and click "Start" to activate the buzzer for this time.

Buzzer duration: 10 s



4.3.6 System/Configuration

You can save the current configuration as a file on your computer, restore it or reset to the factory defaults.

Save Configuration to File

You can backup the device configuration as a file on your compu

Save

Restore Device Configuration From File

Please select the configuration file to be restored to this device.

Browse ...

No file selected.

Restore

Reset Configuration

If you continue, all device settings will be deleted and the configu

Reset

Saving the device configuration as a file

For backup purposes, all active configuration settings can be transmitted to your computer, stored there as a file and reloaded on the WiFi pro 1200e. 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.

To save the active configuration as a file on your computer, select the **Save file** option. Then enter a storage location and name for the settings file.

Restoring the device configuration

To send an existing configuration file to be restored to the WiFi pro 1200e, select an appropriate file using the **Select file...** button and start the process by clicking the **Restore** button.

Resetting the device configuration

The WiFi pro 1200e is reset to the original factory defaults using the **Reset** button. Your personal settings will be discarded during the reset.

4.3.7 System/Firmware

The firmware of the WiFi pro 1200e includes the software for operating the device. If necessary, devolo offers new versions on the Internet as a file download, for example to modify existing functions.

Current Firmware

Firmware version: 2.1.0 (2016-03-16)

Update Firmware

Please select the firmware file to be loaded onto this device.

Firmware file: No file selected.

- ① To update the firmware to the latest version, first go to the devolo website, www.devolo.com/en/business-solutions, and download the appropriate file for the WiFi pro 1200e to your computer.
- ② Click **Select file...** and select the downloaded file.
- ③ Then start the update procedure with the **Update firmware** button. After a successful update, the WiFi pro 1200e restarts automatically.



Ensure that the update procedure is not interrupted. This is best done by connecting your computer to the WiFi pro 1200e over a LAN and not over Wi-Fi.

4.3.8 System/Restart

The device can be restarted and/or reset to the factory defaults.

Pressing the button below will restart your device.

Reset configuration to factory defaults

Reboot

The device is restarted by clicking the **Restart** button.

Enable the **Reset configuration to factory defaults** option and confirm by pressing **Reboot** if you want to set the device back to the factory defaults. Keep in mind that all settings that have already been configured will be lost!

4.3.9 System/Password

You can change the login password for accessing the web interface.

To do so, enter the current password and then enter the desired new password twice.

Enter old password:

Enter new password:
The minimum pass

Confirm new password:

4.4 LAN

Change the settings for the wired network in the **LAN** area.

4.4.1 LAN/Status

You can see the status of your LAN here.

IPv4

Protocol:	dhcp
Address/Subnet:	192.168.0.209/24
Default gateway:	192.168.0.100
Name server:	192.168.0.100

Ethernet

LAN 1:	1000 Mbit/s
--------	-------------

VLANs

Search ... Display 3 of 3 entries

VLAN ID	VLAN Name	Management VLAN	Interfaces
1	VLAN 1	✓	devolo-123 (2.4 GHz)
20	VLAN 20		LAN 1
35	VLAN 35		LAN 1

4.4.2 LAN/IP configuration

As a component of your network, the WiFi pro 1200e also communicates via the TCP/IP protocol. The IP address required for this can either be entered manually as a static address or obtained **automatically** from a **DHCP server**.

The option **Get IP configuration from a DHCP server** is enabled in the factory defaults. The currently assigned network data are hidden.

If a DHCP server is already present in the network for giving out IP addresses, the option **Get IP configuration from a DHCP server** should be enabled so that the WiFi pro 1200e automatically receives an address from it.

You can also assign a static IP address by specifying entries under **Address**, **Subnet mask**, **Default gateway** and **Name server**.

Get IP configuration from a DHCP server

Static IPv4 Address

Address: 192.168.0.209

Subnet mask: 255.255.255.0

Default gateway: 192.168.0.100

Name server: 192.168.0.100

4.4.3 LAN/VLANs

You can configure VLANs on the device. To add a VLAN, click the **plus** icon. Then, select whether it is a

Management VLAN or if the VLAN is to be configured **untagged**.

display 3 of 3 entries
+

VLAN ID ▲	VLAN Name	Management VLAN
1	VLAN 1	<input checked="" type="checkbox"/>
20	VLAN 20	
35	VLAN 35	

	VLAN 1	VLAN 20	VLAN 35
Management VLAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ethernet			
LAN 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5 GHz Radio			
devolo-123	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4 GHz Radio			
devolo-123	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Creating a VLAN

The factory defaults do not have VLAN configured. You can create VLANs by clicking the **Plus** icon. In doing so, a VLAN (VLAN 1 to VLAN 16) has to be selected and a VLAN ID (1 to 4094) assigned. When creating VLANs, already assigned VLAN IDs cannot be assigned a second time.



When configuring the VLANs and the VLAN port settings, the web interface of the WiFi pro 1200e should remain accessible, i.e. configurable. If you can no longer access the WiFi pro 1200e despite this, set the device back to its factory defaults (see Chapter Reset).

You can display details about the VLANs to be created using the **Search** field.

Deleting a VLAN

To delete a VLAN, first select it by clicking the corresponding table row and confirm by pressing **Delete** (recycle bin icon).



For detailed information about this, refer to the online FAQs on our website www.devolo.com/en/business-solutions.

The behaviour of the ports is configured using the **untagged** option. If the **untagged option is not selected**, **incoming** and **outgoing** frames from this port are sent as **tagged**.

If the **untagged option is selected**, **incoming** and **outgoing** frames from this port are sent as **untagged**.

4.5 Wi-Fi

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

4.5.1 Wi-Fi/Status

You can see the current status of your Wi-Fi network configuration here. In addition to the connected Wi-Fi

stations with detailed basic information, such as the MAC address, the selected frequency band, the SSID, the transfer rates and the connection duration, information about whether you have configured a bridge or a RADIUS server is displayed. Additionally, you can see the newly added SSIDs with possible VLAN configurations. You can display details about the respective frequency band using the search function.

display 0 of 0 entries ↻

MAC address ▾	Radio	SSID	Tx rate (Mbit/s)	Rx rate (Mbit/s)	Connected since
No stations are connected					

Bridge

Not configured.

SSIDs

display 2 of 2 entries ↻

Enabled ▾	SSID	Radio	Security	Default VLAN	Dynamic VLAN	Connected stations
☑	devolo-123	5 GHz	WPA2-Enterprise	VLAN 1 (1)	☑	0
☑	devolo-123	2.4 GHz	WPA2-Enterprise	VLAN 1 (1)	☑	0

RADIUS

Authentication Server: 192.168.0.2:1812
Accounting Server: 192.168.0.3:1813

4.5.2 Wi-Fi/2.4 GHz radio

Here, carry out all necessary settings for the frequency band of **2.4 GHz**.

Switching the Wi-Fi on or off

If you would like, you can switch off this Wi-Fi part of your WiFi pro 1200e completely. To do so, disable the

Enable option and confirm your entry by pressing **Save**.



Keep in mind that after saving this setting, you will be disconnected from any existing wireless connection to the WiFi pro 1200e. In this case, configure the device over Ethernet.

Enable

Standard Settings

Mode: 802.11b/g/n *

Recommended: 802.11g/n

Channel: 1 (2412 MHz)

Recommended: Auto, 1, 6, 11

Channel bandwidth: 20/40 MHz *

Recommended: 20 MHz

Advanced Settings

Max. transmit power: High (20 dBm)

Data rates:

Rate (Mbit/s)	54	48	36	24	18	12	11	9	6	5.5	2	1
Supported	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Basic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Cancel

Save

Mode

In the **Mode** field, select the desired Wi-Fi communication standard.

Channel

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

The channel selection default setting is **Automatic**. The WiFi pro 1200e regularly and automatically selects the channels in this setting. In other words, if the last connected station logs out, a search for a suitable channel is carried out immediately. If no stations are connected, the device automatically selects a channel every 15 minutes.

Channel width

Optimal use of the available frequency band requires selecting the appropriate channel width.

Max. transmitting power

In this section, you can adjust the Wi-Fi transmission level to your needs. I.e. if you require a large range, select **High...**

Data rates



Only change the preconfigured data rates if you understand the concept behind them.

Setting the radio data rates entails selecting the data rates used by the Wi-Fi access point for transmission. The Wi-Fi access point sends all packets with the largest possible basic rate. If the distance between the Wi-Fi access point and the Wi-Fi stations is too large for this data rate or faults and interference occur, packets are sent with the next smallest basic rate. At least one basic rate must be selected. Unicast packets can also be sent with the supported data rates which are not basic rates.

You can optimise the Wi-Fi access point either for maximum range or for the best performance by varying the data rates. The maximum range is achieved when the basic rate is set only to 1 Mbps, all data rates, however, are supported.

If a Wi-Fi station only supports 802.11b, no basic rates outside of 1; 2; 5.5 or 11 Mbps (default) can be used.

For optimisation to ensure the best performance, it makes more sense to exclude all 802.11b clients (CCK modulation) by having the 1, 2, 5.5 or 11 Mbps rates both as not supported as well as not selected as basic rates.

You should select multiple data rates as basic rates, e.g. 6, 12 or 24 Mbps (recommended) so that multicast packets are sent at 24 Mbps, if possible.

Furthermore, the smallest selected basic rate is used for emitting the SSID (beacon). The larger this rate is, the more efficient the Wi-Fi is being used. Note that this can reduce the maximum range.

4.5.3 Wi-Fi/5 GHz radio

Here, make all necessary settings for the frequency band of **5 GHz**.

Enable

Standard Settings

Mode: 802.11a/n/ac *

Recommended: 802.11n/ac

Channel: 36 (5180 MHz)

Recommended: Auto

Channel bandwidth: 80 MHz *

Recommended: 20 MHz

Advanced Settings

Max. transmit power: Very High (27 dBm)

Data rates:	Rate (Mbit/s)	54	48	36	24	18	12	9	6
Supported		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Basic		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Cancel

Save

Switching the Wi-Fi on or off

If you would like, you can switch off this Wi-Fi/Wi-Fi part of your WiFi pro 1200e completely. To do so, disable the **Enable** option and confirm your entry by pressing **Save**.



Keep in mind that after saving this setting, you will be disconnected from any existing wireless connection to the WiFi pro 1200e. In this case, configure the device over Ethernet.

It is worth noting that connected devices also have to support the increased frequency band of 5 GHz. From channel 52 onward you go into the radar range. When accessing the device for the first time, a radar detection phase (DFS) starts automatically, during which time the WiFi pro 1200e cannot be accessed via Wi-Fi.

Mode

In the **Mode** field, select the desired Wi-Fi communication standard.

Channel

There are 13 channels available in the 5 GHz frequency band. The recommended channel selection default setting is **Automatic**. The WiFi pro 1200e regularly and automatically selects the channels in this setting. In other words, if the last connected station logs out, a search for a suitable channel is carried out immediately. If no stations are connected, the device automatically selects a channel every 15 minutes.

Channel width

Optimal use of the available frequency band requires selecting the appropriate channel width.

Max. transmitting power

In this section, you can adjust the Wi-Fi transmission level to your needs. I.e. if you require a large range, select **High...**

Data rates



Only change the preconfigured data rates if you understand the concept behind them.

Setting the radio data rates entails selecting the data rates used by the Wi-Fi access point for transmission. The Wi-Fi access point sends all packets with the largest possible basic rate. If the distance between the Wi-Fi access point and the Wi-Fi stations is too large for this data rate or faults and interference occur, packets are sent with the next smallest basic rate. At least one basic rate must be selected. Unicast packets can also be sent with the supported data rates which are not basic rates.

You can optimise the Wi-Fi access point either for maximum range or for the best performance by varying the data rates. The maximum range is achieved when the basic rate is set only to 1 Mbps, all data rates, however, are supported.

You should select multiple data rates as basic rates, e.g. 6, 12 or 24 Mbps (recommended) so that multicast packets are sent at 24 Mbps, if possible.

Furthermore, the smallest selected basic rate is used for emitting the SSID (beacon). The larger this rate is, the more efficient the Wi-Fi is being used. Note that this can reduce the maximum range.

4.5.4 Wi-Fi/RADIUS

As a central authentication and accounting server, a RADIUS server handles the registration and

management of user information for multiple Wi-Fi access points.

Designate the respective server using its IPv4 address and enter the port number and server-side NAS key.

Authentication Server

Server:	<input type="text" value="192.168.0.2"/>
Port:	<input type="text" value="1812"/>
Secret:	<input type="text" value="\$6kB5L#1337X%x1"/>

Accounting Server

Server:	<input type="text" value="192.168.0.3"/>
Port:	<input type="text" value="1813"/>
Secret:	<input type="text" value="a%IU2v%0Aj<\$"/>

4.5.5 Wi-Fi/SSIDs

The WiFi pro 1200e supports up to **8 Wi-Fi access points** (multi-SSID), each with two frequency bands of

2.4 GHz and 5 GHz, i.e. you can use the WiFi pro 1200e to operate up to **16 Wi-Fi networks**.

WiFi / SSIDs

display 1 of 1 entries
+

Enable	SSID ▲	Radio	Security	Default VLAN
Allowed number of SSIDs: 8 for 2.4 GHz radio and 8 for 5 GHz radio.				
<input checked="" type="checkbox"/>	devolo-123	2.4 GHz + 5 GHz	WPA2-Enterprise	VLAN 1 (1) (dynamic)

Click the table row of the respective Wi-Fi access point to reach its settings.

Enable

Here you can switch the SSID on/off.

SSID

The **SSID** specifies the name of your wireless network. You can see this name when logging onto the Wi-Fi, allowing you to identify the correct subnet. By default, the SSID (e.g. **devolo-d7e**) consists of **devolo** and the last **3 digits of the Wi-Fi MAC address**.

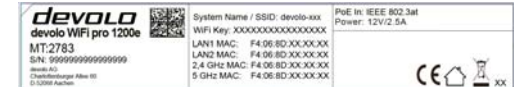


Fig. 7: Label

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



A change to the SSID can interfere with all existing connections for a short time.

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

Radio

Here you can assign one frequency band or both frequency bands to the SSID.

Security

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

In addition, the WiFi pro 1200e also supports the **WPA/WPA2 Enterprise Mode** encryption key. As a central authentication and accounting server, a RADIUS server handles the registration and management of user information for multiple Wi-Fi access points.

Default VLAN

If you have configured one or more VLANs, you can assign the SSID to a VLAN.

! *More information on **VLANs** can be found in Chapter, **2.2.3 Static VLAN 2.2.4 Dynamic VLAN and 4.4.3 LAN/VLANs**.*

Communication between Wi-Fi stations prohibited

Depending upon the application scenario, security considerations may mean that it is to be forbidden for all devices to exchange data freely with each other. For this purpose, this option can be enabled, which implements true peer-to-peer isolation. All Wi-Fi devices configured as a station are not able to exchange any data with each other, only with the WiFi pro 1200e.



Fig. 8: Peer-to-Peer-Isolation



This option is disabled in the factory defaults, i.e. all Wi-Fi stations present in the network can freely exchange data with each other (peer-to-peer mode).

4.5.6 Wi-Fi/Bridge

The Wi-Fi bridge function enables wireless connection to a remote Wi-Fi access point.

WDS (Wireless Distribution System) is a process for data addressing in accordance with the IEEE 802.11 standard.

Bridge to Remote Access Point (WDS)

Enable

Radio: 5 GHz ▼

SSID: devolo-bridge

Security: WPA2-Enterprise ▼

RADIUS username: devolo_radius

RADIUS password: 34\$bZ7k&d#1hb6C?

VLAN: VLAN 1 (1) ▼

Cancel Save

Enable

Here you can switch the bridge mode on or off.

Radio

Here you can assign a frequency band to the bridge.

SSID

You can enter the SSID of the other Wi-Fi access point here.

Security

Here you can select the desired encryption methods and then enter the corresponding security key.

5 Appendix

5.1 Basic information

5.1.1 MAC adresse

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

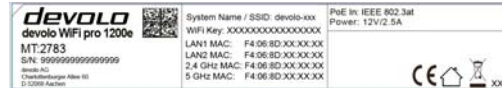


Fig. 9: Label

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

5.1.2 What is VLAN?

A **VLAN (Virtual Local Area Network, IEEE 802.1Q)** is a logical, self-enclosed, local network – unlike a physical (switched) network. **VLANs** divide **physical** net-

works into multiple **logical, independent** networks. They optimise data distribution and make it easier to set up network architecture that is more secure and arranged more clearly.

Using VLANs prevents the need for complicated physical wiring. This gives you greater spatial flexibility and saves you having to purchase multiple costly individual devices (e.g. routers, switches).

Different criteria can be used for mapping to VLANs, such as port assignments, addresses, port numbers and protocols. The WiFi pro 1200e allows VLANs to be mapped by port and/or access point. Other mapping methods by third-party devices using "VLAN tags" are also supported. In addition, it is possible to prioritise data traffic in the VLAN configuration.

5.1.3 What is WLAN?

WLAN (Wireless Local Area Network) refers to the use of radio technology to network computers and other devices. While it is possible to wirelessly connect computers in pairs (peer-to-peer, p2p), a central access point is required to set up a network of multiple devices. Such access points are frequently combined in a single device with modems for Internet access and routers to manage network traffic.

The wireless network established by an access point using a specific channel (from 1 to 13) and name (SSID) has a limited range. The range of the access point, which is also known as a "radio cell", is impeded by building walls. In some cases, stable connections are often only possible between WLAN devices within a single room.

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

5.2 Disposal of old devices

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



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

5.3 Warranty conditions

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

- 1 Warranty coverage**
 - a) The warranty covers the equipment delivered and all its parts. Parts will, at devolo's sole discretion, be replaced or repaired free of charge if, despite proven proper handling and adherence to the operating instructions, these parts became defective due to fabrication and/or material defects. Alternatively,

devolo reserves the right to replace the defective product with a comparable product with the same specifications and features. Operating manuals and possibly supplied software are excluded from the warranty.

- b) Material and service charges shall be covered by devolo, but not shipping and handling costs involved in transport from the buyer to the service station and/or to devolo.
- c) Replaced parts become property of devolo.
- d) devolo is authorized to carry out technical changes (e.g. firmware updates) beyond repair and replacement of defective parts in order to bring the equipment up to the current technical state. This does not result in any additional charge for the customer. A legal claim to this service does not exist.

2 Warranty period

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

3 Warranty procedure

- a) If defects appear during the warranty period, the warranty claims must be made immediately, at the latest within a period of 7 days.
- b) In the case of any externally visible damage arising from transport (e.g. damage to the housing), the person carrying out the transportation and the sender should be informed immediately. On discovery of damage which is not externally visible, the transport company and the sender are to be immediately informed in writing, at the latest within 3 days of delivery.
- c) Transport to and from the location where the warranty claim is accepted and/or the repaired device is exchanged, is at the purchaser's own risk and cost.
- d) Warranty claims are only valid if a copy of the original purchase receipt is returned with the device. devolo reserves the right to require the submission of the original purchase receipt.

4 Suspension of the warranty

All warranty claims will be deemed invalid

- a) if the label with the serial number has been removed from the device,
- b) if the device is damaged or destroyed as a result of acts of nature or by environmental influences (moisture, electric shock, dust, etc.),
- c) if the device was stored or operated under conditions not in compliance with the technical specifications,
- d) if the damage occurred due to incorrect handling, especially to non-observance of the system description and the operating instructions,
- e) if the device was opened, repaired or modified by persons not contracted by devolo,
- f) if the device shows any kind of mechanical damage, or
- g) if the warranty claim has not been reported in accordance with 3a) or 3b).

5 Operating mistakes

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

6 Additional regulations

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

- a) The warranty gives no entitlement to additional claims, such as any refund in full or in part. Compensation claims, regardless of the legal basis, are excluded. This does not apply if e.g. injury to persons or damage to private property are specifically covered by the product liability law, or in cases of intentional act or culpable negligence.
- b) Claims for compensation of lost profits, indirect or consequential detriments, are excluded.
- c) devolo is not liable for lost data or retrieval of lost data in cases of slight and ordinary negligence.
- d) In the case that the intentional or culpable negligence of devolo employees has caused a loss of data, devolo will be liable for those costs typical to the recovery of data where periodic security data back-ups have been made.
- e) The warranty is valid only for the first purchaser and is not transferable.
- f) The court of jurisdiction is located in Aachen, Germany in the case that the purchaser is a merchant. If the purchaser does not have a court of jurisdiction in the Federal Republic of Germany or if he moves his domicile out of Germany after conclusion of the contract, devolo's court of jurisdiction applies. This is also applicable if the purchaser's domicile is not known at the time of institution of proceedings.
- g) The law of the Federal Republic of Germany is applicable. The UN commercial law does not apply to dealings between devolo and the purchaser.

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