



**Installation and Operation Manual
for Perenio® PEACG01
Control Gateway**

Introduction

The Control Gateway is specially designed to monitor and manage operation of all connected sensors and other Zigbee devices without passing commands to third party servers. It is used as part of the **Perenio Smart Building Management System** and acts as a Zigbee Coordinator ensuring a reliable wireless data transmission.

The present Manual contains a detailed description of the device, as well as instructions for its installation and operation.

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Responsibility and Technical Support

The present document is prepared in accordance with all necessary requirements and contains detailed information on the device installation, configuration and control valid as of the date of its issue.

Perenio IoT reserves the right to modify the device and make corrections or changes to this document without prior notice of the User, and shall not be responsible for any potential negative consequences which may arise from the use of an outdated version of the document, as well as for any possible technical and/or typographical errors, either omitted or accidental, or any related damage that may result from the document transfer or the use of devices.

Perenio IoT shall make no guarantee with respect to any data contained herein including but not limited to the device merchantability and fitness for a particular purpose.

In case of any discrepancies between language versions of this document, the Russian version of this User Manual shall prevail.

For any technical issues, please contact your local *Perenio IoT* representative or the Tech Support Department at **perenio.com**.

The most common problems may be found in Section 7 of the present document and at **perenio.com** where you can also download the latest version of this Installation and Operation Manual.

Manufacturer:

Perenio IoT spol s r.o.

Na Dlouhem 79, Ricany – Jazlovice 251 01, Czech Republic

perenio.com

Conformance to Standards



The device is CE certified and complies with requirements of the following Directives of the European Union:

- 2014/53/EU Radio Equipment Directive (RED);
- 2014/35/EU Low Voltage Directive;
- 2004/30/EU Electromagnetic Compatibility Directive.



The device complies with the UKCA marking requirements for selling the device in the UK



The device has passed all procedures of assessments established in Technical Regulations of the Customs Union and conforms with standards of the Customs Union



The device complies with the requirements of Restriction of the Use of Certain Hazardous Substances in Electronic and Electrical Equipment (2011/65/EU Directive)



The device complies with requirements of the Technical Regulations of the Republic of Belarus TR 2018/024/BY (Telecommunications. Security)



The external power source complies with STB 2463-2020 where requirements for the environmental design of external power sources in the area of average effective efficiency and power consumption in idle mode are established



The national conformity mark of the Ukraine indicating that the device meets requirements of all applicable technical regulations



The crossed-out trash can symbol is used to label electrical and electronic equipment, and indicates its separate collection.

The symbol is given in accordance with the Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE)* and indicates that this equipment requires separate collection at the end of its life and must be disposed of separately from unsorted household waste.

To protect the environment and human health, please dispose of used electrical and electronic equipment according to approved safe disposal guidelines



Details on available Certificates are specified in Section 6 of the present document. For copies of Certificates and Reports, please visit a corresponding Section at **perenio.com**.

BG	CZ	DE	ES	FR
GR	IT	KZ	LT	LV
NL	NO	PL	RO	RU
SE	SK	TR	UA	UK

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1 General Description and Specifications

1.1 Device Purpose

The **Perenio[®] PEACG01** Control Gateway (hereinafter referred to as the CG) is designed to join operation of Zigbee devices within the **Perenio Smart Building Management System**, as well as to collect data and alert Users in the event of an alarm. The Control Gateway searches for and manages devices via the Mobile App.

Key features of the **PEACG01** Control Gateway are as follows:

- Support for Wi-Fi and Zigbee;
- iOS (12.1 and higher) and Android (5.0 and higher) smartphone compatibility;
- Possibility to connect up to 100 Zigbee devices located within the radius of 40 meters;
- Support for cloud services, collection and analysis of data;
- Remote control via a free Mobile App.



Figure 1 - The Control Gateway Exterior

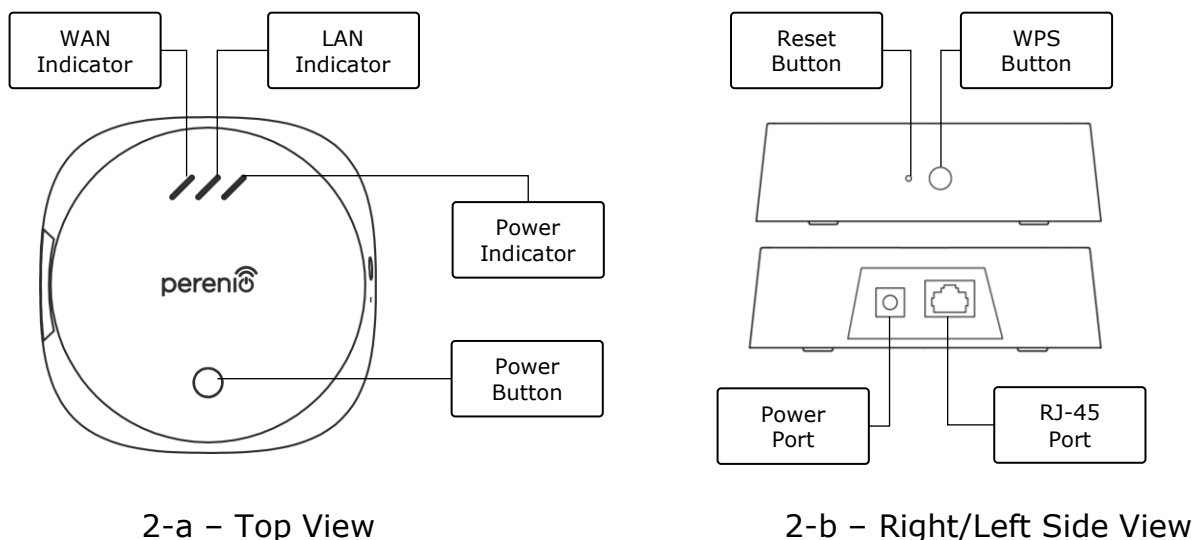


Figure 2 - Buttons, Ports and Indicators

Buttons, Ports and Indicators

WAN Indicator	It lights up in the case of connection to the Remote Server
LAN Indicator	It lights up in the case of connection via the Ethernet Cable
Power Indicator	It lights up in the case of connection to the mains
Power Button	The button used to power on/off the Control Gateway
WPS Button	The button used for quick wireless network setup
Reset Button	The button used to reset the device to factory settings. After resetting, the User shall connect the Control Gateway to the Internet and then start the sensor search process
Power Port	The port for connecting the Control Gateway to the mains
RJ-45 Port	The cable port used for connection of the Control Gateway to the router (<u>This function is currently unavailable</u>)

Table 1 – Control Gateway LED Indicator Statuses

Indicator	Status	Description
WAN Indicator	Light is on	The CG is connected to the Remote Server
	Light is off	The CG is disconnected from the Remote Server
LAN Indicator	Light is on	The CG is Ethernet-connected to the network
	Light is off	The CG is not Ethernet-connected to the network
Power Indicator	Light is on	The power is on
	Light is off	The power is off

ATTENTION! All Products and the Mobile Application of the Company (including any future software and hardware whether in-house or third-party developed) are not intended for emergency responses and cannot be used as fire-extinguishing equipment and/or for emergency intervention, including but not limited to fires, flooding, gas leaks or explosions, burglary and theft, as well as natural disasters and other force majeure circumstances leading to damage and/or losses incurred by the Client or caused to their estates, personal property and/or other products, devices, personal data and privacy.

1.2 Technical Specification

Table 2 – Basic Technical Specifications

Parameter	Value
Article	PEACG01
Operating System	Linux
Communication Technology	Wi-Fi (IEEE 802.11b/g/n), Zigbee 3.0 (IEEE 802.15.4)
Bit Rate	802.11b (11 Mbps max), 802.11g (54 Mbps max), 802.11n (300 Mbps max), 802.15.4 (250 Kbps)
WEP/WPA2 Encryption	Support of 128-bit encryption
Supported Protocol	TCP/IP
IoT Protocols	MQTT and CoAP
Compatibility	iOS (12.1 and higher) and Android (5.0 and higher)
SoC	QCA4531 (Wi-Fi), EFR32/Cortex-M4 (Zigbee)
Flash Memory	NAND Flash: 128MB NOR Flash: 512KB
Zigbee Coverage	up to 40 meters (open area)
Zigbee Antenna	Type: Built-in Max RF Output Power: 10dBm Receiver Sensitivity: -93dBm Antenna Gain: 1dBi
Wi-Fi Antenna	Type: Built-in Max RF Output Power: 16dBm Receiver Sensitivity: -83dBm Antenna Gain: 2.5dBi
Operating Frequency Band	2400MHz to 2483.5MHz
Server	Remote Server
Power	Voltage: DC 5V Current: 0.7A Power Consumption: 5W (max)
Operating Temperature	0°C to +40°C

Parameter	Value
Operating Humidity	5% to 85% RH
Storage Temperature	-20°C to +70°C
Storage Humidity	5% to 85% RH
Casing Protection Class	IP21
Connected Devices	up to 100 Zigbee devices
RTC Module	Built-in
Installation	On a horizontal surface (For indoor installation only)
Casing Material	PC (Polycarbonate)
Color	White
Dimensions (L x W x H)	110mm x 110mm x 31mm
Weight	123.7g (259g with accessories)
Warranty Period	24 months
Service Life	24 months
Certification	CE, EAC, RoHS, UA.TR
Data Protection	GDPR Compliance

1.3 Scope of Delivery

The following items and accessories are supplied within the **Perenio® PEACG01** Control Gateway package:

1. PEACG01 Control Gateway (1 pc.)
2. Ethernet Cable (Length: 1.0 m) (1 pc.)
3. Power Adapter (Output: 5V) (1 pc.)
4. Quick Start Guide (1 pc.)
5. Warranty Card (1 pc.)
6. Stickers (2 pcs.)



Figure 3 - Scope of Supply*

* Images of accessories are provided for informational purposes only

1.4 Packaging and Labelling

The **Perenio[®] PEACG01 Control Gateway** is supplied in a carton Gift Box of 159mm x 159mm x 72mm (L x W x H) containing the full name and marking of the device, the list of accessories provided and basic technical specifications thereof, as well as the date of manufacture and information about the manufacturing plant of devices.

Weights of the package are as follows:

- Net weight: 259g;
- Gross weight: 454g.

1.5 Safe Operation Rules

For the proper and safe operation of **Perenio[®] Control Gateway**, follow the instructions and safety procedures described in the present Manual. The Manufacturer shall not be liable for any damage caused as a result of improper operation of devices.

Safe Operation Conditions

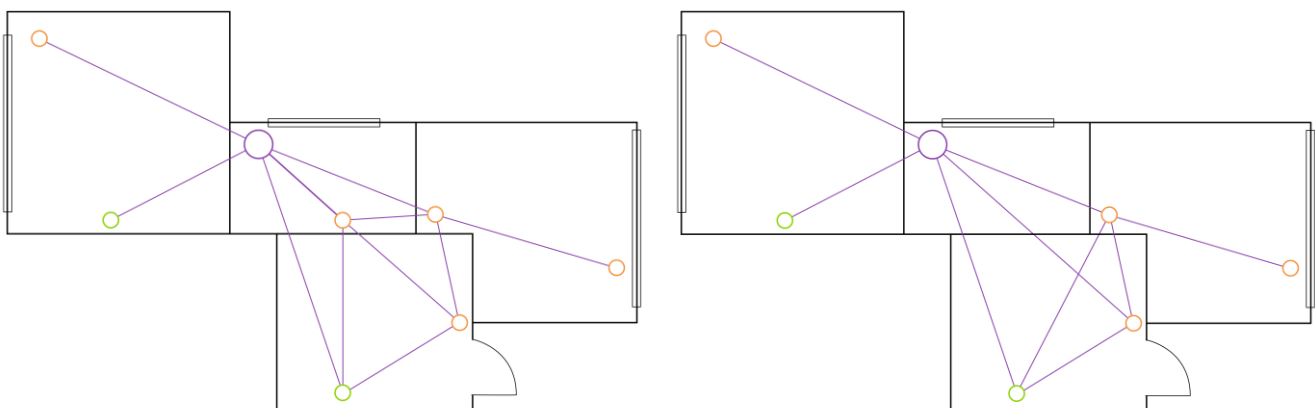
1. The device shall be installed indoors only.
2. Users shall observe storage/transportation conditions, as well as the operating temperature mode of the device as declared by the Manufacturer.
3. Users must not disassemble or attempt to repair the device on their own.
4. Users must not drop, throw or bend the device.
5. In order to avoid personal injury, it shall not be allowed to use the cracked or in any other way damaged device.
6. Use dry cloth or cloth soaked in a small amount of water for cleaning (don't use harsh chemicals/cleaning agents). The device must be powered off before cleaning.

7. Children shall not be allowed to use the device unsupervised and/or play with it.

1.6 Why Zigbee

The use of Zigbee 3.0 allows Users to organize a convenient, safe and energy-efficient environment. The key feature of the Zigbee Protocol is that devices (those which are signal repeaters) do not need to directly contact the Control Gateway in order to transmit a signal, since they can transmit it to another device within the network (See Figure 4). So, in the case of failure of any node, the network will automatically be restored by establishing new routes for data transfer. This increases both reliability and flexibility of the system making it possible to install sensors at larger distance from the Control Gateway even in the presence of obstacles (for example, reinforced concrete walls).

It should also be noted that the Zigbee Protocol has several levels of security and uses the AES-128 encryption algorithm (used by banking and government agencies), which indicates a high level of the transmitted signal protection.



4-a – Original Mesh Topology

4-b – Making New Routes

Figure 4 – Self-Recovery of Zigbee Network

Thus, the advantages of using Zigbee 3.0 include the following:

- Data transmission over long distances and protection of transmitted data;
- Ultra-low power consumption and self-recovery of the network;
- Possibility of expanding the network to 65,000 devices and data exchange rate of up to 250kbps.

NOTE. Sensors and other battery-powered **Perenio®** devices do not have a signal repeating function.

1.7 The Use of Power Adapters

Only the original power adapter included in the delivery package, or some other adapter recommended by *Perenio IoT* shall be used to power or charge the device. This is due to the fact that an incompatible power adapter can cause longer charging time, or a device failure, or a fire, whereas the original power adapter considers all the mandatory technical parameters, namely:

- a. **Voltage** the power supply output (See "OUTPUT, V" parameters on the adapter body);

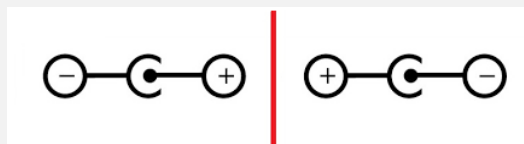
ATTENTION! The output voltage of the power adapter must strictly correspond to the voltage consumed by the main device.

- b. **Current** at the power supply output (See "OUTPUT, A/mA" on the adaptor body);

NOTE. The current delivered by the power adapter must be equal to or slightly higher than the rated current for the main device.

- c. **Polarity** on the connector (pin) of the power adapter;

NOTE. The polarity indicates the part (external or internal) of the connector that receives positive current.



The dot in the above image represents the connector's inner contact, and the crescent moon represents the outer contact. Most connectors have two contacts. One contact carries a voltage ("+"), while the other - zero ("-").

ATTENTION! The poles must not be interchanged.

Some devices are charged by or run on an AC power adapter. In this case, the adapter has no indication of the polarity, and the AC "~" symbol is shown next to the indicated output voltage.

- d. **Configuration** and size of the power adapter cable connector;

NOTE. Geometric shape, outer/inner diameter size and length of the power adapter cable connector must match the parameters of the power port connector of the main device.

Power adapters supplied by *Perenio IoT* with the devices have one of the following types of cable connectors:

1. Standard cylindrical shaped connectors for powering the Indoor Motor Camera and the Control Gateway.
2. USB connectors for powering the Indoor Fixed Camera, the IoT Router and the Ion Diffuser (MicroUSB, Type-C).

There are also devices that are supplied only with a cable (without a power adapter), such as Red Atom device and UV Mini Indigo lamp). Power cables for such devices are also equipped with the second type of the connector.

Table 3 – Types of connectors and USB Standards

Standard	Parameters	Description
USB1.0	5V, up to 150mA 0.75W DTS*: 12Mbps	Obsolete standard of information exchange and connection methods (not used due to too low data transfer rate)
USB2.0	5V, up to 500mA 2.5W DTS*: 480Mbps	Suitable for devices with low power consumption, but data can only be transmitted in one direction at a time
USB3.0	5V, up to 900mA 4.5W DTS*: 5Gbps	It supports backward compatibility with the old standard. It has the same shape as USB2.0 Type-A, but colored blue. Data can be transmitted in both directions at the same time
USB Type-C (without PD**)	Up to 5V, up to 3A 15W DTS*: 10Gbps	This is an oval shaped connector with reversible key. It can be used for data transfer of the USB3.1 interface
USB-PD	Up to 20V, up to 5A 100W DTS*: 10Gbps	This is a USB Type-C with a power transfer function up to 100W. This option is suitable for powerful devices (laptops, large tablets), but may not be suitable for less powerful devices.

Standard	Parameters	Description
		Therefore, it is not used with Perenio[®] devices

* DTS means data transfer speed

**PD means Power Delivery protocol

NOTE. USB Type-C is not USB3.1, because USB2.0, USB 3.0 or USB3.1 can be used to supply power. On the other hand, USB Type-C is not USB Power Delivery and does not necessarily support USB Power Delivery or USB3.1.

ATTENTION! Currently, *Perenio IoT* **does not supply** power adapters with connectors that support USB-PD.

ATTENTION! Do not connect a USB-PD compatible power adapter (Power Delivery fast charging standard) to the device. It is also not permitted to use the charger to power or recharge incompatible devices (For more information on the charger, see the technical specifications).

The manufacturer shall not be liable for any consequences, whether direct or indirect, arising from the use of the power adapter for purposes other than its intended use, or to supply power or charge the device not included in the scope of delivery.

As the power adapter cable connectors are subjected to daily stress, they can become damaged over time. Below see basic signs of a faulty charger connector:

- Unreasonable switching off of the device;
- Unreasonable switching of the device to the battery mode;
- Overheating of the USB plug;
- Periodical switching off of the device in the absence of the mains failure;
- Start of the charging process only after the cable is additionally fixed, or the plug is reconnected;
- No battery charging process when the power adapter is connected.

ATTENTION! Do not charge your device from external devices such as PC, laptop, tablet or smartphone if the maximum current of 500mA/900mA (USB2.0 and USB3.0 ports, respectively) is insufficient to provide the required power input level to the device.

2 Installation and Setup

Before installation, the User shall select one of possible CG locations on a horizontal surface (floor, table, stand, etc.), as well as make sure that the selected location meets the following requirements:

- Availability of a mains socket near the installation site of the Control Gateway;
- Flat and stable surface in the installation site of the Control Gateway.

NOTE. It is not recommended to install the device in areas with a high level of noise and a high-frequency interference. Reinforced concrete floors may reduce distance of wireless signal transmission.

It is recommended to install the Control Gateway so that it is at the minimum possible distance from sensors and other Zigbee devices.

Below see possible locations for the Control Gateway:

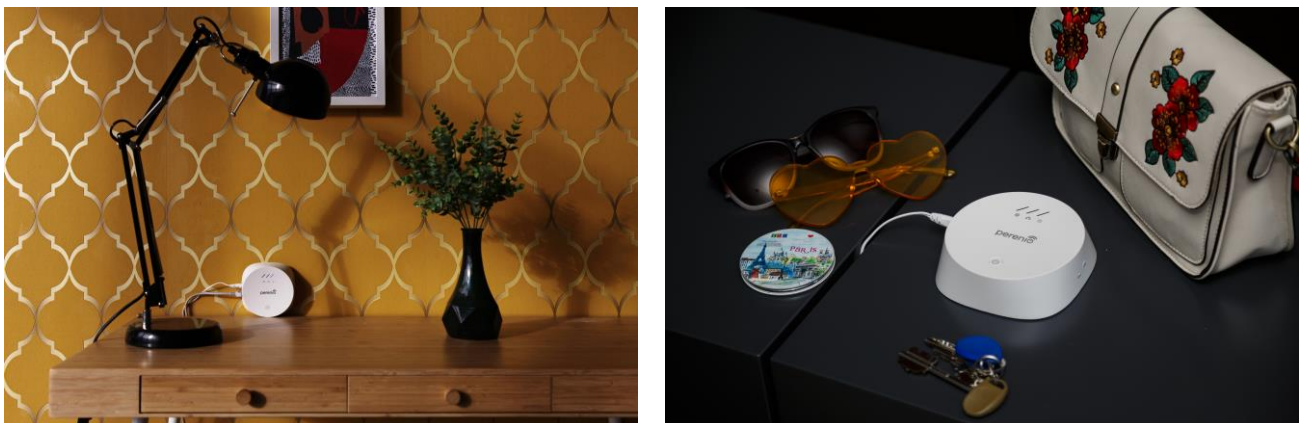


Figure 5 - Example of Installation*

* Images are provided for informational purposes only

The entire setting-up process can be divided into several key steps as follows:

- Installation of the Control Gateway in the selected location;
- Logging in to the **Perenio Smart** User Account;
- Activation of the Control Gateway via the Mobile App.

NOTE. The *Perenio Smart: Building Management System Mobile App Manual* document is available for downloading at the web-site.

2.1 Initial Installation and Configuration

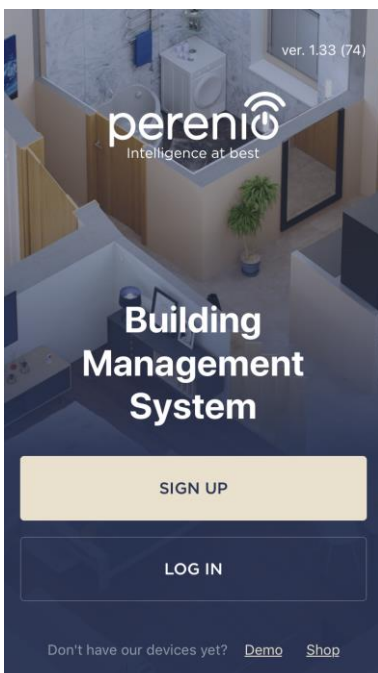
To ensure proper installation and operation of the Control Gateway, the User shall perform the following steps:

1. Unpack the Control Gateway and connect it to the power source (220V) using the Power Adapter.
2. Log in to the **Perenio Smart Building Management System** mobile application on your smartphone (See par. **A** below).
3. Activate the device in the mobile app (See pars. **B** and **C**, as well as par. 2.6 for network frequency selection).
4. Enter the desired Control Gateway name, Location and Room.
5. Wait for firmware update process to be completed (See par. 2.3).

ATTENTION! The Control Gateway firmware update process may be started upon its initial activation in the mobile application. **It is not allowed to power off the device after the firmware update process is started!**

The Device must not be switched off or disconnected from the mains for at least **5 minutes** after the RESET Button is pressed.

A. INSTALLATION OF THE PERENIO SMART MOBILE APP



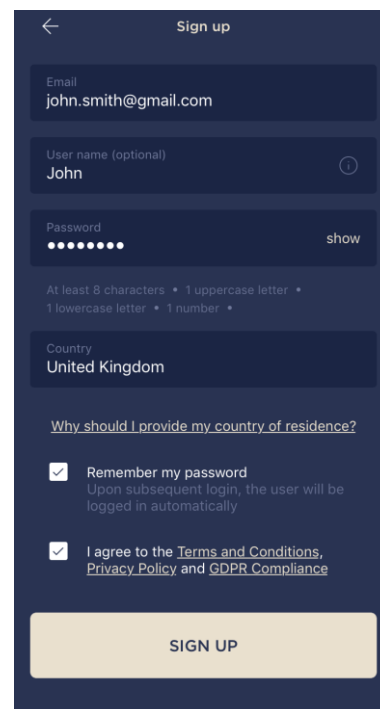
The Control Gateway shall be managed through a free mobile application available for downloading in Google Play or App Store.

In order to log in to the User Account, follow the steps below:

- a. Connect your smartphone to the Wi-Fi Network and download the **Perenio Smart Building Management System** app from Google Play or App Store;
- b. Register a new User Account (See par. **A.1.** below) or sign in to an existing User Account (See par. **A.2.** below).

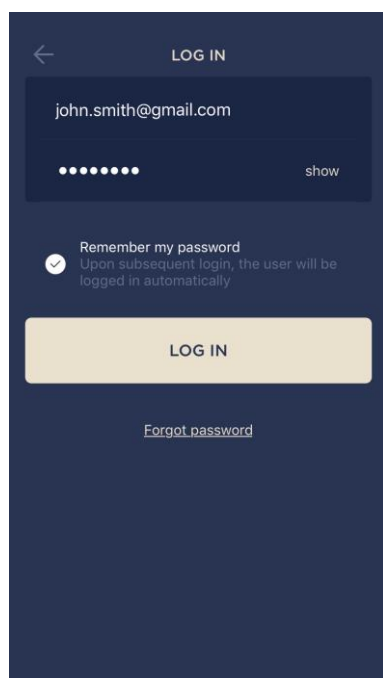
A.1. NEW USER ACCOUNT REGISTRATION

- a. Fill in your e-mail address, user name and password (8 or more symbols including at least one capital letter and one number), then select the country of residence;
- b. Agree to General Terms and Conditions, Privacy Policy and provisions for personal data protection (accessible by the link);
- c. Click on the **SIGN UP** button.
The User will receive an email to verify the User Account (Follow the link);
- d. Log in to the User Account.



The screenshot shows a mobile application interface for signing up. At the top, there is a back arrow and the text "Sign up". Below this, there are four input fields: "Email" with the value "john.smith@gmail.com", "User name (optional)" with the value "John", "Password" with masked characters and a "show" link, and "Country" with the value "United Kingdom". Below the country field, there is a link "Why should I provide my country of residence?". There are two checkboxes: "Remember my password" (checked) with the text "Upon subsequent login, the user will be logged in automatically", and "I agree to the Terms and Conditions, Privacy Policy and GDPR Compliance" (checked). At the bottom, there is a large yellow button labeled "SIGN UP".

A.2. LOGGING IN TO THE EXISTING USER ACCOUNT



The screenshot shows a mobile application interface for logging in. At the top, there is a back arrow and the text "LOG IN". Below this, there are two input fields: "Email" with the value "john.smith@gmail.com" and "Password" with masked characters and a "show" link. Below the password field, there is a "Remember my password" checkbox (checked) with the text "Upon subsequent login, the user will be logged in automatically". At the bottom, there is a large yellow button labeled "LOG IN" and a link "Forgot password" below it.

- a. Enter your e-mail address and password in the login screen.
- b. Click on the **LOG IN** button.

NOTE. If the password is lost, the User can restore it by clicking on a corresponding link on the screen.

To restore a forgotten password, use the e-mail address linked to your User Account, as instructions on changing the password will be sent thereto.

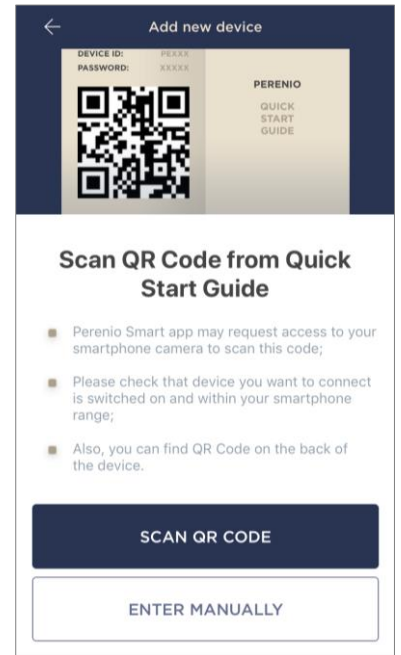
B. DEVICE ACTIVATION BY QR CODE SCANNING

a. Switch to the QR Scan screen as follows:

- **For new Users:** The QR Scan screen will be displayed immediately after the first login to the Perenio Smart App User Account;
- **For existing Users:** After login to the Perenio Smart App User Account, click on the “+” icon in the upper right corner of the Devices tab and then the Control Gateway device in the list (See Figure 6).

b. Click on the **SCAN QR CODE** button;

c. Confirm the permission to access your Camera in the pop-up window (It may not be available for certain smartphone models);



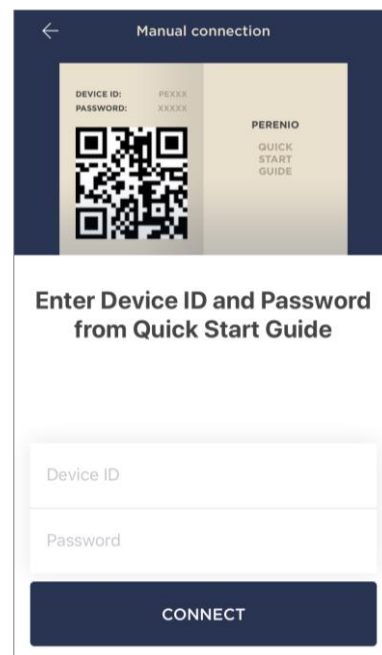
d. Find the QR Code sticker on the back of the Quick Start Guide supplied with the Control Gateway or on the bottom of the Control Gateway and place your smartphone 15-20 cm away from it, so that the QR Code is completely visible on the smartphone screen (See the picture on the left).

NOTE. In the event that the QR Code can't be scanned, you may activate the device manually (see par. **B.1.** below).

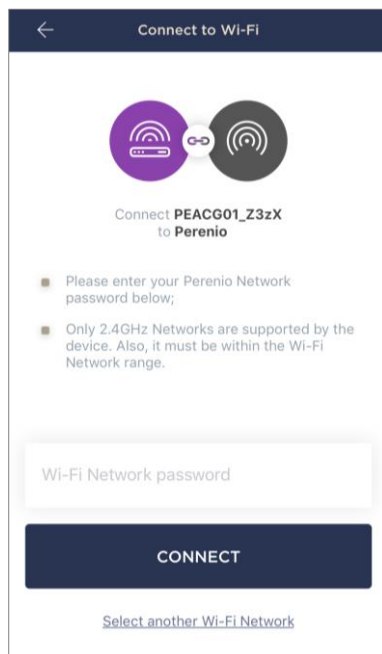
B.1. MANUAL ACTIVATION OF THE DEVICE

If the QR Code was damaged or lost, you can enter the device data manually as follows:

- Click on the **ENTER MANUALLY** button at the bottom of the QR Code scan screen (See the figure in par. **B**);
- Enter the Device ID and the Password specified in the Quick Start Guide or on the bottom of the device (ID and Password lines next to the QR Code);
- Click on the **CONNECT** button.



C. SENDING WI-FI NETWORK DATA TO THE DEVICE



Do as follows after the screen to connect the device to the Wi-Fi Network will be displayed:

- Enter the password from the Wi-Fi Network or select another network;

NOTE. The device may be connected to Wi-Fi Network of **2.4GHZ** only.

- Click on the **CONNECT** button.

NOTE. Before connecting, make sure that the Control Gateway is powered on and that the smartphone is located at a distance of not more than 2 meters from it.

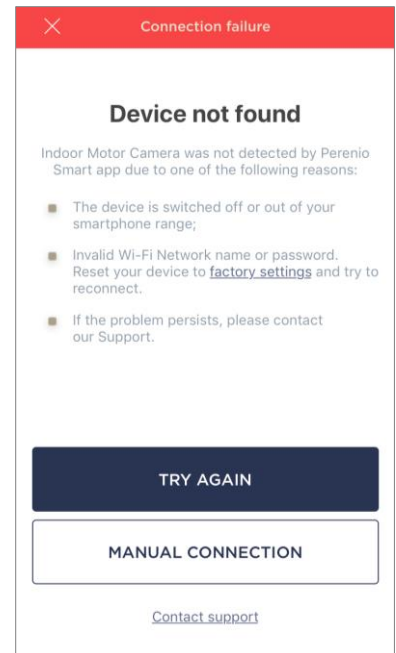
If the Wi-Fi Network password is incorrectly entered more than twice in a row, the Control Gateway may not return to the Access Point mode, which means that the reset to factory settings will be required (See par. 2.4 below).

C.1. CONNECTION ERRORS

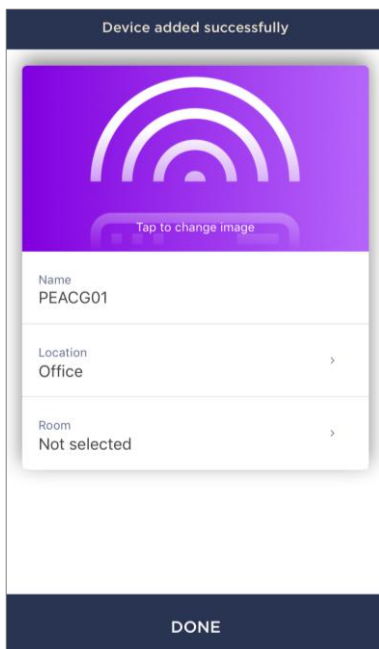
The connection failure of the device may occur due to one of the following reasons:

- a. The device is switched off or at a too long distance from the smartphone;
- b. The device was already activated in the current or some other User Account;
- c. The device ID and/or password or Wi-Fi Network data was entered incorrectly;
- d. Internet Provider failures.

NOTE. To eliminate connection failures, follow instructions specified on corresponding screens of the smartphone.



D. LOCATION AND ROOM SETTING



After successful connection of the device, the User may specify the following:

- a. Image;
- b. Device name;
- c. Device Location;
- d. Room.

You can also select an image for the device by clicking on the "Tap to change image" link.

After completion, click on the **DONE** button.

The Control Gateway will be displayed in the Devices tab.

The entire process of the Control Gateway activation in the Mobile App is shown below.

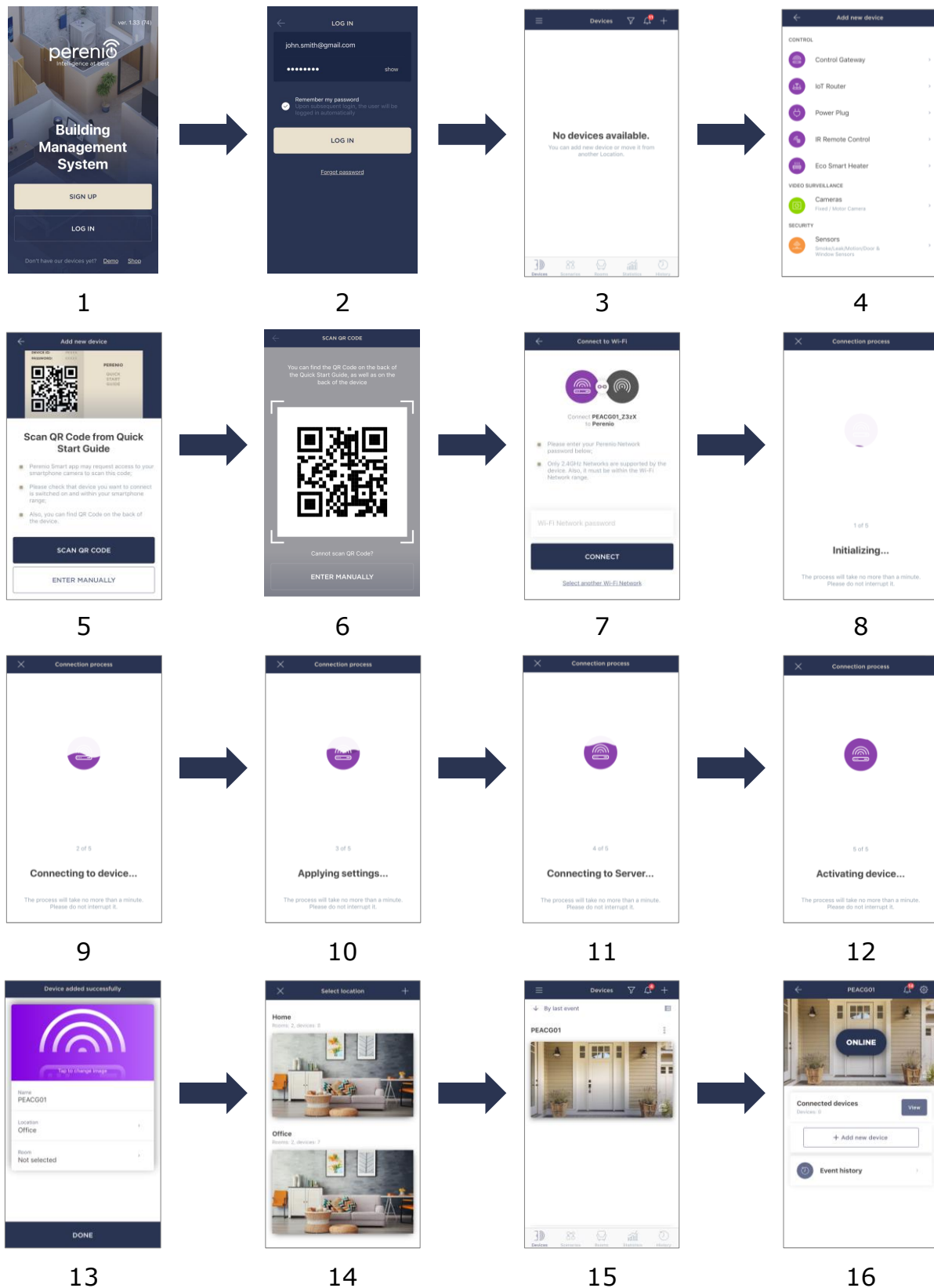
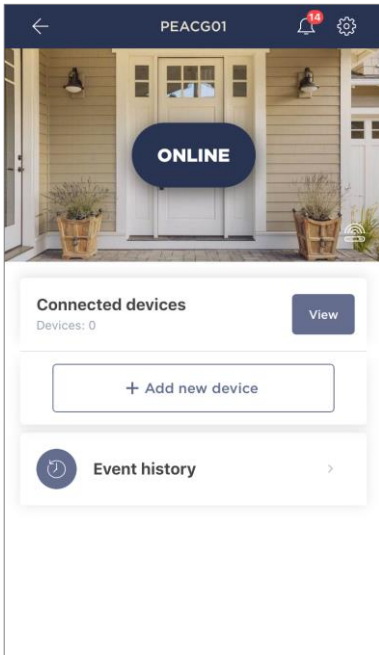


Figure 6 – Add new device procedure (CG activation process)

2.2 Control Gateway Control Panel



The CG control panel is displayed, when you click on its image in the list of connected devices in the "Devices" tab.

The user can perform the following actions in this control panel:

- View the current status of the device ("Online", "Offline");
- View the number of connected Zigbee devices;
- Connect a new device to the Control Gateway;
- View the history of events;
- Make additional settings.

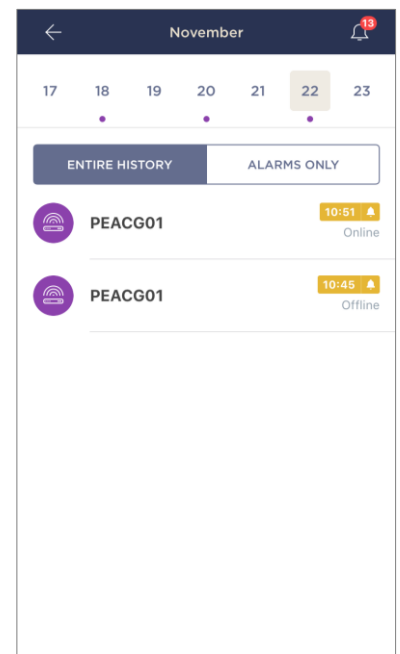
2.2.1 Event History

In this tab, the user can view the status of the device, as well as the time when the event occurred.

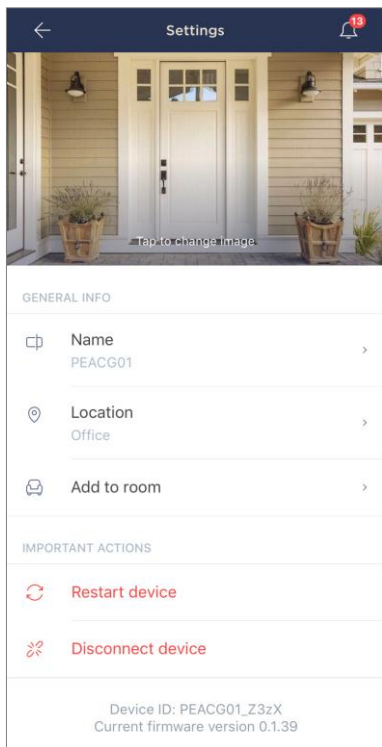
Functions are as follows:

- "ENTIRE HISTORY" filter, which allows viewing the following events:
 - Changes in the security modes ("Online", "Offline");
 - Start and completion of the firmware update.
- "ALARMS ONLY" filter, which displays device actuation events for the Armed Mode only;
- Filter by date.

NOTE that the number of days available for viewing depends on the Subscription Plan (It is 7 days for free Subscription).



2.2.2 Additional Settings

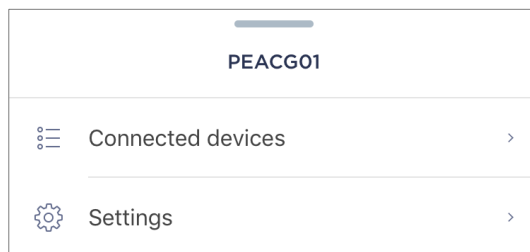


After the Control Gateway is activated in the **Perenio Smart** app, the User can make the following settings remotely:

- Change or upload the device image for easier identification of the Control Gateway in the list of connected devices;
- Change the name of the device;
- Move the device in a new or existing Location;
- Add the device to the Room or change the Room of installation;
- Restart the device;
- Remove the device from the mobile application;
- View the device ID;
- View the current firmware version of the device.

There are two ways to switch to the settings screen, namely:

1. Click on the icon with three dots in the right upper corner of the Control Gateway image in the mobile application and select "Settings".



2. In the control panel, click on the settings icon.



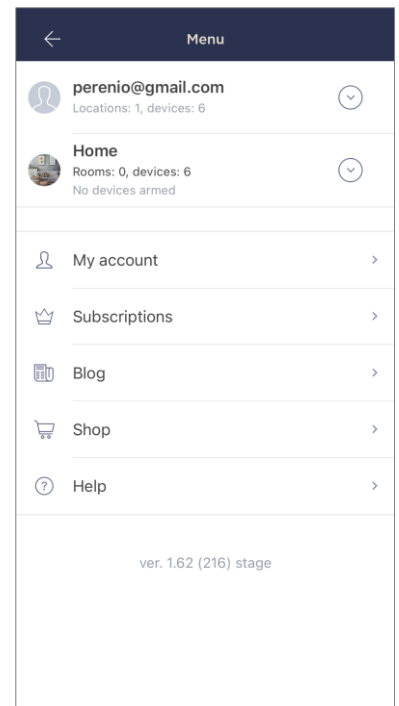
2.2.3 Subscriptions

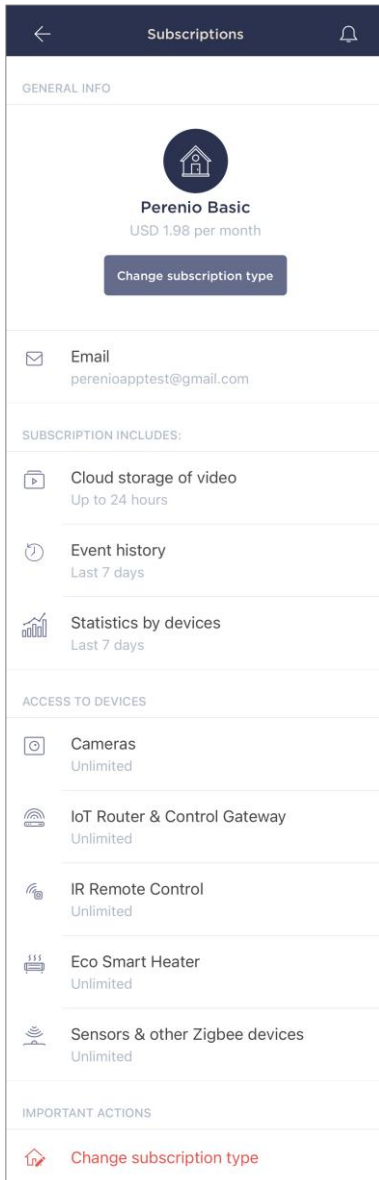
Subscriptions allow the User to increase the storage period of the following information and data in the cloud:

- Videos and images;
- History of events;
- Statistics.

By default, all users of the **“Perenio Smart: Building Management System”** Mobile App are subscribed to a free plan with a limited storage period.

To view and change the current type of Subscription, the User shall go to the Side Menu and click on a corresponding button (See Figure on the right).





The following details for the current Subscription type will be displayed:

- Subscription name (Perenio Basic, Perenio Pro or Perenio Extra);
- Subscription (monthly) fee;
- Option to change the type of Subscription;
- Information about the Subscriber (Email address);
- Information about data storage in the Cloud;
- Information about the maximum number of devices that may be connected to the User Account.

To change the type of Subscription, the User shall click on a corresponding button and select the desired tariff plan from the list. Then, confirm the choice.

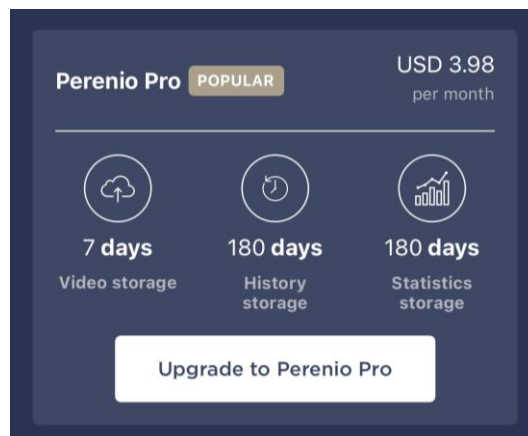
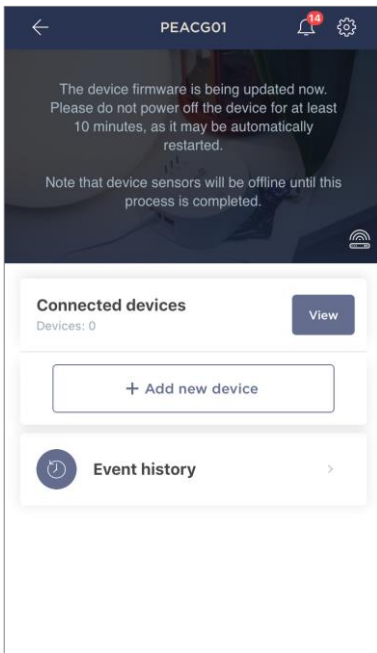


Table 4 – Available subscriptions

Storage	Perenio Basic	Perenio Pro	Perenio Extra
Video	24 hours	14 days	30 days
History	Last 7 days	Last 180 days	Last 365 days
Statistics	Last 7 days	Last 180 days	Last 365 days

2.3 Upgrading the Control Gateway Firmware



Perenio IoT strives to constantly improve the quality of its products, so an automatic software (firmware) update can be launched during the first activation of the Control Gateway, as well as during its normal operation.

In this case, the User will see a corresponding notification in the Control Gateway control panel in his/her User Account.

IMPORTANT! It is not allowed to disconnect the device from the power source for at least **10 minutes** after the firmware update process is started.

During the firmware update process, it will be impossible to view data on the Control Gateway, as well as sensors connected thereto. Also, the device may reboot repeatedly.

The User is allowed to disconnect the device and/or perform reset to factory settings only after receiving an appropriate push-notification to the his/her smartphone that the update process is successfully completed, and after the CG becomes online (The black screen disappears).

NOTE. In the event of any power failures during the firmware update process, the CG malfunctions may occur. In this case, you need to contact our Technical Support Service to restore factory settings.

2.4 Reset to Factory Settings

The reset to factory settings of the Control Gateway shall be performed in the case of any errors or connection failures occurred during the activation process. The reset to factory settings procedure shall be performed as follows:

1. Press and hold the Reset button for **5 seconds** (You can find it on the side of the Control Gateway – see Figure 2).
2. Release the Reset button, and wait for all LED Indicators on the Control Gateway to blink **three (3) times**. Wait until the Power Indicator lights up (For cases when the device was not activated in the Mobile App) and the CG reappears in the lists of available Wi-Fi Networks as an Access Point, or until both the WAN and the Power Indicators light up (For cases when the device was already

activated in the Mobile App). As a rule, the reset to factory settings shall not take more than three (3) minutes.

After completion of the reset process, the Control Gateway is considered ready for operation or reactivation in the Mobile Application.

NOTE. The reset to factory settings is possible only if the Control Gateway is powered on, and there is no firmware update process.

It is not recommended to perform the factory reset until the Control Gateway is deactivated in the Mobile Application (Valid for Devices already being activated in the User Account).

2.5 Ethernet Connection

Currently, this Control Gateway may be connected to the Internet via Wi-Fi only (Connection via an Ethernet cable is temporary unavailable).

2.6 Wi-Fi Router Frequency Settings


Perenio® PEACG01 Control Gateway may be connected to the Wi-Fi Network of 2.4GHz only. Due to this fact, the User shall make sure that your Wi-Fi Router is set to the above frequency before proceeding to par. **C. "SENDING WI-FI NETWORK DATA TO THE DEVICE"**.


Currently, Wi-Fi routers of most manufacturers support both frequencies, but in the case your local Wi-Fi is set to 5GHz only, it is necessary to add the access point of 2.4GHz as well.

NOTE. Your Wi-Fi router frequency settings shall be performed according to instructions of its manufacturer.


2.7 Changing the Room or Location for the Control Gateway

When using the Control Gateway, it may be necessary to change its installation area. The following options are possible:

- 1. Change the room/location** (The Wi-Fi Network remains the same):
 - a. Disconnect the Control Gateway from the mains (The status of the device will be changed to "Offline");
 - b. Move the CG to another room/location and connect it to the mains;
 - c. Wait until the Control Gateway is rebooted (It usually takes no more than 2 minutes) and the status of the device is changed to "Online";
 - d. Change the Room/Location in the Control Gateway settings screen (.

- 2. Change the room/location** (The Wi-Fi Network will also be changed):
 - a. Log in to the Perenio Smart app and select the Location where the Control Gateway is activated;
 - b. In the Devices tab, select the required Control Gateway from the list and click on the  icon (Settings);
 - c. In the pop-up window, choose "Disconnect device";
 - d. Wait for around **3 minutes** in order for the Control Gateway to disconnect from the current Wi-Fi Network;
 - e. Disconnect the Control Gateway from the mains;
 - f. Move the CG to another room/location and connect it to the mains;
 - g. Wait until the Control Gateway is rebooted (It usually takes no more than 2 minutes);
 - h. In the User Account, select the Location where you want to move the Control Gateway;
 - i. Activate the Control Gateway in the Mobile App according to par. 2.1 "First Installation and Configuration" (B-D) of this document.

2.8 History and Push-Notifications

All notifications and other messages including changes in the status of **Perenio[®]** devices are displayed in the "History" tab. The most important messages can be viewed online in the " " notification window in your account.

The following types of notifications are available:

- (Critical) alarms (They always come as push notifications to your smartphone, and are also displayed in the notification window, as well as in the "History" tab of the mobile app; The indication color is red);
- Important messages (They are always displayed in the notification window and the "History" tab; The indication color is yellow);

- Typical events (They are displayed in the "History" tab only; The indication color is not available).

Alarms. These are the most important messages, which include notifications about the following events:

- IoT Router battery charging is low;
- The IoT Router runs on battery;
- Motion detection by the camera;
- There is not enough space on the SD card to continue recording video;
- Change of the camera status to "Offline";
- Sensor triggering in the armed mode, including all alarms from smoke and leak sensors (even when the Location is in the disarmed mode);
- Disabling the sensor armed mode;
- Failure to perform the scenario;
- Connection of a dangerous device, and overloading the network (for the Power Link Wi-Fi Smart plug);
- Sudden changes or insufficient voltage, excessive power, temperature and/or consumption (for Power Link (ZigBee) Smart plug);
- Falls and/or overheats of the Eco Smart Heater, or sudden changes in voltage;
- Important updates.

Important messages. These are notifications on launches and completion of the camera and the Control Gateway firmware update, as well as notifications about low battery level of the sensor and changing the armed mode for the Location.

Typical Events. Various Perenio IoT newsletters, as well as messages about triggering Door & Window/Motion sensor in the disarmed mode.

3 Maintenance and Repair

The **Perenio[®] PEACG01 Control Gateway** does not require special maintenance in the normal course of operation. However, in order to maintain the proper state and stable operation of devices it is recommended to perform the following actions from time to time:

- Clean the device casing from dirt and dust at least once every six months;
- Check for updates of the Perenio Smart app;
- Check for the power adapter condition and replace it in a timely manner;
- Repair mechanical damages to the device (in Service Centers).

The **Perenio[®] Control Gateway** repairs shall be carried out in Service Centers, because casings will have to be opened in the case of any element failure.

In the case of warranty repairs or replacement, the User shall provide the Seller with the sales receipt and the purchased device.

For details on the replacement and repairs of the Control Gateway, please contact your local Company representative or the Tech Support Department at **perenio.com**.

4 Warranty Obligations

The warranty period for the Control Gateway shall be **Twenty-Four (24) months** from the date of sale to the End User.

The warranty period for components and accessories shall be as follows:

- External chargers, cables and other accessories: Six (6) months from the date of sale to the End Customer.

The Warranty Card shall be deemed valid provided that it is correctly and completely filled in by the Seller. Upon the purchase, the Customer shall check that both the Serial Number and the Model name of the device correspond to those indicated in the Warranty Card.

Incomplete or illegible Warranty Card shall be deemed not valid. In this case, it is recommended to contact the Seller and ask for a duly filled in Warranty Card. It shall be also allowed to provide the original of the sales/cashier's receipt or such other documentary evidence of the fact and the date of sale of the device. The date of sale shall be the date indicated on the sales/cashier's receipt or other relevant document. If the date of sale is not possible to be determined, the start of the warranty period shall be the date of manufacture of the device.

The Manufacturer shall guarantee that all materials, components and assemblies of **Perenio®** devices are free from defects under normal operation within the warranty period. The limited warranty shall be applied to the first End Customer of **Perenio®** devices only and cannot be transferred to a subsequent customer.

For warranty replacement, the device must be returned to the Seller along with its receipt. Warranty obligations for **Perenio®** devices shall be provided in the country of their purchase only.

WARRANTY SERVICE PROCEDURE

In the case of any alleged defect or deficiency of the device detected, the Customer shall contact the Authorized Service Center before the warranty period expiration and provide the following:

1. The device with an alleged defect or deficiency.
2. The Warranty Card filled out in accordance with the applicable legal requirements, or the original of the document confirming the purchase of the device, including clear indication of the name and the address of the Seller, as well as the date when this device was sold.

LIMITATION OF LIABILITY

Perenio[®] devices SHALL NOT BE SUBJECT TO a free warranty service in the case of identification of at least one of the following damages or defects:

- Any damage caused by force majeure, accidents, and willful or careless acts (omissions) of the Customer or third parties;
- Any damage caused by the impact of other objects including but not limited to exposure to moisture, dampness, extreme temperatures or environmental conditions (or jumps in such conditions), corrosion and oxidation, as well as penetration of food or liquid, and the effects of chemicals, animals, insects and byproducts thereof;
- In the event when the device (accessories and/or components) was unsealed (the seal integrity was violated), modified or repaired by any party other than the Authorized Service Center, including repair works using unauthorized spare parts;
- Any defects or damage caused by improper or unintended use of the device, including operation contrary to available manuals;
- Any defects caused by attempts to connect to incompatible software;
- Any defects caused by natural wear and tear of Products, including bags, casings, batteries or Installation and Operation Manuals;
- In the event when the Serial Number (Name Plates), the date of manufacture or the Model name on the device casing was in any way removed, erased, affected, altered or made illegible;
- In the case of violation of operating procedures and conditions, as well as the device installation instructions described in relevant Manuals;
- Cracks, scratches and other defects caused as a result of transportation and/or operation of the device by the Customer or acts of negligence on their part;
- Mechanical damages that occurred after transferal of the device to the Customer including damage caused by sharp objects, bending, squeezing, falling, etc.;
- Any damage caused by non-conformity with the standards of power supply, telecommunication and cable networks or similar external factors.

THE PRESENT LIMITED WARRANTY IS AN EXCLUSIVE AND THE ONLY PROVIDED GUARANTEE THAT SHALL REPLACE ANY OTHER EXPRESS AND IMPLIED GUARANTEES. THE MANUFACTURER SHALL PROVIDE NO GUARANTEES, WHETHER EXPRESS OR IMPLIED, BEYOND THE DESCRIPTION CONTAINED IN THE PRESENT DOCUMENT, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE CUSTOMER MAY USE DEFECTIVE OR INAPPLICABLE DEVICE AT HIS/HER OWN DISCRETION. THE MANUFACTURER SHALL NOT BE RESPONSIBLE FOR DAMAGE TO OTHER PROPERTY CAUSED BY DEVICE DEFECTS, THE LOSS OF USABILITY OR TIME OR FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGE OR LOSS INCLUDING BUT NOT LIMITED TO COMMERCIAL

LOSS, LOSS OF PROFITS, LOSS OF CONFIDENTIAL OR OTHER INFORMATION, AS WELL AS DAMAGES CAUSED BY BREAKS IN COMMERCIAL OR PRODUCTION ACTIVITIES DUE TO THE FACT THAT THE DEVICE WAS RECOGNIZED AS FAULTY, DEFECTIVE OR NOT ALLOWED FOR USAGE.

The present limited warranty shall provide the Customer with certain legal rights. The Customer may also have other rights in accordance with the local consumer protection laws that vary from country to country and may not coincide with this limited warranty. For full understanding of the Customer's rights, you shall read local acts.

NOTE. The Manufacturer does not produce equipment for *Vital Tasks*. Vital Task Products shall include life support systems, medical equipment, implantation-related medical devices, commercial transportation, nuclear equipment or systems, and any other fields of application where equipment failures may do harm to a humans' health or cause their deaths, as well as result in a property damage.

5 Storage, Transportation and Disposal of Devices

The **Perenio**[®] Control Gateway may be shipped by any kind of covered vehicles (by rail, or road or in sealed heated airplane compartments, etc.) in accordance with the requirements of current regulatory documents applicable to fragile goods sensitive to moisture.

Similar conditions shall apply to the device storage at the Seller's warehouse.

In accordance with the Waste Electrical and Electronic Equipment (WEEE)* regulations, all electrical and electronic products must be collected separately at the end of their service life, and cannot be disposed of together with unsorted household waste.

Parts of worn out devices must be separated and sorted by the material type. In this way, every user can contribute to reuse, recycling and other forms of recovery of waste electrical and electronic equipment. Proper collection, recycling, and disposal of such devices will help avoid potential environmental and health impacts from the harmful substances they contain.

To dispose of the device, it must be returned to the point of sale, or to a local waste collection and recycling company recommended by the state or local authorities. Disposal is carried out in accordance with the applicable laws and regulations of the respective country.

For more details on how to properly dispose of your used device, please contact your device supplier, your waste disposal service or the local authorities responsible for waste disposal.

NOTE. The User must comply with the temperature and humidity conditions of storage and transportation specified in the Table of technical specifications of the present Installation and Operation Manual.

* Waste Electrical and Electronic Equipment, or WEEE, means used electrical or electronic equipment, including all components, assemblies, consumables that are part of the equipment at the time it is taken out of service (including supplied batteries (if any), components containing mercury, etc.).

6 Other Information

Manufacturer

Name	<i>Perenio IoT spol s r.o.</i>
Address	Na Dlouhem 79, Ricany – Jazlovice 251 01, Czech Republic
Contact Info	perenio.com, info@perenio.com

Importing Company

Name	<i>ASBISc Enterprises PLC</i>
Address	43 Kolonakiou Street, Diamond Court, Ayios Athanasios, 4103 Limassol, Cyprus

Quality Claims Acceptance and Warranty Service Company

Name	<i>ASBISc Enterprises PLC</i>
Address	43 Kolonakiou Street, Diamond Court, Ayios Athanasios, 4103 Limassol, Cyprus

Info on Certificates and Declarations

Declarations	Verification of Conformity to EC Council Directive 2014/53/EU (Report No. 50138967 001 as of 27/04/2018 and Report No. 50138967 002 as of 25/05/2018) by TUV Rheinland
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Addresses of Service Centers are available at **perenio.com** in the 'Support' Section.

7 Troubleshooting

Table below shows typical errors and problems that may occur in the process of connection and configuration of the **Perenio[®] PEACG01** Control Gateway.

Table 5 – Typical Errors and Troubleshooting Methods

Item No	Problem	Possible Reasons	Solution
1	Initial connection of the CG to Wi-Fi failed	Incorrect settings of the Control Gateway	Restore factory settings (See par. 2.4 herein)
2	The Control Gateway does not power up	Failure of the power supply of incorrect power supply range	Check power supply connections or power supply range
3	The CG does not activate in the app when Ethernet-connected	Connection via an Ethernet cable is temporary unavailable	Connect the CG via the Wi-Fi.
4	The Sensor is not detected by the Control Gateway	The sensor is too far away from the CG	Reduce the distance between devices
		Low battery level of the sensor	Replace the sensor battery

8 Glossary

CG	The Perenio ® PEACG01 Control Gateway
DSP	The Digital Signal Processor is a special microprocessor designed to ensure digitized signal handling (usually, in real time mode)
IoT	The Internet of Things is a system of Internet-connected devices able to collect and exchange data coming from built-in services
IP21	The class of protection of the device casing indicating that its internal parts are protected from penetration of fingers or objects longer than 80 mm, as well as solid bodies larger than 12 mm. Such device is protected from vertically falling drops and condensation and is suitable for unheated rooms
Location	General designation of a building or premises where the Perenio ® Control Gateway
Perenio Smart	Software developed by <i>Perenio IoT</i> for remote control of devices from smartphones
QR Code	The quick response code which represents a matrix barcode containing information about the object to which it is linked
RTC	The Real Time Clock is an electronic circuit for tracking the current time, date, day of the week, etc. As a rule, such a circuit has a self-contained power supply, which ensures operation even when the main device is turned off
Zigbee	A network protocol designed for secure transmission of data at low speeds, which is recognized for an extremely low power consumption