D-Link®

Quick Installation Guide

DAP-1620

AC1300 MU-MIMO Wi-Fi Range Extender

BEFORE YOU BEGIN

Delivery Package

- Extender DAP-1620
- "***Quick Installation Guide***" (brochure).

If any of the items are missing, please contact your reseller.

The "***User Manual***" and "***Quick Installation Guide***" documents are available on D-Link website (see www.dlink.ru).

! **Using a power supply with different parameters than those indicated on the device will cause damage and void the warranty for this product.**

Default Settings

IP address of device		`192.168.0.50`
Username (login)		`admin`
Password		`admin`
Name of wireless network (SSID)	**2.4GHz**	`dlink-XXXX`[1]
	5GHz	`dlink-XXXX-5GHz`[2]
Network key (PSK)		see the field **Password** on the back panel of the device

1 See the field **Wi-Fi Name (SSID) 2.4GHz** on the back panel of the device.
2 See the field **Wi-Fi Name (SSID) 5GHz** on the back panel of the device.

System Requirements and Equipment

- A router enabled to access the Internet.
- A computer with any operating system that supports a web browser.
- A web browser to access the web-based interface of the extender:
  - Apple Safari 8 and later
  - Google Chrome 48 and later
  - Microsoft Internet Explorer 10 and later
  - Microsoft Edge 20.10240 and later
  - Mozilla Firefox 44 and later
  - Opera 35 and later.
- A NIC (Ethernet or Wi-Fi adapter) to connect to the extender.
- An 802.11a, b, g, n, or ac Wi-Fi adapter to create a wireless network.

CONNECTING TO PC

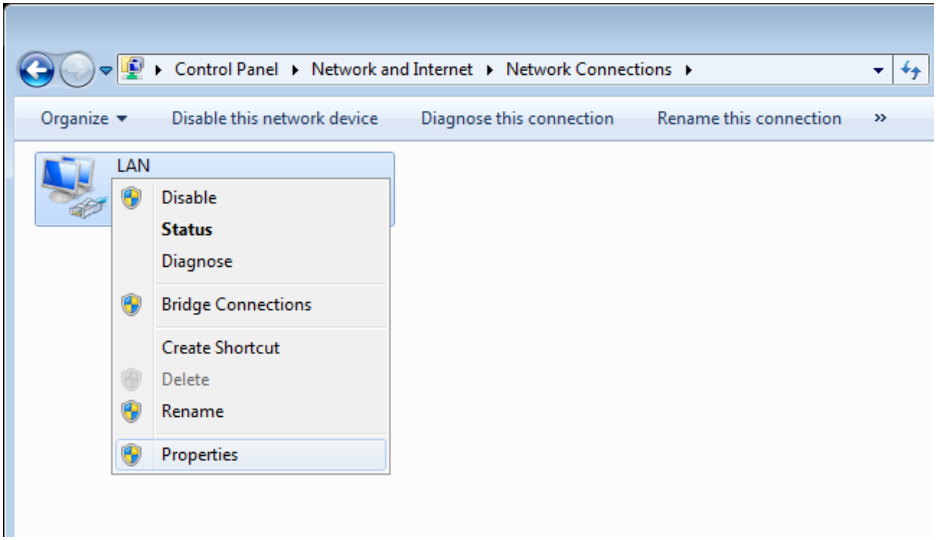
PC with Ethernet Adapter

1. Connect an Ethernet cable between the LAN port of the extender and the Ethernet port of your PC.
2. Plug the device into an electrical outlet or power strip.

Now you need to configure an IP address for the Ethernet adapter of your PC.

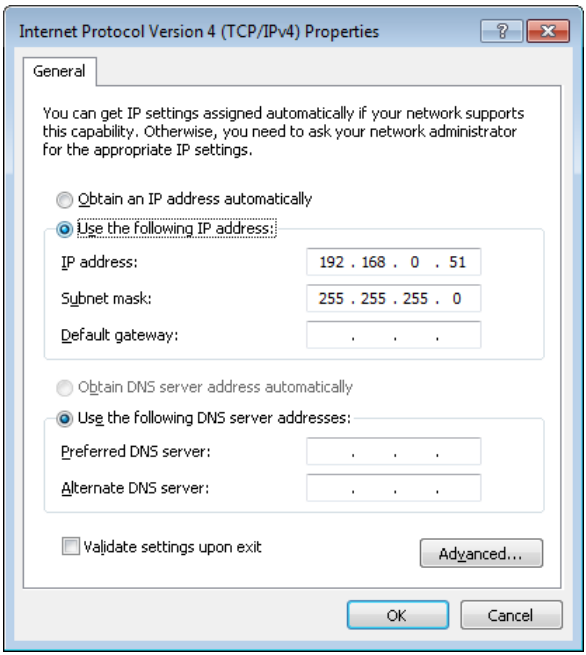
Configuring IP Address in OS Windows 7

1. Click the **Start** button and proceed to the **Control Panel** window.
2. Select the **Network and Sharing Center** section. (If the Control Panel has the category view (the **Category** value is selected from the **View by** drop-down list in the top right corner of the window), choose the **View network status and tasks** line under the **Network and Internet** section.)
3. In the menu located on the left part of the window, select the **Change adapter settings** line.
4. In the opened window, right-click the relevant **Local Area Connection** icon and select the **Properties** line in the menu displayed.



5. In the **Local Area Connection Properties** window, on the **Networking** tab, select the **Internet Protocol Version 4 (TCP/IPv4)** line. Click the **Properties** button.

6. Select the **Use the following IP address** radio button and enter the value `192.168.0.51` in the **IP address** field. The **Subnet mask** field will be filled in automatically. Click the **OK** button.

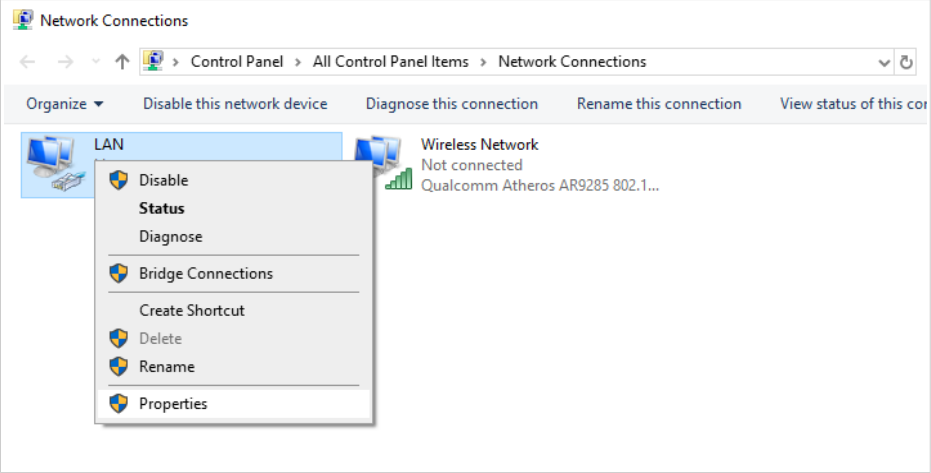


7. Click the **OK** button in the connection properties window.

Now you can connect to the web-based interface of DAP-1620 for configuring all needed parameters. To gain access to an external network (to the Internet), you also need to specify the default gateway and the addresses of DNS servers.

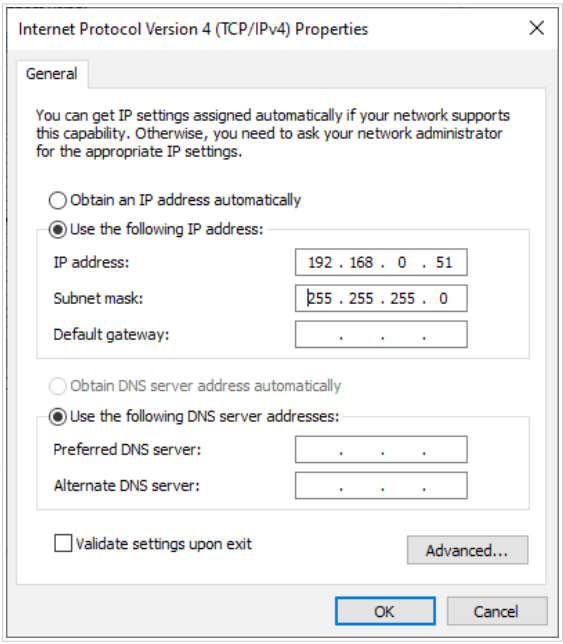
Configuring IP Address in OS Windows 10

1. Click the **Start** button and proceed to the **Settings** window.
2. Select the **Network & Internet** section.
3. In the **Change your network settings** section, select the **Change adapter options** line.
4. In the opened window, right-click the relevant **Local Area Connection** icon and select the **Properties** line in the menu displayed.



5. In the **Local Area Connection Properties** window, on the **Networking** tab, select the **Internet Protocol Version 4 (TCP/IPv4)** line. Click the **Properties** button.

6. Select the **Use the following IP address** radio button and enter the value `192.168.0.51` in the **IP address** field. The **Subnet mask** field will be filled in automatically. Click the **OK** button.



7. Click the **Close** button in the connection properties window.

Now you can connect to the web-based interface of DAP-1620 for configuring all needed parameters. To gain access to an external network (to the Internet), you also need to specify the default gateway and the addresses of DNS servers.

PC with Wi-Fi Adapter

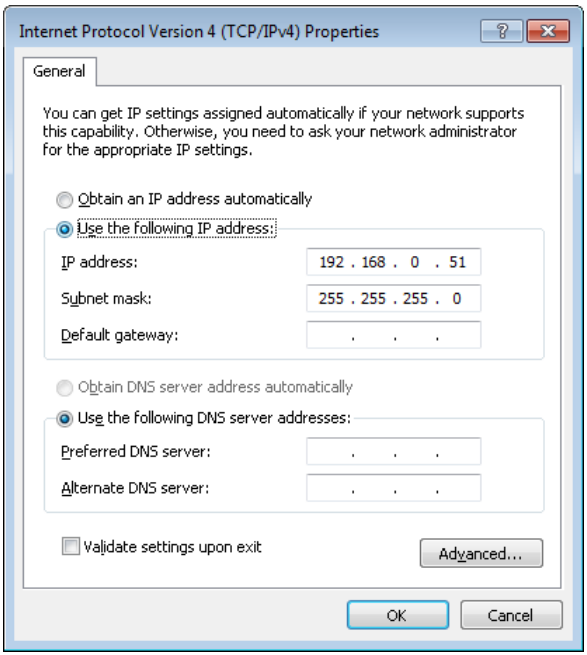
1. Plug the device into an electrical outlet or power strip.
2. Make sure that the Wi-Fi adapter of your PC is on. As a rule, modern notebooks with built-in wireless NICs are equipped with a button or switch that turns on/off the wireless adapter (refer to your PC documents). If your PC is equipped with a pluggable wireless NIC, install the software provided with your Wi-Fi adapter.

Now you should configure your Wi-Fi adapter.

Configuring Wi-Fi Adapter in OS Windows 7

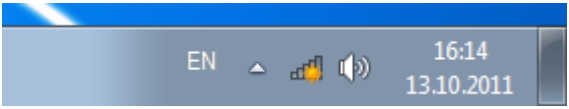
1. Click the **Start** button and proceed to the **Control Panel** window.
2. Select the **Network and Sharing Center** section. (If the Control Panel has the category view (the **Category** value is selected from the **View by** drop-down list in the top right corner of the window), choose the **View network status and tasks** line under the **Network and Internet** section.)
3. In the menu located on the left part of the window, select the **Change adapter settings** line.
4. In the opened window, right-click the relevant **Wireless Network Connection** icon. Make sure that your Wi-Fi adapter is on, then select the **Properties** line in the menu displayed.
5. In the **Wireless Network Connection Properties** window, on the **Networking** tab, select the **Internet Protocol Version 4 (TCP/IPv4)** line. Click the **Properties** button.

6. Select the **Use the following IP address** radio button and enter the value `192.168.0.51` in the **IP address** field. The **Subnet mask** field will be filled in automatically. Click the **OK** button.

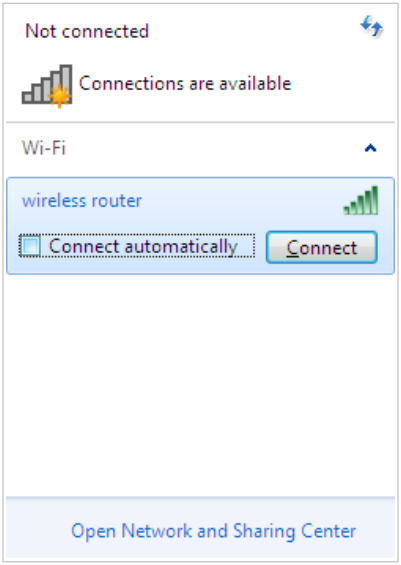


7. Click the **OK** button in the connection properties window.

8. To open the list of available wireless networks, select the icon of the wireless network connection and click the **Connect To** button or left-click the network icon in the notification area located on the right side of the taskbar.



9. In the opened window, in the list of available wireless networks, select the wireless network **dlink-XXXX**[3] (for operating in the 2.4GHz band) or **dlink-XXXX-5GHz**[4] (for operating in the 5GHz band) and click the **Connect** button.



10. In the opened window, enter the network key (see the field **Password** on the back panel of the device) in the **Security key** field and click the **OK** button.
11. Wait for about 20-30 seconds. After the connection is established, the network icon will be displayed as the signal level scale.

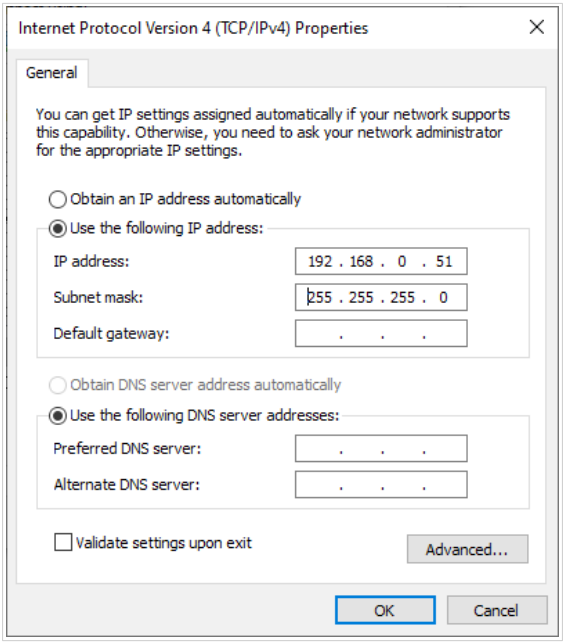
Now you can connect to the web-based interface of DAP-1620 for configuring all needed parameters. To gain access to an external network (to the Internet), you also need to specify the default gateway and the addresses of DNS servers.

! If you perform initial configuration of the extender via Wi-Fi connection, note that immediately after changing the wireless default settings of the extender you will need to reconfigure the wireless connection using the newly specified settings.

3 See the field **Wi-Fi Name (SSID) 2.4GHz** on the back panel of the device.
4 See the field **Wi-Fi Name (SSID) 5GHz** on the back panel of the device.

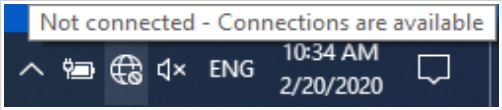
Configuring Wi-Fi Adapter in OS Windows 10

1. Click the **Start** button and proceed to the **Settings** window.
2. Select the **Network & Internet** section.
3. In the **Change your network settings** section, select the **Change adapter options** line.
4. In the opened window, right-click the relevant **Wireless Network Connection** icon. Make sure that your Wi-Fi adapter is on, then select the **Properties** line in the menu displayed.
5. In the **Wireless Network Connection Properties** window, on the **Networking** tab, select the **Internet Protocol Version 4 (TCP/IPv4)** line. Click the **Properties** button.
6. Select the **Use the following IP address** radio button and enter the value `192.168.0.51` in the **IP address** field. The **Subnet mask** field will be filled in automatically. Click the **OK** button.

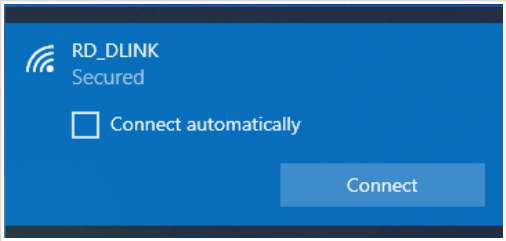


7. Click the **Close** button in the connection properties window.

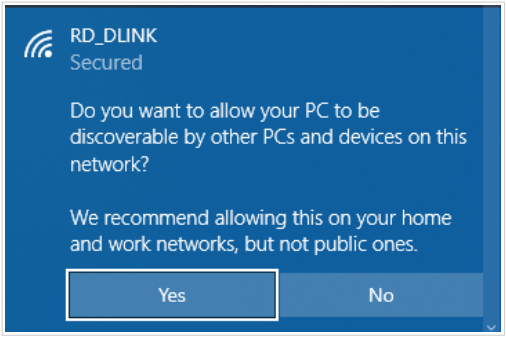
8. To open the list of available wireless networks, select the icon of the wireless network connection and click the **Connect To** button or left-click the network icon in the notification area located on the right side of the taskbar.



9. In the opened window, in the list of available wireless networks, select the wireless network **dlink-XXXX**[5] (for operating in the 2.4GHz band) or **dlink-XXXX-5GHz**[6] (for operating in the 5GHz band) and click the **Connect** button.



10. In the opened window, enter the network key (see the field **Password** on the back panel of the device) in the **Security key** field and click the **Next** button.
11. Allow or forbid your PC to be discoverable by other devices on this network (**Yes / No**).



5 See the field **Wi-Fi Name (SSID) 2.4GHz** on the back panel of the device.
6 See the field **Wi-Fi Name (SSID) 5GHz** on the back panel of the device.

12. Wait for about 20-30 seconds. After the connection is established, the network icon will be displayed as a dot with curved lines indicating the signal level.

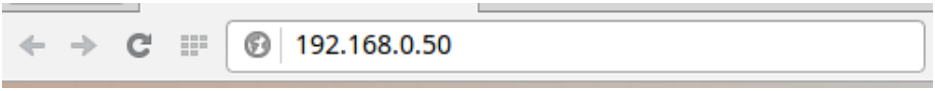
Now you can connect to the web-based interface of DAP-1620 for configuring all needed parameters. To gain access to an external network (to the Internet), you also need to specify the default gateway and the addresses of DNS servers.

! If you perform initial configuration of the extender via Wi-Fi connection, note that immediately after changing the wireless default settings of the extender you will need to reconfigure the wireless connection using the newly specified settings.

CONFIGURING EXTENDER

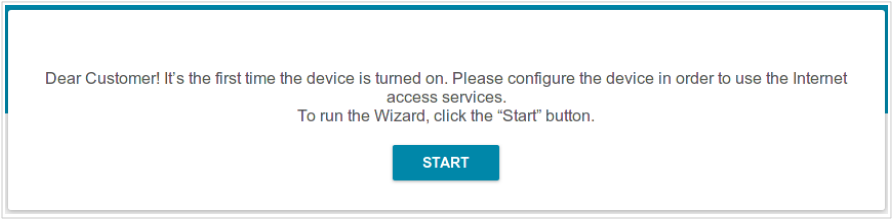
Connecting to Web-based Interface

Start a web browser. In the address bar of the web browser, enter the IP address of the extender (by default, the following IP address is specified: **192.168.0.50**). Press the **Enter** key.

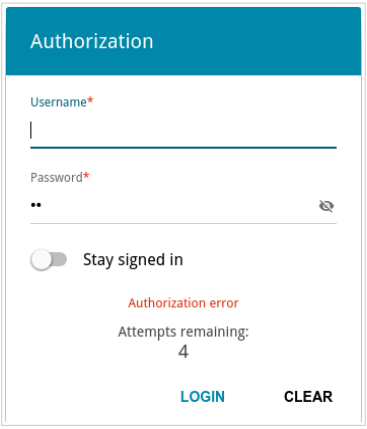


! If the error "*The page cannot be displayed*" (or "*Unable to display the page*"/"*Could not connect to remote server*") occurs upon connecting to the web-based interface of the extender, make sure that you have properly connected the extender to your computer.

If the device has not been configured previously or the default settings have been restored, after access to the web-based interface the Initial Configuration Wizard opens (see the ***Initial Configuration Wizard*** section, page 20).



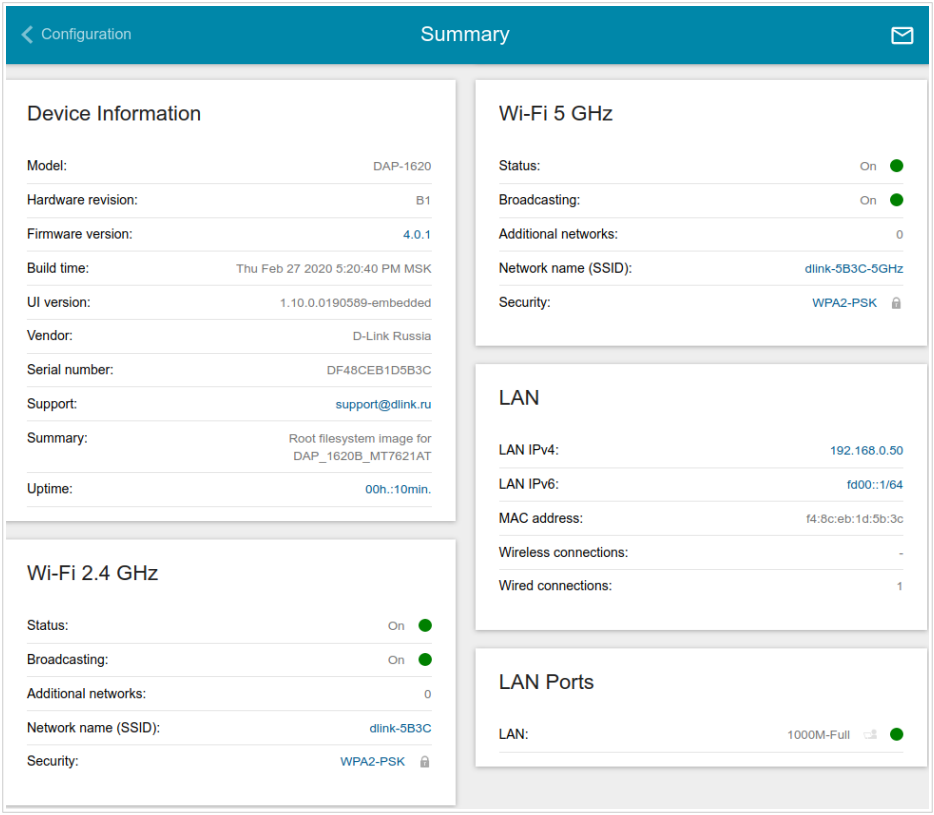
If you configured the device previously, after access to the web-based interface the login page opens. Enter the username (**admin**) in the **Username** field and the password you specified in the **Password** field, then click the **LOGIN** button.



In order not to log out, move the **Stay signed in** switch to the right. After closing the web browser or rebooting the device, you need to enter the username and the password again.

If you enter a wrong password several times, the web-based interface will be blocked for a while. Please wait for one minute and reenter the password you specified.

The **Summary** page displays general information on the extender and its software.

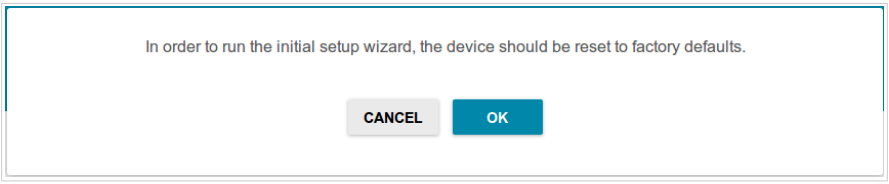


The web-based interface of the extender is multilingual. You can select the needed language upon the initial configuration of the web-based interface of the extender or in the **System / Configuration** section of the menu.

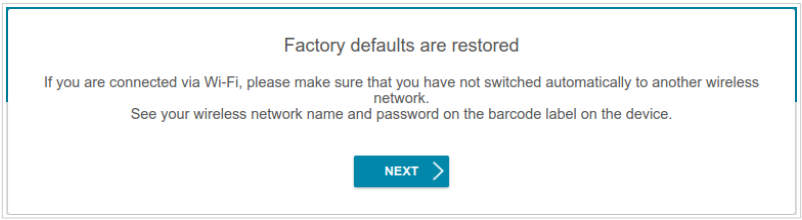
Other settings of the extender are available in the menu in the left part of the page. Go to the relevant section and select the needed page or run the wizard in the **Initial Configuration** section.

Initial Configuration Wizard

In order to start the Initial Configuration Wizard manually, go to the **Initial Configuration** section.

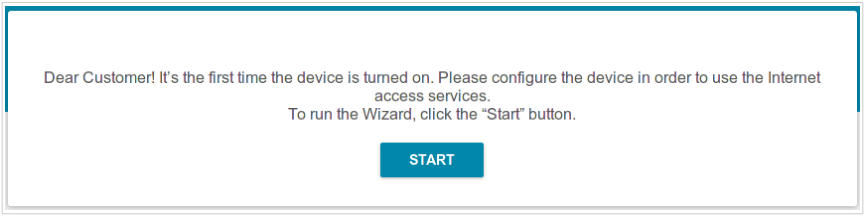


Click the **OK** button and wait until the factory default settings are restored.

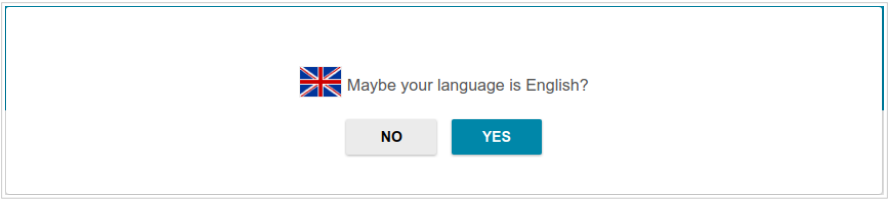


If you perform initial configuration of the extender via Wi-Fi connection, please make sure that you are connected to the wireless network of DAP-1620 (see the WLAN name (SSID) in the ***Default Settings*** section, page 3) and click the **NEXT** button. Then click the **START** button.

If the device has not been configured previously or the default settings have been restored, the Initial Configuration Wizard starts automatically upon access to the web-based interface or upon opening a web site on the Internet.



1. Click **YES** in order to leave the current language of the web-based interface or click **NO** to select another language.



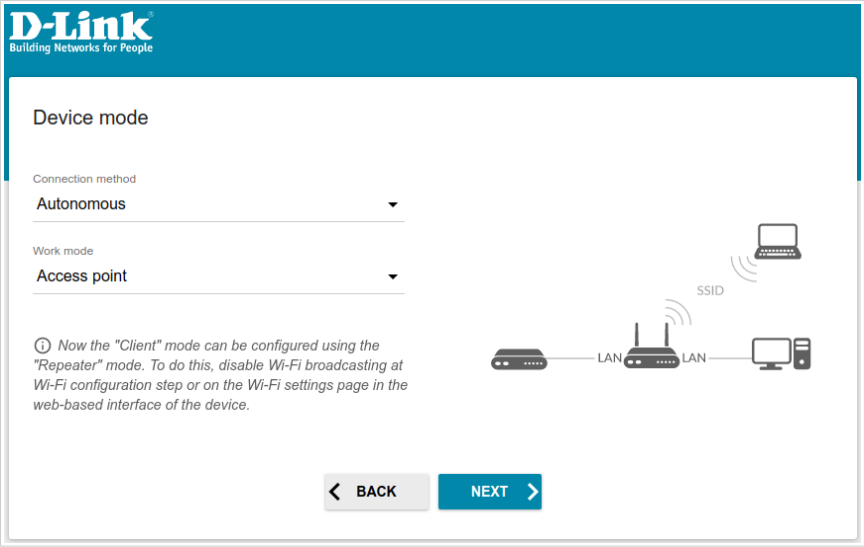
2. On the next page, click the **CONTINUE** button.

Selecting Operation Mode

Select the needed operation mode and click the **NEXT** button.

Access Point or Repeater

In order to connect your device to a wired router for adding a wireless network to the existing local network, on the **Device mode** page, from the **Connection method** list, select the **Autonomous** value. Then from the **Work mode** list, select the **Access point** value. In this mode you can change the LAN IP address, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, and set your own password for access to the web-based interface of the device.

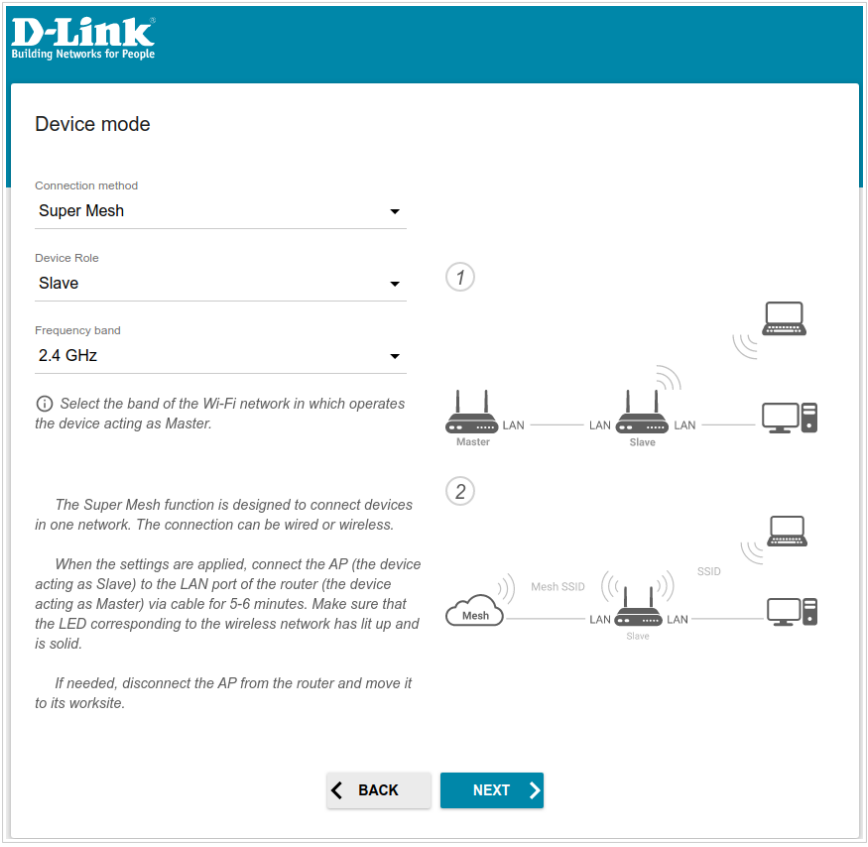


In order to connect your device to a wireless router for extending the range of the existing wireless network, on the **Device mode** page, from the **Connection method** list, select the **Autonomous** value. Then from the **Work mode** list, select the **Repeater** value. In this mode you can change the LAN IP address, connect your device to another access point, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, and set your own password for access to the web-based interface of the device.

Mesh Network Subordinate Device (Slave)

In order to configure DAP-1620 as a subordinate device of your Mesh network, from the **Connection method** list, select the **Super Mesh** value. Then from the **Device Role** list, select the **Slave** value. From the **Frequency band** list, select the band where your main device (in the Master role) operates.

Then a device in the Slave role is configured in the assess point mode. In this mode you can change the LAN IP address, set your own settings for the wireless network in the 2.4GHz and 5GHz bands, and set your own password for access to the web-based interface of the device.

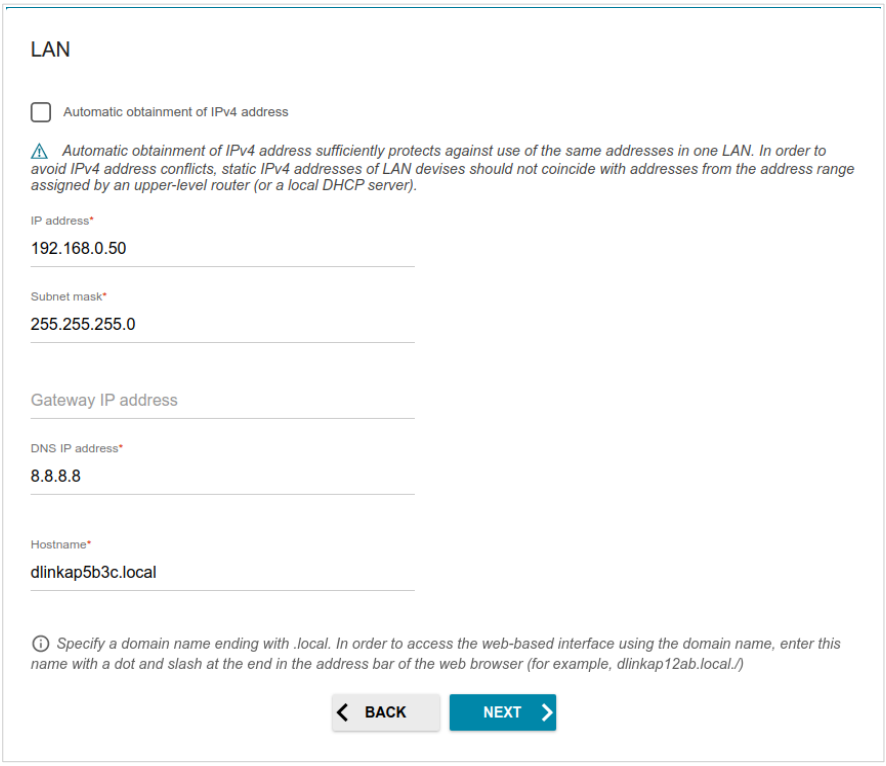


Changing LAN IPv4 Address

1. Select the **Automatic obtainment of IPv4 address** to let DAP-1620 automatically obtain the LAN IPv4 address.

If you want to manually assign the LAN IPv4 address for DAP-1620, do not select the **Automatic obtainment of IPv4 address** checkbox and fill in the **IP address**, **Subnet mask**, **DNS IP address**, **Hostname** fields and, if needed, the **Gateway IP address** field. Make sure that the assigned address does not coincide with the LAN IPv4 address of the router to which your device connects.

! If the LAN IPv4 address of DAP-1620 was changed, it may be necessary to change your PC's NIC settings.



2. Click the **NEXT** button.

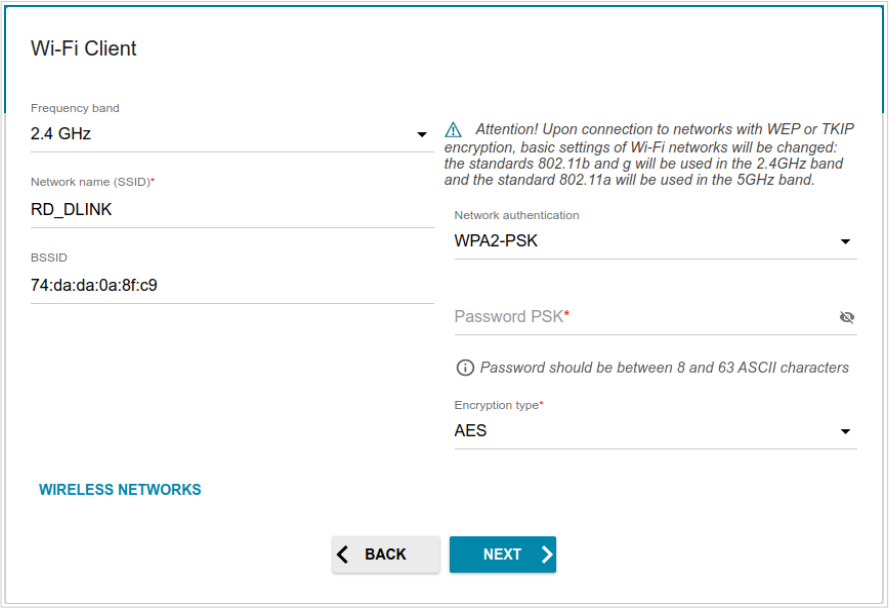
Wi-Fi Client

This configuration step is available for the **Repeater** mode.

1. On the **Wi-Fi Client** page, click the **WIRELESS NETWORKS** button and select the network to which you want to connect in the opened window. When you select a network, the **Network name (SSID)** and **BSSID** fields are filled in automatically.

If you cannot find the needed network in the list, click the **UPDATE LIST** icon ( ).

2. If a password is needed to connect to the selected network, fill in the relevant field. Click the **Show** icon ( ) to display the entered password.

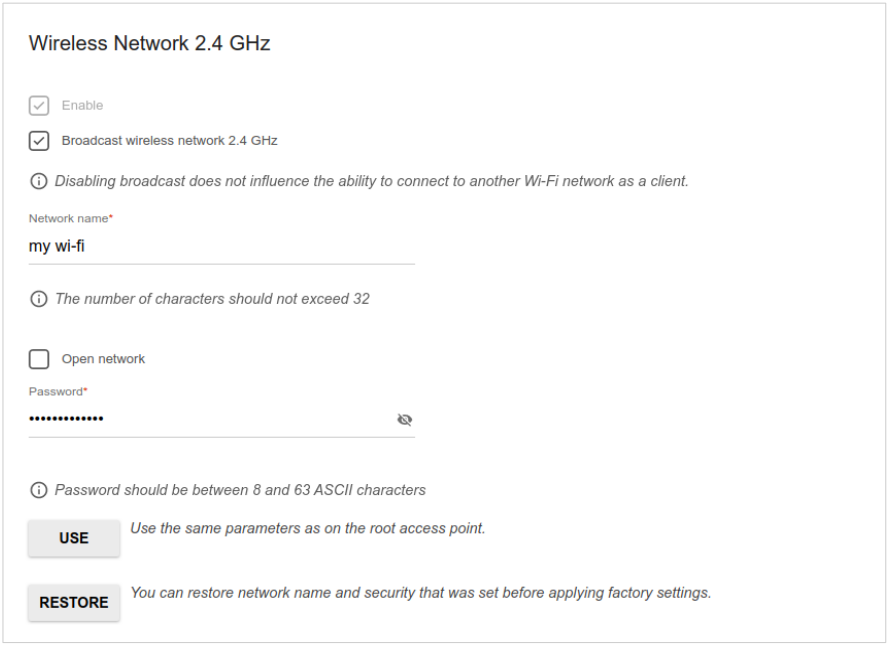


If you connect to a hidden network, select the band where the hidden network operates from the **Frequency band** list and enter the network name in the **Network name (SSID)** field. Then select a needed value from the **Network authentication** list and then, if needed, enter the password in the relevant field.

3. Click the **NEXT** button.

Configuring Wireless Network

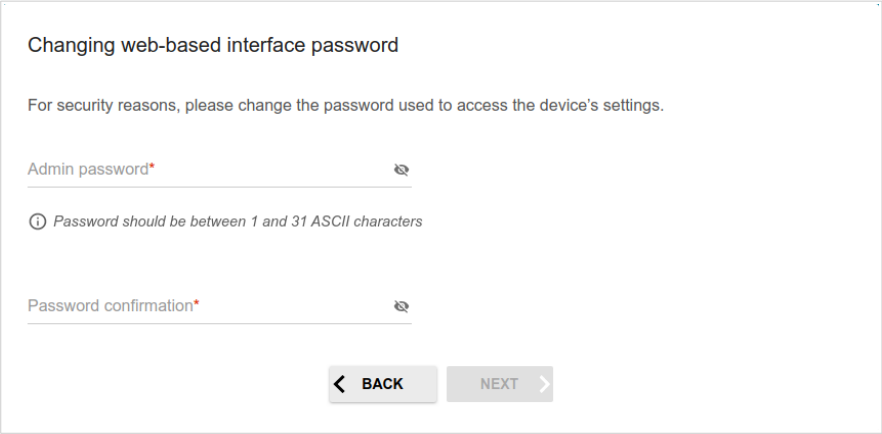
1. On the **Wireless Network 2.4 GHz** page, in the **Network name** field, specify your own name for the wireless network or leave the value suggested by the extender.
2. In the **Password** field, specify your own password for access to the wireless network or leave the value suggested by the extender (see the field **Password** on the back panel of the device).
3. If the extender is used as a Wi-Fi client, you can specify the same parameters of the wireless network as specified for the network to which you are connecting. To do this, click the **USE** button (available for the **Repeater** mode).
4. You can restore the parameters of the wireless network specified before resetting to factory defaults. To do this, click the **RESTORE** button.



5. Click the **NEXT** button.
6. On the **Wireless Network 5 GHz** page, specify needed settings for the wireless network in the 5GHz band and click the **NEXT** button.

Changing Web-based Interface Password

On this page you should change the default administrator password. To do this, enter a new password in the **Admin password** and **Password confirmation** fields. You may set any password except **admin**. Use digits, Latin letters (uppercase and/or lowercase), and other characters available in the US keyboard layout.[7]



! Remember or write down the new password for the administrator account. In case of losing the new password, you can access the settings of the extender only after restoring the factory default settings via the hardware **RESET** button. This procedure wipes out all settings that you have configured for your extender.

Click the **NEXT** button.

On the next page, check all the settings you have just specified.

Also you can save a text file with parameters set by the Wizard to your PC. To do this, click the **SAVE CONFIGURATION FILE** button and follow the dialog box appeared.

To finish the Wizard, click the **APPLY** button.

7 0-9, A-Z, a-z, space, !"#$%&'()*+,-./:;<=>?@[\]^_`{|}~.

SPECIFICATIONS*

Hardware	
Processor	· MT7621AT (880MHz, dual core)
RAM	· 128MB, DDR3 SDRAM
Flash	· 16MB, SPI
Interfaces	· 10/100/1000BASE-T LAN port
LEDs	· POWER/WPS · Wi-Fi Signal Strength
Buttons	· WPS button to set up wireless connection · RESET button to restore factory default settings
Antenna	· Two external non-detachable antennas (1dBi gain for 2.4GHz and 2dBi gain for 5GHz)
MIMO	· 2 x 2, MU-MIMO
Power connector	· CEE 7/16 plug for AC power supply

Software	
Network functions	· DHCP server · Advanced configuration of built-in DHCP server · Stateful/Stateless mode for IPv6 address assignment · Automatic obtainment of LAN IP address · DNS relay · Autonegotiation of speed, duplex mode, and flow control/ Manual speed and duplex mode setup for Ethernet port
Firewall functions	· MAC filter

* The device features are subject to change without notice. For the latest versions of the firmware and relevant documentation, visit www.dlink.ru.

Software	
Management and monitoring	· Access to settings through SSH/TELNET/WEB (HTTP/HTTPS) · Multilingual web-based interface for configuration and management · Firmware update via web-based interface · Automatic notification on new firmware version · Saving/restoring configuration to/from file · Support of logging to remote host · Automatic synchronization of system time with NTP server and manual time/date setup · Ping utility · Traceroute utility · SNMP agent (SNMPv2/v3) · Schedules for MAC filters rules, automatic reboot, and enabling/disabling wireless network

Wireless Module Parameters	
Standards	· IEEE 802.11a/n/ac · IEEE 802.11b/g/n
Frequency range *The frequency range depends upon the radio frequency regulations applied in your country*	· 2400 ~ 2483.5MHz · 5150 ~ 5350MHz · 5650 ~ 5850MHz
Wireless connection security	· WEP · WPA/WPA2 (Personal/Enterprise) · MAC filter · WPS (PBC/PIN)

Wireless Module Parameters	
Advanced functions	· Super Mesh function · Support of client mode · WMM (Wi-Fi QoS) · Information on connected Wi-Fi clients · Advanced settings · Smart adjustment of Wi-Fi clients · Support of MBSSID · Limitation of wireless network rate · Periodic scan of channels, automatic switch to least loaded channel · Support of 802.11ac (5GHz) and 802.11n (2.4GHz) TX Beamforming · Autonegotiation of channel bandwidth in accordance with environment conditions (20/40 Coexistence)
Wireless connection rate[8]	· IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, and 54Mbps · IEEE 802.11b: 1, 2, 5.5, and 11Mbps · IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, and 54Mbps · IEEE 802.11n (2.4GHz): 6.5–300Mbps (MCS0–MCS15) to 400Mbps (QAM256) · IEEE 802.11n (5GHz): from 6.5 to 300Mbps (from MCS0 to MCS15) · IEEE 802.11ac (5GHz): from 6.5 to 867Mbps (from MCS0 to MSC9)

8 Maximum wireless signal rate is derived from IEEE standard 802.11ac and 802.11n specifications. In order to get the rate of 400Mbps in the 2.4GHz band, a Wi-Fi client should support MIMO 2x2 and QAM256 modulation scheme. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.

Wireless Module Parameters	
Transmitter output power *The maximum value of the transmitter output power depends upon the radio frequency regulations applied in your country*	· 802.11a (typical at room temperature 25 °C) 12dBm (±2 dB) · 802.11b (typical at room temperature 25 °C) 14dBm (±2 dB) · 802.11g (typical at room temperature 25 °C) 15dBm (±2 dB) · 802.11n (typical at room temperature 25 °C) 2.4GHz 15dBm (±2 dB) 5GHz 12dBm (±2 dB) · 802.11ac (typical at room temperature 25 °C) 12dBm (±2 dB)
Receiver sensitivity	· 802.11a (typical at PER = 10% (1000-byte PDUs) at room temperature 25 °C) -93dBm at 6Mbps -91dBm at 9Mbps -90dBm at 12Mbps -87dBm at 18Mbps -84dBm at 24Mbps -81dBm at 36Mbps -76dBm at 48Mbps -75dBm at 54Mbps · 802.11b (typical at PER = 10% (1000-byte PDUs) at room temperature 25 °C) -94dBm at 2Mbps -89dBm at 11Mbps · 802.11g (typical at PER = 10% (1000-byte PDUs) at room temperature 25 °C) -94dBm at 6Mbps -92dBm at 9Mbps -91dBm at 12Mbps -88dBm at 18Mbps -85dBm at 24Mbps -82dBm at 36Mbps -77dBm at 48Mbps -76dBm at 54Mbps

Wireless Module Parameters	
	· 802.11n, 2.4GHz (typical at PER = 10% (1000-byte PDUs) at room temperature 25 °C) HT20 -93dBm at MCS0/8 -90dBm at MCS1/9 -88dBm at MCS2/10 -85dBm at MCS3/11 -81dBm at MCS4/12 -77dBm at MCS5/13 -76dBm at MCS6/14 -74dBm at MCS7/15 HT40 -91dBm at MCS0/8 -88dBm at MCS1/9 -85dBm at MCS2/10 -82dBm at MCS3/11 -79dBm at MCS4/12 -75dBm at MCS5/13 -73dBm at MCS6/14 -72dBm at MCS7/15 · 802.11n, 5GHz (typical at PER < 10% at room temperature 25 °C) HT20 -92dBm at MCS0/8 -89dBm at MCS1/9 -87dBm at MCS2/10 -84dBm at MCS3/11 -80dBm at MCS4/12 -76dBm at MCS5/13 -75dBm at MCS6/14 -73dBm at MCS7/15 HT40 -90dBm at MCS0/8 -86dBm at MCS1/9 -84dBm at MCS2/10 -80dBm at MCS3/11 -77dBm at MCS4/12 -73dBm at MCS5/13 -71dBm at MCS6/14 -70dBm at MCS7/15

Wireless Module Parameters	
	· 802.11ac (typical at PER = 10% (1000-byte PDUs) at room temperature 25 °C) HT20 -93dBm at MCS0 -90dBm at MCS1 -87dBm at MCS2 -84dBm at MCS3 -80dBm at MCS4 -76dBm at MCS5 -74dBm at MCS6 -73dBm at MCS7 -69dBm at MCS8 -65dBm at MCS9 HT40 -90dBm at MCS0 -86dBm at MCS1 -84dBm at MCS2 -81dBm at MCS3 -77dBm at MCS4 -73dBm at MCS5 -72dBm at MCS6 -70dBm at MCS7 -66dBm at MCS8 -64dBm at MCS9 HT80 -87dBm at MCS0 -83dBm at MCS1 -80dBm at MCS2 -77dBm at MCS3 -74dBm at MCS4 -70dBm at MCS5 -68dBm at MCS6 -67dBm at MCS7 -63dBm at MCS8 -61dBm at MCS9
Modulation schemes	· 802.11a: BPSK, QPSK, 16QAM, 64QAM with OFDM · 802.11b: DQPSK, DBPSK, DSSS, CCK · 802.11g: BPSK, QPSK, 16QAM, 64QAM with OFDM · 802.11n: BPSK, QPSK, 16QAM, 64QAM, 256QAM with OFDM · 802.11ac: BPSK, QPSK, 16QAM, 64QAM, up to 256QAM with OFDM

Physical Parameters	
Dimensions (L x W x H)	· 64 x 50 x 105 mm (2.52 x 1.97 x 4.13 in)
Weight	· 165 g (0.36 lb)

Operating Environment	
Power	· Input: 110 to 240 V AC, 50/60 Hz
Temperature	· Operating: from 0 to 40 °C · Storage: from -20 to 65 °C
Humidity	· Operating: from 10% to 90% (non-condensing) · Storage: from 5% to 90% (non-condensing)

SAFETY RULES AND CONDITIONS

Please carefully read this section before installation and connection of the device. Make sure that the device is not damaged. The device should be used only as intended in accordance with the documents.

The device is intended for use in dry, clean, dust-free, and well ventilated areas with normal humidity away from strong heat sources. Do not use the device outdoors or in the areas with high humidity. Do not place foreign objects on the device. Do not obstruct the ventilation openings of the device. The environmental temperature near the device and the temperature inside the device's cover should be within the range from 0 °C to +40 °C.

Plug the device only into working electrical outlets with parameters indicated on the device.

Do not open the cover of the device! Unplug the device before dusting and cleaning. Use a damp cloth to clean the device. Do not use liquid/aerosol cleaners or magnetic/static cleaning devices. Prevent moisture getting into the device.

The service life of the device is 2 years.

TECHNICAL SUPPORT

You can find software updates and user documentation on our website.

D-Link provides its customers with free support within the product's warranty period.

Customers can contact the technical support group by phone or by e-mail/Internet.

FOR TELEPHONE NUMBERS AND ADDRESSES OF D-LINK OFFICES WORLDWIDE VISIT

http://www.dlink.com