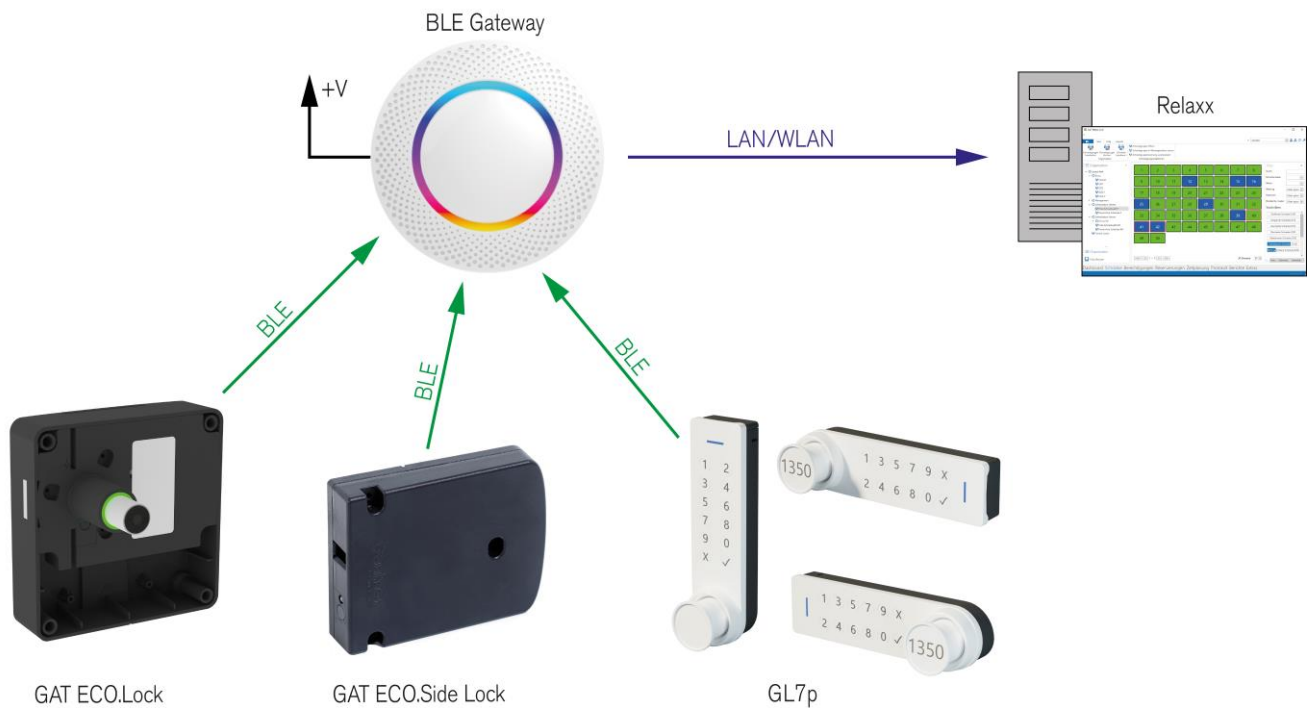


GAT ECO NW Single/Triple BLE Gateway GAT ECO.Lock, GAT ECO.Side Lock, GL7p

Configuration and Commissioning of the Battery-Powered Locker
Locks GAT ECO.Lock NW, GAT ECO.Side Lock NW, and GL7p via
BLE Gateway



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Contact

The contact information for questions regarding this product or for general enquiries is listed below:

Contact address of manufacturer

GANTNER Electronic GmbH

Bundesstraße 12

6714 Nüziders, Austria

www.gantner.com/locations

Important Information

Dear Customer,

Our aim is to ensure that our product operates with safety and to your complete satisfaction. To achieve this aim, please take this opportunity to familiarize yourself with the following guidelines.

- Pay attention to the safety messages in this manual. The messages are indicated by the signal words "DANGER", "WARNING", or "CAUTION", and inform you about hazardous situations and how to avoid them.
- Pay attention to messages indicated by the "NOTICE" signal word. These messages include important information for avoiding property damage.
- Pay attention to the symbols and safety messages on the product.
- Read all instructions in this manual carefully before installing or operating the product.
- Where not otherwise specifically documented, the appropriate installation, commissioning, operation, and maintenance of the product is the customer's responsibility.
- Keep this manual in a safe place for quick reference.

Notation of Safety Information and Safety Symbols

This manual includes important safety messages and symbols intended to inform the user about potentially hazardous situations or important information for the safe and proper use of the described product(s). The safety messages also include directives on how to avoid hazardous situations. These safety messages and directives must be read and observed.

The structure of the safety messages and the meaning of the symbols used in this manual are described in this section.

1. Safety Messages for Personal Injury

Personal safety messages contain a signal word, describe the nature of the hazard, and indicate how to avoid the hazard.



The safety alert symbol used without a signal word always precedes important safety information that must be read carefully, and the instructions closely observed. Not doing so may cause personal injury.

Format of safety messages that apply to an entire section:

These safety messages may be used with or without a symbol.

CAUTION



Electrical shock

- Touching current-conducting parts may result in injury due to electrical shock.
- Do not remove safety protection and covers.
 - Do not touch the electrical connections while power is being supplied.

Format of safety messages that are embedded in text and apply to a specific point:

CAUTION! Electrical shock. Never remove safety protection and covers. Do not touch the electrical connections while power is being supplied.

2. Property Damage Messages

Property damage messages are used to describe potentially hazardous situations that may lead to property damage. These messages have the same layout as safety messages but use the signal word "NOTICE" instead of "CAUTION".

Format of property damage messages that apply to an entire section:

NOTICE

Risk of damage to the device and connected devices

Risk of malfunction

- Read the following instructions carefully before installing the device.
- Always adhere to the instructions.

Format of property damage messages that are embedded in text and apply to a specific point:

NOTE! Risk of damage to the device and connected devices. Read the following instructions carefully before installing the device.

3. Definition of the Signal Words

	Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.
	Indicates information considered important, but not hazard-related (e.g., messages relating to property damage).

4. Definition of the Safety Symbols

	Caution: General Information This symbol indicates general warnings or cautions that are not related to a particular type of hazard.
	Caution: Electrical Shock This symbol indicates warnings related to electrical hazards (danger due to high voltage).
	Prohibited: Do Not Disassemble This symbol indicates warnings about not disassembling certain components or equipment. Disassembling may lead to damage or malfunction of the device.
	Mandatory Action: General Information This symbol indicates general information that must be read and followed before proceeding with the accompanying instructions.
	Mandatory Action: Read Instructions This symbol indicates information referring to an important description in the manual, or other documentation, which must be read and followed.

⚠ Important Safety Information ⚠



- The installation, commissioning, and servicing of our products must be performed only by suitably trained personnel. In particular, electrical connections must only be made by correspondingly qualified specialists. Always observe the relevant installation regulations in accordance with the national Electrical Engineers Association.

➔ Unqualified personnel may potentially perform actions that result in injury due to electrical shock.



- Where not otherwise stated, installation and maintenance work on our products must be carried out when disconnected from the power supply. This applies in particular to appliances that are normally supplied by low-voltage current.

➔ If the appliance is not disconnected from power, touching terminals or other internal parts of the appliance may lead to injury due to electrical shock.



- It is prohibited to alter the products (devices, cabling, etc.).

➔ Alterations to the products may subsequently result in personal injury, property damage, or damage to the products.

- Do not remove protective shields and covers.

➔ Removing protective shields and covers may result in personal injury or property damage.

- Do not attempt to repair a product after a defect, failure, or damage is detected. In addition, do not put the product back into operation. In such cases, it is essential to contact your GANTNER representative or the GANTNER support hotline.



- The installation, commissioning, operation, and maintenance of the product must be carried out in accordance with the technical conditions of operation as described in the corresponding documentation. Therefore, it is essential to read the corresponding chapter of this manual and observe the instructions and information therein.

- If there are still some points that are not entirely clear, please do not take a chance. All queries can be clarified by your GANTNER representative or by ringing the GANTNER support hotline.

- Directly on receipt of the goods, inspect both the packaging and the product itself for any signs of damage. Also check that the delivery is complete and includes all accessories, documentation, auxiliary devices, etc.



- If the packaging or product has been damaged in transport, or should you suspect that it may have a fault, the product must not be put into service. Contact your GANTNER representative who will endeavor to resolve the problem as quickly as possible.

- GANTNER Electronic GmbH accepts no responsibility for any injuries or damage caused as a result of improper use.

Although great care is taken and we are continuously aiming for improvement, we cannot completely exclude the possibility of errors appearing in our documentation. GANTNER Electronic GmbH therefore accepts no responsibility for the completeness or the accuracy of this manual. The right is reserved to make alterations at any time without prior notice.

Should you discover any fault with the product or in its accompanying documentation, or you have any suggestions for improvement, you may confidently inform your GANTNER representative or GANTNER Electronic GmbH directly.

We especially look forward to hearing from you if you want to let us know that everything is functioning perfectly

The GAT ECO NW Single/Triple BLE Gateway has been developed and manufactured under the quality management standard ISO 9001 and GANTNER Electronic GmbH is also certified according to standard ISO 14001.



This product is in conformity with the following EC directives, including all applicable amendments:
- 2014/53/EU (Radio Equipment Directive)



GANTNER is committed to meeting or exceeding the requirements of the RoHS directive (2011/65/EU). The RoHS directive requires that manufacturers eliminate or minimize the use of lead, mercury, hexavalent chromium, cadmium, polybrominated biphenyls and polybrominated diphenyl ethers in electrical and electronic equipment sold in the EU after July 1, 2006.



The WEEE symbol on GANTNER products and their packaging indicates that the corresponding material must not be disposed of with normal household waste. Instead such marked waste equipment must be disposed of by handing it over to a designated electronic waste recycling facility. Separating and recycling this waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. Please contact your local authority for further details of your nearest electronic waste recycling facility.



FCC INFORMATION (U.S.A.)

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that of which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Warning Statement:

[Any] changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Conformity Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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1 INTRODUCTION

1.1 About this Manual

In this manual you will find the information necessary to enable the status display of the GANTNER battery locks with NW functionality in Relaxx. Separate chapters that detail the configuration settings required for the battery locks, Relaxx, and the GAT ECO NW Single/Triple BLE Gateway are included.

Only the settings and changes required for the locks are described. The remaining settings can be changed if necessary. Please see the manuals of the respective GANTNER battery locks for more information on these settings.

1.2 Chapter Overview

In chapter "2. GENERAL INFORMATION" you will find information on how to use the GAT ECO NW Single/Triple BLE Gateway to connect with the battery-powered locker locks from GANTNER as well as a description of the terms used frequently in this manual.

Available in chapter "3 LOCK CONFIGURATION" is an overview of how to configure the battery-powered locker locks from GANTNER. A detailed description of all configuration settings is provided in the respective manual of the individual locks.

In chapter "4 RELAXX SOFTWARE CONFIGURATION" you will find information on how to use the battery-powered locker locks and integrate them into the Relaxx software. A detailed description of Relaxx including information on all functions is available in a separate manual.

Provided in chapter "5 BLE GATEWAY CONFIGURATION" is an overview of how to configure the gateways from GANTNER.

In chapter "5.3 Configuration Settings of the GAT ECO NW BLE Gateway" you will find details on how to configure GANTNER's GAT ECO NW Single/Triple BLE Gateway. Here, the configuration settings that are required to operate the battery-powered locker locks are described. A detailed description of the gateway can be found in the associated documentation of the gateway.

1.3 Target Group

The information in this manual is intended for the following target groups:

- Installation personnel (commissioning, configuration)
- Service technicians of the facility (service)
- Software partners

If the target group is not specifically indicated, the information is intended for all target groups.

⚠ CAUTION! Injury and damage to property/equipment. The instructions in this manual that are intended for a specific target group may only be performed by this target group. The completion of activities by unqualified personnel can lead to injuries and/or damage to property/equipment.

1.4 Formatting

1.4.1 Safety-Critical Information

The following formatting (with example text) is used in this manual to display important, safety-critical information that must be read and followed.

NOTE! Following on from this signal word in the manual is a reference text that must be read and followed. The reference text contains important information. Non-observance can lead to damage the device or associated equipment.

1.4.2 Non Safety-Critical Information

The following formatting (with example text) is used in this manual to display important, but not safety-critical information.

i *The text accompanying this symbol contains interesting information relevant to the current chapter. You do not necessarily need to read this text; however, it will help you to understand the information in the section or provide interesting tips for the described device or the operation of the software.*

1.4.3 Instructions and Results

Instructions, which must be completed by the reader, and the results of these instructions are formatted as follows.

- This symbol represents an action or instruction that that must be followed.
- ▢ This symbol represents the result after completing the previous instruction.

1.5 Contact & Inquiries

If you have any questions concerning GANTNER's battery locks, the Relaxx software, and the GAT ECO NW Single/Triple BLE Gateway, please contact your local sales partner or one of the GANTNER branch offices directly. The contact details are available via the following link: www.gantner.com/locations

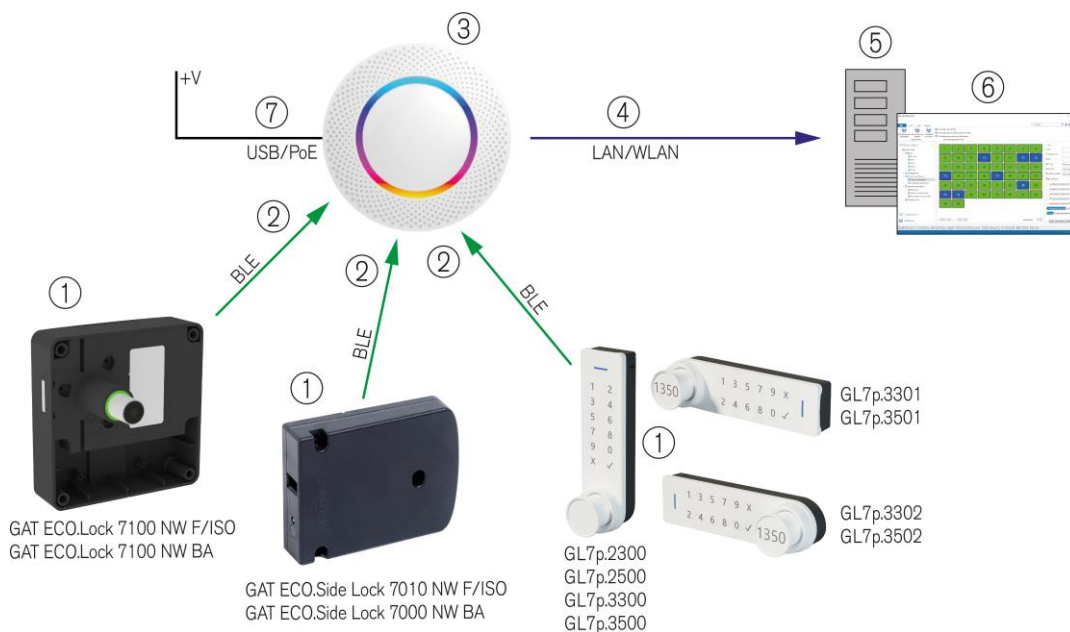
2 GENERAL INFORMATION

2.1 Intended Use

GANTNER's electronic, battery-powered locker locks of type GAT ECO.Lock 7xxx NW, GAT ECO.Side Lock 7xxx NW (kurz "ECO NW") and GL7p are intended for locking lockers, depot lockers, and employee lockers in offices. The BLE gateway is responsible for transmitting status information from these battery locks to a PC in order to display the lock statuses in the Relaxx software.

2.2 Functional Description

The BLE gateway receives BLE advertise commands (status information) from the GANTNER ECO and GL7p battery locks via wireless transmission (BLE). This information is transmitted via LAN network or WLAN to a PC/server and displayed there via the Relaxx software, which is used to configure and operate the locker locking system. The PC/server or Relaxx must be operating in the same IT network as the BLE gateway.



- 1 Locker locks
- 2 Status information via BLE advertise commands
- 3 GAT ECO NW Single/Triple BLE Gateway
- 4 LAN or WLAN network connection
- 5 PC/server
- 6 Relaxx software for locker management and status display
- 7 Power supply via USB or PoE

Figure 2.1 – System overview

The communication direction from the lock to Relaxx only is possible. Reverse communication, e.g., for configuring the locks from the PC, is not possible.

The capabilities of each BLE gateway are as follows:

- **GAT ECO NW Single BLE Gateway:** The single gateway has 1 BLE receiver and can receive status information from up to 100 locks simultaneously. The maximum receiving distance is approximately 15 m, however, this range can be limited by the environmental conditions, e.g., material of the locker, concrete with steel reinforcing, etc.
- **GAT ECO NW Triple BLE Gateway:** The triple gateway has 3 BLE receivers and can receive status information from up to 300 locks simultaneously. The maximum receiving distance is approximately 20 m, however, this range can be limited by the environmental conditions, e.g., material of the locker, concrete with steel reinforcing, etc.

2.3 Terminology

Some terms are used frequently in this manual and these are defined below.

Gateway

GAT ECO NW Single BLE Gateway / GAT ECO NW Triple BLE Gateway

These terms are used in this manual to refer to the following devices collectively:

- GAT ECO NW Single BLE Gateway
- GAT ECO NW Triple BLE Gateway

If information or a section is only valid for one type of device, it is specifically indicated.

BLE

Bluetooth Low Energy (BLE) is wireless technology for communication between the battery locks and the GAT ECO NW BLE Gateway. The communication range is several meters.

Battery locks

In this manual, this term refers to all GANTNER battery-powered locker locks with wireless capability that can be used with the GAT ECO NW BLE Gateway. This includes the ECO locks with "NW" functionality and the GL7p.2xxx and GL7p.3xxx. A complete listing is provided in chapter "3.1 Requirements for the Locks".

Relaxx

PC software with which the GANTNER electronic locker locks are configured, operated, and monitored. In Relaxx, both online locks (connected via main and sub controller) and the battery-powered offline locks (connected via GAT ECO NW Single/Triple BLE Gateway) can be used in the same way.

Data carrier / Credential

An identification medium (e.g., in the form of a key tag or chip card) with electronic memory and an ID number with which the system users can identify themselves at the readers. The data carriers are available to suit different identification systems (LEGIC®, MIFARE™, ISO 15693).

RFID (Radio-Frequency Identification = identification via electromagnetic field)

In this manual, this term refers to the identification of a person via radio frequency at close range. An RFID data carrier, e.g., in the form of a key tag or chip card, serves as the identification medium.

3 LOCK CONFIGURATION

To use the BLE function, the locks must be configured accordingly. The software GAT ECO Lock Configurator can be used for this purpose. A complete description of this software is available in a separate manual.

3.1 Requirements for the Locks

The following list contains all locks for which the BLE function can be used. In addition, the specified firmware version (or newer) must be installed in each case.

- GAT ECO.Lock 7100 NW F/ISO: min. firmware V 2.9
- GAT ECO.Lock 7100 NW BA: min. firmware V 2.9
- GAT ECO.Side Lock 7000 NW BA: min. firmware V 2.7
- GAT ECO.Side Lock 7010 NW F/ISO: min. firmware V 2.3
- GL7p.2300, GL7p.3300, GL7p.3301, GL7p.3302: min. firmware V 2.2
- GL7p.2500, GL7p.3500, GL7p.3501, GL7p.3502: min. firmware V 2.2

3.2 Lock Configuration Settings

NOTE! Unique locker numbers must be used for the locks in the locker system.

- ▶ Open GAT ECO Lock Configurator on the PC.
- ▶ Connect the lock to the PC via USB cable.
 - The lock is automatically detected, and the configuration is displayed.

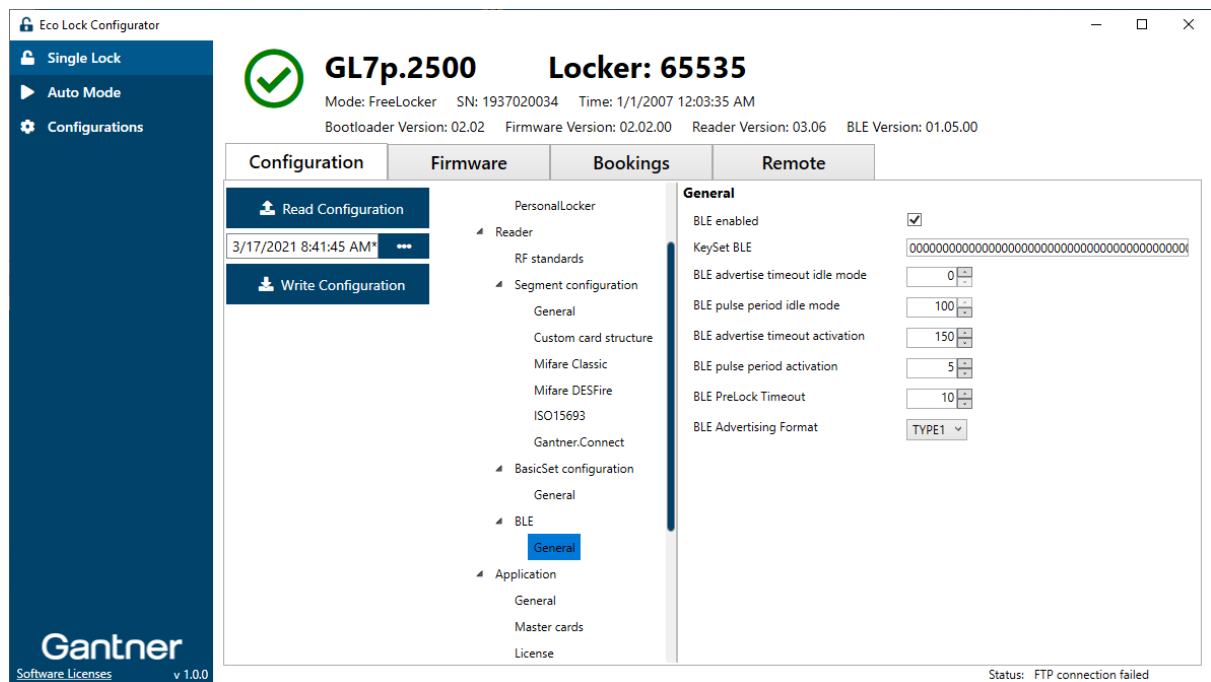


Figure 3.1 – BLE configuration settings (example GL7p.2500)

- In the list of configuration settings, select “General” in the “BLE” section.
 - The settings for the BLE configuration are displayed on the right. The following settings can be configured:
- BLE enabled: Enable or disable the BLE connection.
- KeySet BLE: Customer specific BLE key (only if required). The default GANTNER BLE key is 0.
- BLE advertise timeout idle mode: Settings for idle mode. Time for BLE advertise signals in 100 ms (0 = unlimited). Example: “0” = unlimited, i.e., the lock will send BLE advertise signals for an unlimited time in idle mode.
- BLE pulse period idle mode: Settings for idle mode. Time for the pulse period in 100 ms (0 = off). Example: “100” = 10 seconds, i.e., the lock will send a BLE advertise packet every 10 seconds in idle mode.
- BLE advertise timeout activation: Settings for when the lock has been activated. Time for BLE advertise signals in 100 ms (0 = unlimited). Example: “150” = 15 seconds, i.e., the lock will send BLE advertise packets in short intervals for 15 seconds after an operation (the interval time is set under “BLE pulse period activation”).
- BLE pulse period activation: Settings for when the lock has been activated. Interval time between packets in 100 ms (0 = off). Example: “5” = 0.5 seconds, i.e., the lock will continue to send BLE advertise packets at 500 ms intervals after an operation until the “BLE pulse period activation” time has elapsed.
- BLE PreLock Timeout: Time to lock the lock after a BLE command. Input in seconds. Example: “10” = 10 seconds, i.e., the lock can be locked for 10 seconds after a BLE lock command.
- BLE Advertising Format: Format of the BLE advertising. “TYPE1” must be selected here.

4 RELAXX SOFTWARE CONFIGURATION

A few configuration steps are required in Relaxx in order to use and display the battery-powered locker locks with BLE functionality in the software.

4.1 Requirements for RELAXX

- The REST API component of Relaxx must be installed, since Relaxx receives the BLE status information through the REST API. For information on installation and configuration, see the Relaxx Installation and Operation manuals.
- To test whether the communication is functioning properly, the REST API connection can be checked from an external computer by entering <http://IP.IP.IP.IP:8241/api/service/health> into a web browser (IP.IP.IP => IP address of the server on which the Relaxx Rest API is installed). A successful connection is indicated with

```
„{“serviceName”:“GAT Relaxx REST API”,“isRelaxxConnected”:true,“version”:“6.0.0.0”}“
```

in the browser window.
- The REST API port (default = 8241) must be enabled in the firewall of the Relaxx server.
- In the MINEW BLE configuration, the connection to the Relaxx REST API must be configured correctly (see "5.3.3 Service Settings").
- Relaxx min. version 6.0 must be installed.

4.2 Configuring the Device Settings

The use of the locks in Relaxx must be enabled and other settings must be configured. The following settings require configuration in the software settings.

- Open the software settings in Relaxx by clicking on the  icon.
- Open the “Devices” -> “Battery locks” settings page.

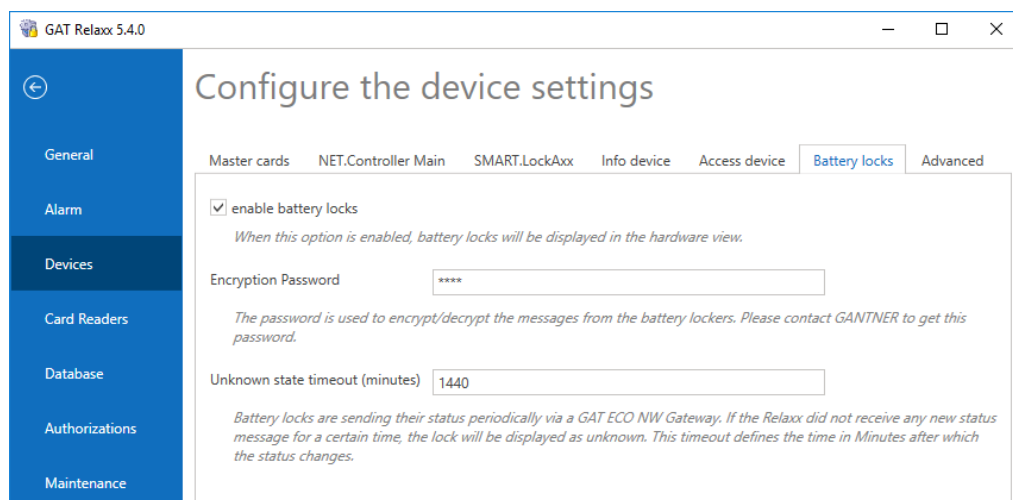


Figure 4.1 – Relaxx system settings for battery locks

- Select the “enable battery locks” option to display the battery-powered locks, e.g., GAT ECO.Lock 7xxx, GAT ECO.Side Lock 7xxx, and GL7p, in the locker overview of Relaxx.
 - In Relaxx, the “Battery locks” entry is displayed in the hardware overview (“Lockers” -> “Hardware” page, see “4.3.1 Hardware View Settings”).

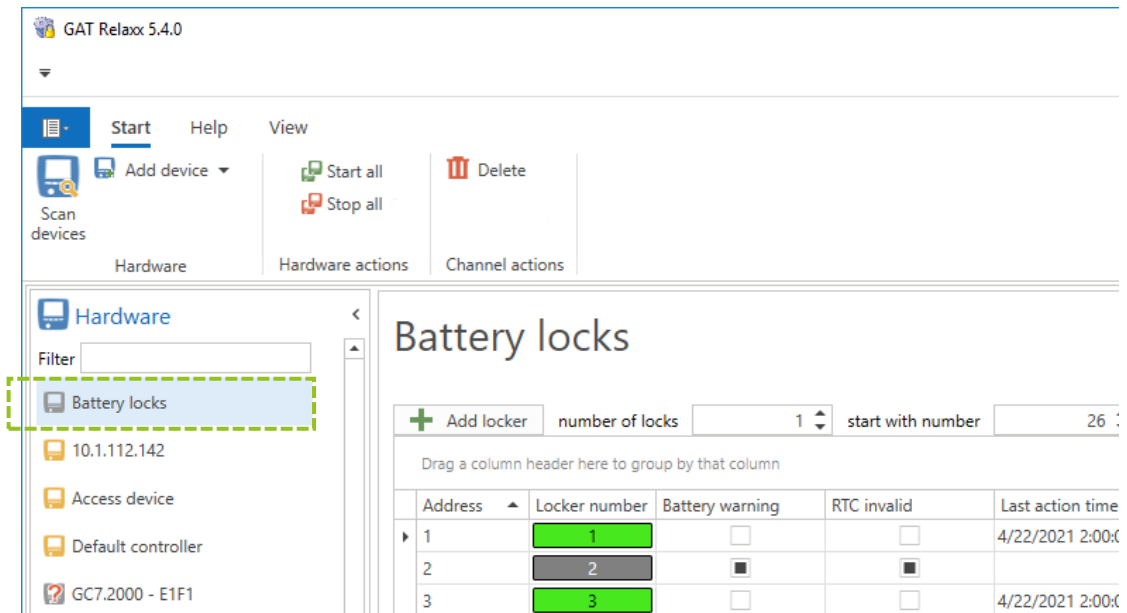


Figure 4.2 – Battery locks in Relaxx

- In the “Encryption Password” field, enter the password to be used for encrypting communication from the battery locks. This password is necessary if the FID of the locks is not 99999999.



Contact GANTNER Electronic GmbH to obtain this password.

- The time entered in minutes in the “Unknown state timeout (minutes)” field determines how long Relaxx will wait for messages from the battery locks. If Relaxx does not receive any new status information from a lock before the time period entered here expires, the status is displayed as “unknown” in the locker overview.
If no time is entered here or if the value is too large, an open locker would, for example, continue to be displayed as open even after being locked if the connection has been interrupted.

4.3 Configuring the Hardware Settings in Relaxx

NOTE! The locker numbers used in the system must be unique. The same number cannot be used twice!

On the “Lockers” page, battery-powered locker locks with NW functionality (BLE) can be defined in the same way as networked locks.

4.3.1 Hardware View Settings

On the “Hardware” view of the “Lockers” page, the battery locks can be added manually. This step is optional.

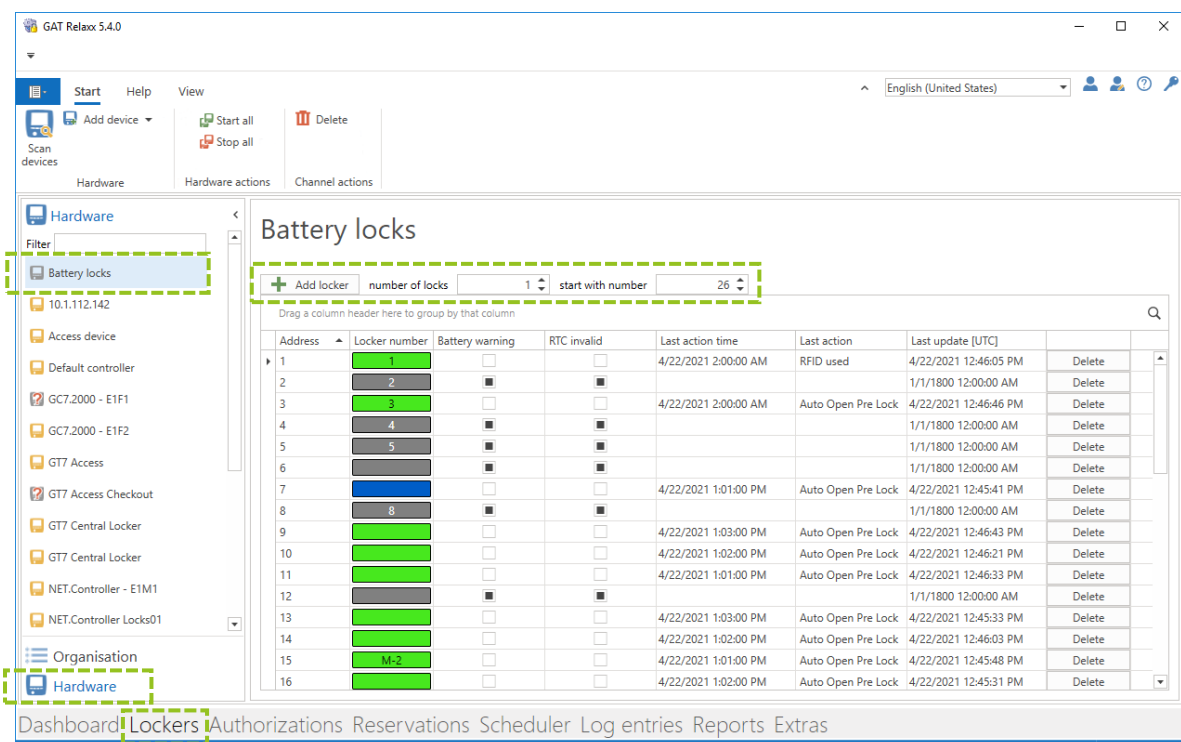


Figure 4.3 – Hardware view of the battery locks in Relaxx

- On the “Lockers” page, select “Battery locks” in the “Hardware” list.
- In the “start with number” field, enter the first locker or lock number to be added.
- In the “number of locks” field, enter the number of locks to be added.
- Click on “Add locker”.
 - The number of lockers is inserted in the list and numbered consecutively starting from the defined start number (“Address” column).
 - The lockers shown with a gray field in the “Locker number” column indicate that the lock has not been detected yet (no message has been received).
- Activate a battery lock (e.g., press the button in).
 - As soon as a battery lock sends a status message to Relaxx via the GAT ECO NW BLE Gateway, the received locker number is assigned to the previously inserted locker with this number. The number then appears in the “Locker number” column for the relevant lock with the same address.

- The color of the field of the detected lock indicates the locker status (e.g., green for “open” or blue for “locked”).

If locks with numbers that have not yet been added to the hardware view are activated within range of the GAT ECO NW BLE Gateway, they are automatically detected and also added to the hardware list.

If a lock does not send a status message within the configured timeout period, the color purple is displayed as the status in the “Locker number” column. This means that the locker status is unknown.

4.3.2 Example of the Organization View

The organization view is used for the status display and operation of the lockers. The assignment of the lockers to locker groups also takes place here.

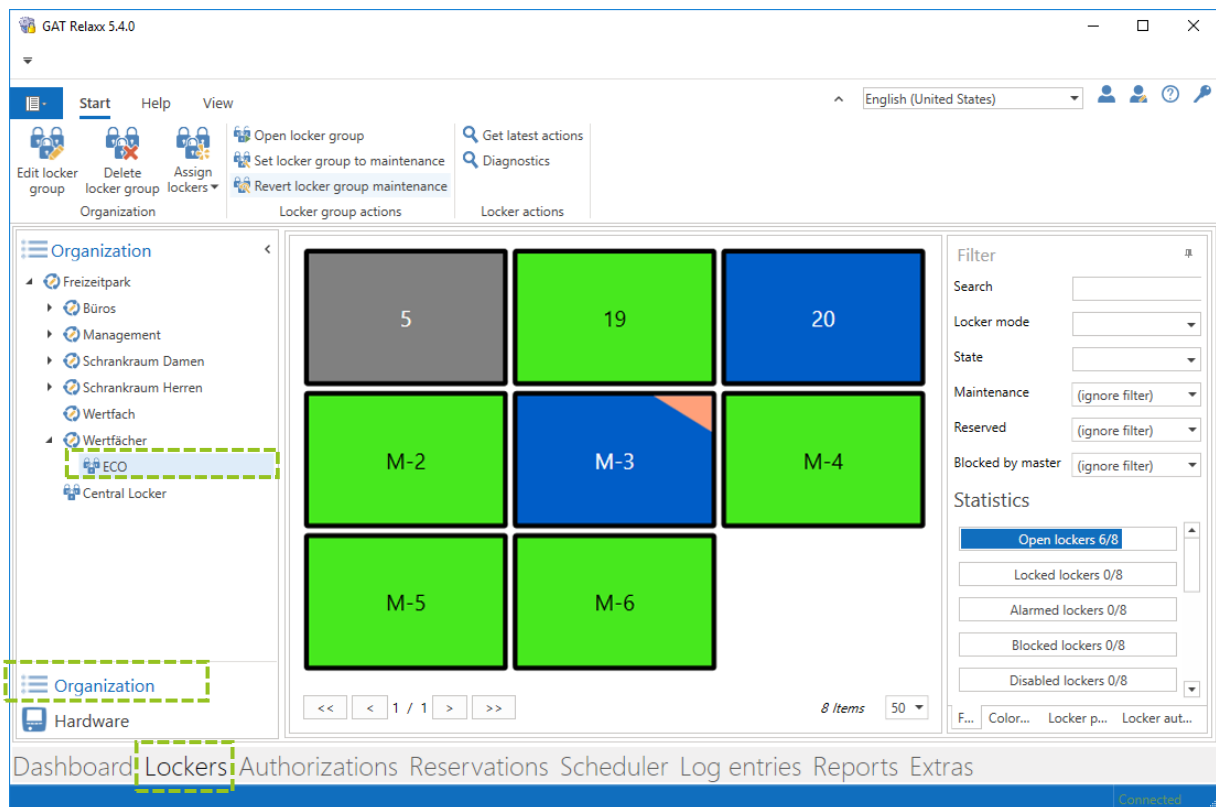


Figure 4.4 – Organization view of the battery locks in Relaxx

- Add a new locker area and a locker group if desired.
- Select the desired locker group.
 - The lockers are displayed on the right.

- Click on “Assign lockers” and select “M Manual” here.
 - The “Assign lockers” window opens.

M Assign lockers

Enter the number you want to start with and just check or uncheck the boxes. As an alternative, you can also type the number you want to provide manually in each locker. When you finished, click save to store your changes.

Start with locker number

Step

▼ Advanced options

Preview 1

Locker Controller Name	Sub controller s...	Search
Locker Controller Name: Battery locks		
Sub controller serial number:		
	23	☐
	18	☐
	40	☐
	36	☐
	16	☐
	24	☐
	9	☐
	13	☐
	22	☐
	14	☐
	11	☐
	10	☐
	46	☐

Save Cancel

Figure 4.5 – Assigning lockers to locker groups

- All available lockers are displayed in the list. The battery locks can be found under the group "Locker Controller Name: Battery locks".
 - Different locker numbers to the real locker numbers sent by the lockers can be assigned to the lockers for display in the organization view.
- Before adding the lockers, you can define in the upper field with which locker number the numbering should start. Prefixes and suffixes can also be defined under “Advanced options”.

- ▶ Mark the boxes of the desired battery locks to be added to the locker group in sequence.
 - The locks or lockers are then numbered consecutively with the defined numbers and added to the locker group.

When an information terminal is used to display the locker numbers, the locker numbers assigned in the organization view are displayed. It is thus possible, for example, to use the unique numbers 1 to 100 internally and to assign the numbers D1 to D50 for ladies' lockers and H1 to H50 for men's lockers for display in the organization view and on an information terminal.

5 BLE GATEWAY CONFIGURATION

A WLAN connection is required for the initial configuration of the GAT ECO NW BLE Gateway. The configuration interface can be accessed in a web browser via HTTP connection. All configurable settings can be viewed and set there accordingly. A firmware update can also be performed in the configuration interface.

This chapter describes all the settings that are required for the battery locks to communicate with Relaxx. For information on all the configuration settings, please refer to the MINEW configuration manual of the GAT ECO NW BLE Gateway.

i The information in this chapter refers to the firmware version 4.x. For older firmware versions, please refer to the manual with version number 1.2.

5.1 Establishing a Connection with the Gateway

The GAT ECO NW BLE Gateway must be connected to a LAN network and the power supply must be connected to the gateway. If Power-over-Ethernet is not being used to supply power, a suitable USB power supply can be ordered from GANTNER for the purpose (Power supply USB 5V 1000 mA, Part No. 1106382).

- Ensure that the power supply is connected to the USB port labeled "IN" or the gateway is being supplied via PoE.

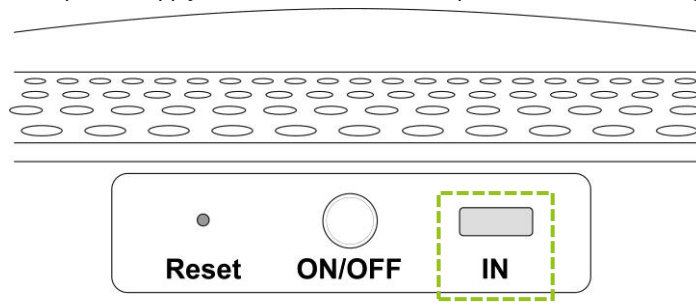


Figure 5.1 – Power supply connection

- Turn the BLE Gateway on by pressing the "ON/OFF" button next to the power supply input.

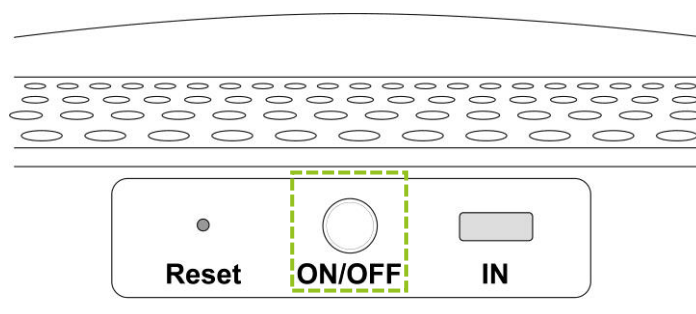


Figure 5.2 – On/Off switch

- The LED ring on the front panel turns on.

- ▶ Connect to the WLAN of the gateway. The SSID starts with GW-AC233Fxxxxxx and the MAC address also starts with AC:23:3F:xx:xx. You can find the MAC address by scanning the QR code on the back or it is also displayed in plain text below the QR code.
- ▶ Once the connection is established, the configuration interface can be accessed via web browser by entering the IP address <http://192.168.99.1> (default IP address).
 - The login screen is displayed.

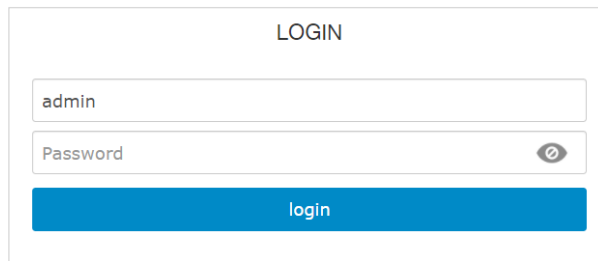


Figure 5.3 - Login screen of the GAT ECO NW BLE Gateway

- ▶ Enter “admin” as the username. A password is not required for the initial login in the default state.
- ▶ Click on “login”.
 - The configuration interface is displayed.

If a password for WLAN or login to the configuration interface has already been set and you do not know it, the GAT ECO NW BLE Gateway must be reset to the default settings.

5.2 Resetting to the Default Settings

During the factory reset, the password is deleted, and the configuration settings are reset to the default values as of the time of delivery. Proceed as follows to reset the gateway.

- ▶ Insert a thin wire or blunt thin object into the opening next to the power supply input. The opening is indicated with “RESET”.
 - There is a button inside the opening that must be pressed in.

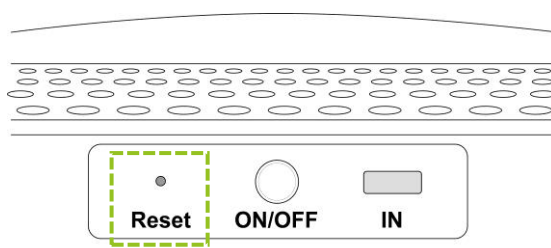


Figure 5.4 – Reset button

- ▶ Press the button in for 10 seconds.
 - The GAT ECO NW BLE Gateway restarts. Afterwards, the gateway’s configuration settings are reset to the default values.

5.3 Configuration Settings of the GAT ECO NW BLE Gateway

The GAT ECO NW Single BLE Gateway has one BLE receiver installed, and the internal firmware designation is g1-c. The GAT ECO NW Triple BLE Gateway has three BLE receivers and the internal firmware designation is g1-d.

This chapter describes the settings for both gateway types. The description for the GAT ECO NW Triple BLE Gateway with 3 BLE receivers can be found in the following chapter.

5.3.1 Status Settings

After logging into the configuration interface of the GAT ECO NW Single BLE Gateway, the following status settings are displayed. Most of the settings can be left as the default values. The settings that need to be configured are shown and described below next to the figure.

StatusNetworkServiceOther

MAC Addressac:23:

Firmware Modelg1-c-advanced

WiFi Firmware Versionv4.0.8

Network Modewireless

WAN IP10.1.112.31

AP CONFIGURATION

2G

☐ Disabled ⓘ

☐ Hidden ⓘ

SSID

GW-AC233

Key

Save

LAN CONFIGURATION

LAN IP Address

192.168.99.1

Save

ADMIN PASSWORD

New Password

Confirm Password

Save & Apply

Can be left as the default value.

AP Password recommended but not required.

Can be left as the default value.

Password recommended but not required.

Password recommended but not required.

Figure 5.1 – Status information and login settings

The upper area shows information about the gateway type and network settings of the gateway with Relaxx:

- MAC: Unique MAC address of the gateway.
- Firmware Model: Display of the firmware and the gateway type (-c- = "Single", -d- = "Triple").

- WiFi Firmware Version: Version number of the installed firmware in the GAT ECO NW BLE Gateway.
- NetworkMode: Type of network connection to Relaxx (Ethernet or WLAN).
- WAN IP: IP address if the Ethernet connection is used.

AP CONFIGURATION – Connection settings for configuration interface via WLAN:

- Disabled: By marking this option, the WLAN interface can be deactivated. If the failover function is activated in this case, it can switch on the WLAN interface and deactivate it again after the network connection is working again.
- Hidden: If activated the SSID will not be shown in the WLAN.
- SSID: WLAN identification (SSID) for the BLE gateway (does not need to be changed).
- Key: Password for the WLAN connection (not required but recommended).

LAN CONFIGURATION – Connection settings for configuration interface via LAN.

- LAN IP Address: IP address for the WLAN configuration page (does not need to be changed).

ADMIN PASSWORD – Login information for configuring the gateway.

- New Password: Enter a password here, which must be entered afterwards to log in to the configuration interface of the BLE gateway (see “5.1 Establishing a Connection with the Gateway”).
- Confirm Password: Re-enter the password here for confirmation.

- After changing the settings, click on “Save & Apply”.
- Depending on the changed settings, you may be prompted to restart the GAT ECO NW BLE Gateway. Confirm this message.
 - A new WLAN connection with the changed settings must be established.

5.3.2 Network Settings

The settings in the “Network” menu refer to the connection between the GAT ECO NW Single BLE Gateway with the Relaxx software. There are basically two different options here: wired LAN connection or wireless connection via WLAN. Most of the settings can be left as the default values. The settings that need to be configured are shown and described next to the figure below.

Wired connection via LAN

The screenshot shows a mobile application interface for network settings. At the top, there are four tabs: 'Status', 'Network', 'Service', and 'Other'. The 'Network' tab is selected. Below the tabs, there is a section for 'Ethernet' with a toggle switch that is turned on. Under 'Ethernet', there is a 'Proto' dropdown menu set to 'static'. Below this are five input fields: 'IP Address' (192.168.0.2), 'Netmask' (255.255.255.0), 'Gateway Address' (192.168.0.1), 'Primary DNS Address' (8.8.8.8), and 'Secondary DNS Address' (114.114.114.114). A blue 'save' button is located below these fields. Below the 'save' button, there is a 'Wireless' section with a toggle switch that is turned off. At the bottom, there is a grey button labeled 'Advanced' with a downward arrow.

For a LAN connection to Relaxx, enable this option.

DHCP or static IP configuration (see below).

Figure 5.2 – LAN settings

- ▶ To use the LAN connection, enable the “Ethernet” option.
- ▶ Select the mode of the LAN connection in the field “Proto”.

With the “DHCP” setting, no further settings are necessary. The IP address and network settings are automatically assigned by a DHCP server in the network. If “static” is selected, the settings as shown in Figure 5.2 must be defined.

- IP Address: IP address for the connection.
- NetMask: Netmask for the network.
- Gateway Address: IP address of the gateway in the network.
- Primary/Secondary DNS Address: IP addresses of the DNS servers (name assignment in the network).

- ▶ After defining the settings, click “save”.
- ▶ Depending on the changed settings, you may be prompted to restart the GAT ECO NW BLE Gateway. Confirm this message.
 - A new WLAN connection with the changed settings must be established.

Wireless connection via WLAN

StatusNetworkServiceOther

Ethernet

Wireless

Profile list

2G

Available Access Point

SSID

BSSID

Encryption

Cipher

Key

Proto

Primary DNS Address

Secondary DNS Address

Hidden property of ssid(failover)

Network checking(failover)

Save profile only

Apply

Advanced

For a WLAN connection to Relaxx, enable this option.

WLAN settings can be saved in a profile.

BSSID - It is recommended to leave this field empty, otherwise the GAT ECO NW BLE Gateway will only ever connect to this specific WLAN access point.

Figure 5.3 – WLAN network settings

- The WLAN settings can be saved as a profile. The profiles are displayed for selection in the “Profile list” field.

- ▶ Select the respective WLAN access point in the “Available Access Point” field. The list shows all access points that are detected by the GAT ECO NW BLE Gateway.
 - After selecting an access point its settings are shown below.
- ▶ Enter the information for the WLAN connection in the fields below.

NOTE! If you move the GAT ECO NW BLE Gateway to another WLAN access point after configuration, delete the BSSID field.

5.3.3 Service Settings

On the service settings page, the BLE communication between Relaxx and the locks is defined. The settings are divided into the 4 sub-pages or tabs "Generic", "HTTP/MQTT/TCP", "Filter" and "Scan".

Most of the settings can be left as the default values. The settings that need to be configured are shown and described next to the figure below.

Register Card "Generic"

Figure 5.4 – Service settings - "Generic"

- ▶ Set the "Protocol" setting to "HTTP".
 - The settings for the protocol selected here (HTTP, MQTT or TCP) are described on the second tab. Since only HTTP is used for the GANTNER locks, only the settings for "HTTP" are described here (see the following section below).
- ▶ The values for the fields "Upload Interval" can be left on the default values.
- ▶ For the "Data format" select "JSON-LONG".
- ▶ The setting "Number of BLE modules for scanning" is only available for the Triple Gateway. Here you can select the number of BLE receivers to use for this gateway type. To improve the range, select all 3 receivers here.

Register Card "HTTP"

Figure 5.5 – Service settings - "HTTP"

On this page the connection to the Relaxx Server must be defined.

- Under "Url" in the field on the left, select "http://" for the protocol.
- On the right enter the URL (without "http://"), where the Relaxx server can be reached. For example, an IP address of 10.0.0.1 would have the following URL:

10.0.0.1:8241/api/BLELockStatus

The IP address can also be replaced with the network name of the computer running the Relaxx server. For example:

Relaxx-Server-PC:8241/api/BLELockStatus

- In the field "Authentication Type" select "none".

Register Card "Filter"

Status	Network	Service	Other
Generic	HTTP	Filter	Scan
Filter by rssi			
e.g. -59			
Filter by mac(regular expression)			
e.g. ^AC23.* ^0CEF.*			
Filter by ble name(regular expression)			
e.g. ^MiniBeacon.* ^MBeacon.*			
Filter by raw(regular expression)			
^.*FF0304.*			
Filter duplicate data		By	
YES		mac+raw	
Upload without BLE data			
NO			
Upload iBeacon			
NO			
Upload S1/S3/S4			
NO			
Upload unknown			
YES			
Upload gateway			
NO			
Upload specific mac addresses only			
NO			
Apply			

Enter the string "^.*FF0304.*". This is the BLE-ID for all GANTNER locks.

Set to "YES" and "mac+raw".

Set to "NO".

Set to "NO".

Set to "YES".

Set to "NO".

Set to "NO".

Figure 5.6 – Service settings - "Filter"

On this page you can enter the filter and search settings, that are necessary for the BLE connection to the locks.

- ▶ In the field "Filter by raw(regular expression)" enter the string " ^.*FF0304.* ". This is the BLE-ID, that is used for all GANTNER locks.
- ▶ In the field "Filter duplicate data" select "Yes" and in the field "By" select "max+raw".
- ▶ For the field "Upload iBeacon" select "NO".
- ▶ For the field "Upload S1/S3/S4" select "NO".
- ▶ For the field "Upload unknown" select "YES".
- ▶ For the field "Upload gateway" select "NO".
- ▶ For the field "Upload specific addresses only" select "NO".

Register Card "Scan"

Status	Network	Service	Other
Generic	HTTP	Filter	Scan

☐ Active scan

Scan Interval(100ms~5000ms)

Scan Window(100ms~5000ms)

Timeout Restart(3s~300s)

Figure 5.7 – Service settings - "Scan"

On this register card it is possible to define the automatic scanning for devices with BLE.

- ▶ Deactivate the option "Active scan". The function Active Scan is not supported by the GANTNER locker locks.
- ▶ Confirm the values by clicking on "Apply".

5.3.4 Other Settings and Firmware Update

In the "Other" menu, the remaining settings for the GAT ECO NW BLE Gateway are summarized. Here, for example, a firmware update can be implemented (see marked section in the following figure).

The screenshot displays the 'Other' settings tab of the GAT ECO NW BLE Gateway configuration interface. The interface is organized into two main columns. The left column contains 'LEDS CONFIGURATION' and 'TIME CONFIGURATION'. The right column contains 'FIRMWARE UPGRADE', 'PERIPHERAL', 'TROUBLESHOOTING', and 'OTHER'. The 'FIRMWARE UPGRADE' section is highlighted with a green dashed border. It shows the current version as v4.0.8 and offers an OTA upgrade method. Below this, it lists the version, model, and features of the upgrade. The 'PERIPHERAL' section has a 'Check' button. The 'TROUBLESHOOTING' section has a 'Command' dropdown set to 'ping', a 'Max time to execute command' dropdown set to '5', and a 'Number of packets sends only' dropdown set to '1'. The 'Host/IP' field is set to 'www.baidu.com'. The 'OTHER' section lists '1. Reboot the gateway' with a 'Reboot' button and '2. Factory reset' with a 'Reset' button.

Figure 5.8 – Service settings - "Other"

The most important functions are listed below. For a description of all the settings please read the MINEW documentation of the gateway.

LEDS CONFIGURATION

- Disable leds permanently:

If this option is marked, the LED ring on the device is disabled. If the option is not marked, the LED ring remains enabled and you can define the color of the LED display under "Scheme", the brightness of the LEDs under "Brightness" and how long the LED is turned on under "Display Time".

TIME CONFIGURATION

- Current time: Here the current time and date of the GAT ECO NW BLE Gateway are displayed.
- Method of setting time: With "Sync system time with ntp server", the time is periodically updated from a NTP time server in the network. The server addresses can be entered under "Ntp Server List". The time interval for the periodic update is entered in the "Sync interval(s)" field (sec/min/h).

With "Set system time manually", the time and date can be set manually. These can either be entered in the field "Time(YYYY-MM-DD hh:mm:ss)" or set to the values of the current PC by clicking on "Apply with host time".

FIRMWARE UPGRADE

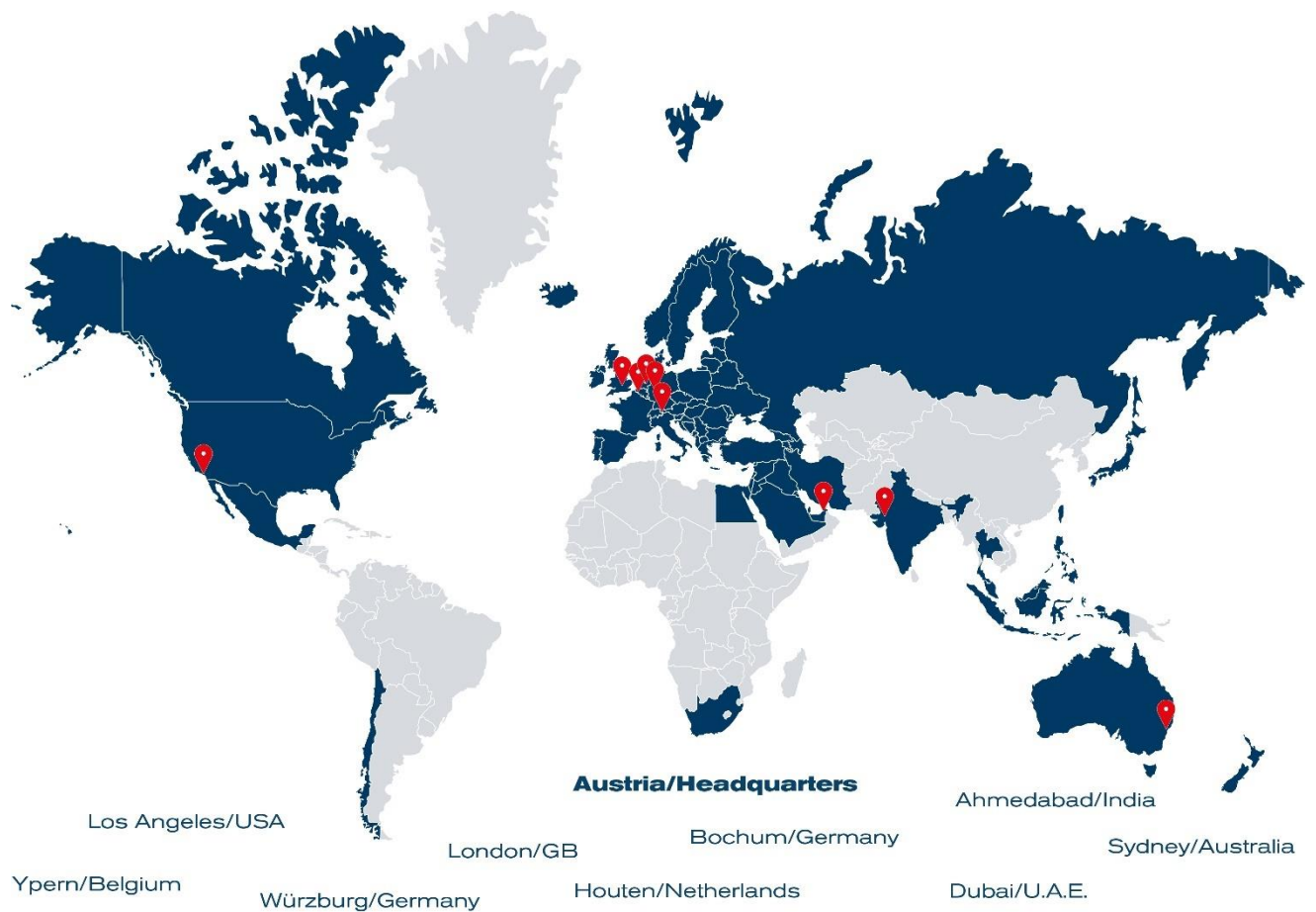
- Current Version: The version number of the firmware in the GAT ECO NW BLE Gateway is displayed here.
- Upgrade Type: Here you can select how a firmware update is to be performed (e.g., via LAN, via USB, or OTA = WLAN). The simplest option here is to select "OTA Upgrade". An Internet connection is required.
- Save current configuration: Mark this option to save the current configuration. If the option is not marked, the complete saved configuration will be deleted.
- Version number: Here you can select the desired firmware version. Below the version, information about the selected firmware is displayed.
- Upgrade: Click here to start the firmware update. The BLE gateway is restarted after the update and a WLAN connection must be established again.

OTHER

- Reboot the gateway: By clicking this button, the GAT ECO NW BLE Gateway can be restarted, if connection problems occur. This can often solve problems.
- Factory reset: By clicking this button, the GAT ECO NW BLE Gateway can be reset to factory settings. All configuration settings will be lost.

NOTE:

This manual is valid as of 8th August 2022. It is subject to change.
Amendments can be made without prior notice at any time!
Information in this manual refers to version 3.0 of the GAT ECO NW Single/Triple BLE Gateway and version 5.4 of the Relaxx software.



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