

INSPIRED ACCESS

INSTALLATION MANUAL

GL7p



Document Version 1.3



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Contact

Contact information for queries regarding the GL7p or for general inquiries can be found on the last page of the manual, where the worldwide branches of GANTNER Electronic GmbH are listed.

Contact address of manufacturer

GANTNER Electronic GmbH Bundesstraße 12 6714 Nüziders, Austria www.gantner.com/locations



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 carefully 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.



ACAUTION

Electrical shock

Touching current-conducting parts may result in injury due to electrical shock.

- Do not remove safety protection and covers.
- $\mbox{\sc Do}$ 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:

A 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

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

4. Definition of the safety symbols

<u>^</u>	Caution: General Information This symbol indicates general warnings or cautions that are not related to a particular type of hazard.
A	Caution: Electrical Shock This symbol indicates warnings related to electrical hazards (danger due to high voltage).
X	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.
1	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. Electrical connections may 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 especially applies 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 due to 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 GL7p locks were 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)

The complete text of the CE Declaration of Conformity is available via the following link: https://www.gantner.com/en/qr_eABVwaQG56



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.



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.

Compliance Statement (GL7p.2x00, GL7p.3x0x)

FCC ID: NC4-GEA1190126A

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

The GL7p.2xxx and GL7p.3xxx contain a wireless (RF) module. For those modules, the following applies:

This device contains

FCC ID: QWO-QS9322PLCS

IC: 4460A-0S9322PLCS

FCC Radio Frequency Exposure

WARNING: To comply with RF exposure limits the users must keep at least 20 cm separation distance from the device, except during the identification and operation process at the device (e.g., PIN-code input), which must be performed as described in this manual.



INDUSTRY CANADA INFORMATION

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

- 1. This device may not cause interference.
- 2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- 1. l'appareil ne doit pas produire de brouillage.
- 2. l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

ICES Statement (Canada)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



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.





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1 INTRODUCTION

1.1 About this manual

This manual contains the information necessary for the installation of the GL7p electronic locker locks. The GL7p is available in different variants, and the terms "GL7p" and "lock" are used interchangeably throughout the manual to represent all variants (see chapter "2.4 GL7p variants" for more information on the variants). If information in the manual only applies to a specific lock, the respective product name is used.



Information on the configuration and operation of the GL7p locks is available in a separate manual (see the "GANTNER Battery Locks Function" manual).

1.2 Target groups

This manual contains information relevant for the different stages in the operating life of the lock. Information regarding the installation, commissioning, and service/maintenance is separated into corresponding chapters. When a chapter is intended for a specific audience, this is clarified at the beginning of the chapter.

Information for the following target groups is available in this manual:

- > Installation technicians / locker manufacturers (installation, commissioning)
- > Service technicians (service and maintenance)

Where not explicitly stated, the information in this manual is intended for all target groups in general.

CAUTION! Injury and property/equipment damage. The tasks described in each chapter must only be performed by the specified target group. Unqualified personnel who perform the described tasks risk personal injury or damaging property/equipment.

1.3 Contact & inquiries

For all inquiries concerning the GL7p, 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/EN/locations



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 of the device or associated equipment.

1.4.1 General information

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



The text accompanying this symbol contains interesting information relevant to the current chapter. It will help you better understand the information in this section or provide tips for the described device or the operation of the software.

1.4.2 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.
 - o This symbol represents the result after completing the previous instruction.

1.5 Terminology

Several key terms that are used often in this manual are defined below.

Computer / PC

These terms refer to all desktop and laptop computers used to configure and maintain the locks.

Data carrier

An identification medium with electronic memory and an ID number that is used by the employees and visitors of a facility for identification. Data carriers are available in a variety of different forms (e.g., chip cards, wristbands, key tags), and to suit different RFID technologies (LEGIC, MIFARE®, ISO 15693).

System data carrier

Several different types of system data carriers are used for programming, service, and maintenance tasks. These data carriers have special functions and as they are essential for operation and have security-related features, they must be kept in a secure place protected against unauthorized use. Most of the system data carriers are included in the battery lock configuration set, however, some must be ordered separately as required.



FID (Company ID) and Site Key

LEGIC systems use the FID number and in MIFARE® systems the site key is used, which is a combination of the FID and the read and write keys. The FID and site key are unique for every facility. These numbers are encoded in every data carrier and device used in the facility thereby ensuring that data carriers from one installation cannot be used in other installations.

GAT ECO Lock Configurator

A GANTNER developed PC software that is used to configure the GANTNER battery-powered locks.

Lock / Battery lock

General terms for all lock variants.

Locker

The term "locker" is used to describe all possible locker applications that can be fitted with a GANTNER electronic lock. Typical applications include a changing room locker, a deposit box, or a private box.

RFID (Radio-Frequency Identification)

Identification over a short distance using radio frequency. An RFID data carrier is used to identify users in GANTNER systems.

Wireless

Identification via a wireless interface in the range 2.402 to 2.48 GHz, over which identification and locker operation from a distance is possible, e.g., via a smartphone app. An additional feature is the monitoring of the lock status using an access point and the Relaxx locker management software.

User / Guest / Visitor

These general terms refer to the people in a facility who use the locker system with GANTNER locker locks, data carriers, and other GANTNER devices.

Left locker door / right locker door

Door opening direction according to DIN 107, i.e., whether the hinges or axis of rotation of the door are on the left or right when looking at the locker door. For more information see "3.7 Definition of the door direction (right or left door)".



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2 GENERAL INFORMATION

2.1 Intended use

The GL7p may only be used for the electronic locking of lockers in facilities such as leisure facilities, universities, companies, depots, and other individual business applications. Depending on the device type, identification at the GL7p is completed using contactless RFID (Radio Frequency Identification) data carriers or via PIN code.

2.2 Functional description

The GL7p is installed on the outer side of the locker door and is suitable for most types of locker material, e.g., sheet metal, wood, HPL, and solid plastic. The GL7p can be used with left- and right-hinged locker doors alike. The lock can be mounted both vertically and horizontally, which also makes it suitable for use in lockers with very low door heights. Due to its mechanical compatibility with standard locker locks and locks of similar construction from other manufacturers, existing locker installations can be effortlessly upgraded using the GL7p. The existing holes of the previous standard locks can be directly re-used.

The GL7p is powered by one 3.6 V AA lithium battery (see "6 TECHNICAL DATA"), which provides an operating life of up to 10 years* (at 10 activations per day and +20°C room temperature) before requiring replacement. For configuration, the lock connects to a computer via USB and can be configured using GANTNER's "GAT ECO Lock Configurator" configuration software. Configuration via NFC using a mobile device and the GANTNER MoLA app is also possible. The lock can operate in one of five operating modes thereby providing flexibility for different locking requirements within a facility.

Using a locker

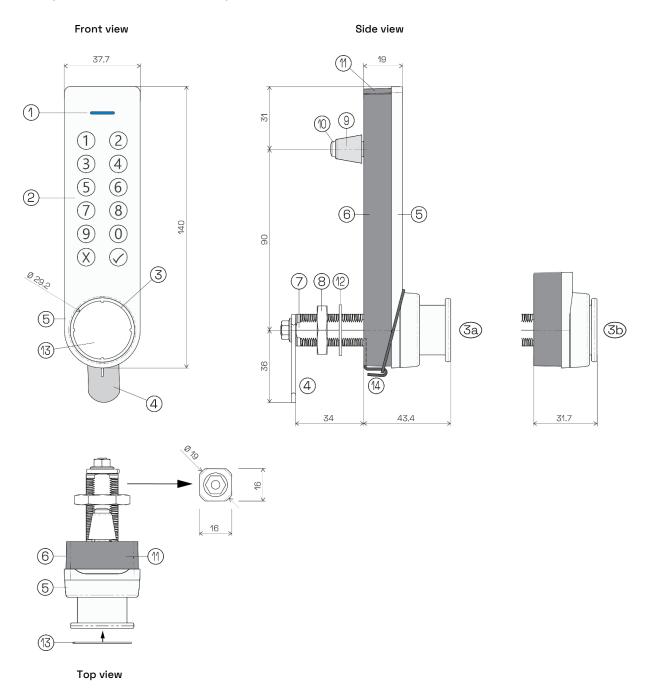
To use a locker, the user closes the door of their locker and presses the button of the GL7p in using their data carrier. The GL7p reads the data carrier information and determines whether the user is authorized to use the locker. If the user is authorized, the GL7p locks the locker door. The LED signals the locking action, and the button remains in the pressed-in position.

To unlock a previously locked locker, the user presses their data carrier onto the lock button. The GL7p reads the data carrier and checks that the authorization is valid before automatically unlocking the locker door.

* Different operating modes or configurations can reduce the battery lifespan.



2.3 GL7p dimensions and components



1. LED status indicator
 2. PIN code keypad (optional)
 3. Fixing nut
 9. Spacer sleeve

3. Button (a = "unlocked", b = "locked")
4. Latch (e.g., GL7p FR36 cam)
10. Screw for anti-rotation protection
11. Battery compartment cover

5. Front part 12. Shim washer 6. Rear part 13. Button plate

7. Mounting thread (M19x1) 14. Transportation lock (removed during installation)

Fig. 2.1 - GL7p dimensions and included components (all measurements in mm)



2.4 GL7p variants

Multiple variants of the GL7p locks are available to suit different requirements, e.g., PIN code functionality and installation methods. The main difference between the variants are the two types of RFID readers integrated into the locks, which support different RFID technologies. RFID (Radio-Frequency Identification) is identification via radio frequency (13.56 MHz) over a short distance of up to a few centimeters.

All GL7p variants support identification via wireless technology (2.402 to 2.480 GHz) over distances of up to several meters. This feature can be used for, e.g., identification at the lock using a smartphone with a specific app. An additional feature is the monitoring of the lock status using an access point and the eLoxx Relaxx locker management software.

2.4.1 Variants with a LEGIC advant RFID reader

GL7p variants with a LEGIC advant RFID reader support the following technologies:

- > LEGIC prime
- > LEGIC advant
- > LEGIC combi data carrier (CTC, MV, MP, MM)
- > MIFARE® Classic (1k & 4k)
- > MIFARE DESFire EV1° / EV2° / EV3°
- > MIFARE Ultralight®
- > NFC (HCE)
- > HID iClass CSN (UID) 13.56 MHz
- > ISO 15693

An overview of the variants and their features:

Variant	PIN code ¹⁾	Front color	Mounting method ²⁾
GL7p.2300	-	white	vertical top horizontal right ⁴⁾ horizontal left ⁴⁾
GL7p.2300 BK/GY	-	black/gray	vertical top horizontal right 4) horizontal left 4)
GL7p.3300	Х	white	vertical top
GL7p.3300 BK/GY	Х	black/gray	vertical top
GL7p.3301 ³⁾⁴⁾	Х	white	horizontal right
GL7p.3301 BK/GY ^{3) 4)}	Х	black/gray	horizontal right
GL7p.3302 ^{3) 4)}	Х	white	horizontal left
GL7p.3302 BK/GY ^{3) 4)}	Х	black/gray	horizontal left

- 1) PIN-code keypad for identification.
- 2) Alignment of the lock depends on the printing of the PIN-code keypad (see "2.7 Lock orientation").
- 3) Available only on request.
- 4) IP protection reduced, refer to "6.8 Environmental conditions".



All LEGIC variants are also available with CardNET function or OSS Standard Offline function. See the respective documentation for more information.



2.4.2 Variants with a MIFARE / ISO 15693 RFID reader

GL7p variants with a MIFARE / ISO 15693 reader RFID reader support the following technologies:

- > MIFARE® Classic (1k and 4k)
- > DESFire EV1° / EV2° / EV3°
- MIFARE Ultralight®
- > NFC (HCE)
- > HID iClass CSN (UID) 13.56 MHz
- > LEGIC advant (UID)
- > ISO 15693

An overview of the variants and their features:

Variant	PIN code ¹⁾	Front color	Mounting method ²⁾
GL7p.2500	-	white	vertical top horizontal right 4) horizontal left 4)
GL7p.2500 BK/GY	-	black/gray	vertical top horizontal right ⁴⁾ horizontal left ⁴⁾
GL7p.3500	Х	white	vertical top
GL7p.3500 BK/GY	Х	black/gray	vertical top
GL7p.3501 ^{3) 4)}	Х	white	horizontal right
GL7p.3501 BK/GY ^{3) 4)}	Х	black/gray	horizontal right
GL7p.3502 ^{3) 4)}	Х	white	horizontal left
GL7p.3502 BK/GY ^{3) 4)}	Х	black/gray	horizontal left

- 1) PIN-code keypad for identification.
- 2) Alignment of the lock depends on the printing of the PIN-code keypad (see "2.7 Lock orientation").
- 3) Available only on request.
- 4) IP protection reduced, refer to "6.8 Environmental conditions".

2.5 Storage requirements

The recommended storage temperature is -20 to +35 °C. For this range, the maximum storage time without the battery inserted is 18 months. Storage is permitted up to max. 60 °C, whereby the maximum storage time without the battery inserted is then reduced to 6 months.



2.6 Scope of supply

The following parts are included with each GL7p lock (also refer to Fig. 2.1):

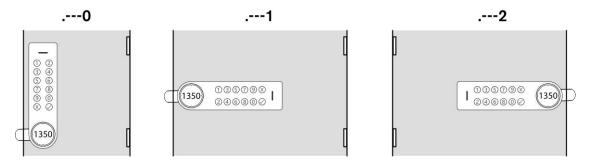
Latch "GL7p FR36 cam" (Part No. 615929) Latch for locking the locker door. 36 mm straight latch. Other latch variants are available on request. See "3.6 Latch types" for more information.	
Fixing nut Suitable for the mounting thread of the GL7p.	0
Screw and spacer sleeve for anti-rotation protection The screw and spacer sleeve are used for mounting the GL7p to prevent the lock from rotating.	3
GL7p Button Plate (Part No. 748633) Self-adhesive number plate for attaching to the lock button, white unprinted, thickness 0.8 mm. See "2.8 Plates and stickers for the GL7p button" for more information.	



The parts listed above are also available to order as a replacement mounting set (Part No. 748633). For GL7p variants (GL7p.xx0x BK/GY) with a black front housing, a separate mounting set is supplied that contains a black button plate. This set is also available to order as a replacement set (Part No. 1112673).

2.7 Lock orientation

For the GL7p variants with a PIN-code keypad, the printing of the keypad must be observed (indicated by the last digit of the model identifier). The different variants are mounted as follows.



- 0 ... vertical top
- 1... horizontal, right-hinged door / DIN right (i.e., the lock is on the left and the door opens on the left)
- 2 ... horizontal, left-hinged door / DIN left (i.e., the lock is on the right and the door opens on the right)

Fig. 2.2 - Orientation of the GL7p variants with PIN-code keypad



2.8 Plates and stickers for the GL7p button

A neutral-white button plate without printing is included with the GL7p (GL7p Button Plate - Part No. 748633). The round plate (0.8 mm thickness) is attached to the button of the GL7p as described in chapter "3.10 Attaching the button plate".

The full range of plates available for the GL7p button include:

Variant	Part No.	Color	Picture	Number
GL7p Button Plate	748633	white		No number
GL7p Button Plate BK	1112674	black		
GL7p Number Plate	1103180	white	1234	Max. 4-digit number possible
GL7p Number Plate BK	1113025	black	5678	
GL7p customized number plate	1103747	white		Instead of a number, a customized design can be laser-printed onto the plate (example shown to the left)



In addition, a button sticker (GL7p Number Sticker) can be attached to the button plate; however, this is optional. The button sticker (0.2 mm thickness) is available in white or black with pre-printed numbers ranging from 001 to 500.

The GL7p Number Stickers can be ordered in sheets of 50 consecutive numbers. The button sticker can also be ordered with customized printing, e.g., with a logo, color, individual number, or text.



For more information on the design and printing of customized button plates or button stickers, please contact your GANTNER representative.



3 INSTALLATION

NOTE! These installation instructions describe how to install the GANTNER locker lock. Please read this section carefully prior to working on the lockers or installing the locks.

NOTICE

Risk of damage or failure to the lock

- Read the information in this section carefully before installing the lock.
- Carefully observe the installation diagrams.
- Use the correct tools to install the lock.

3.1 Target group

This chapter provides information for technicians responsible for installing the locker lock. Experience in mechanical work and basic electrical knowledge is required. Previous knowledge of GANTNER locks is not required.

3.2 Test installation

As GANTNER locks are suitable for a wide range of installation applications, always perform a test installation including functional testing of the lock in a sample locker from the facility before starting with the mass production of lockers.

Ensure that the latch of the lock slides easily in and out without resistance of the opening in the locker body. Also test that the lock locks and unlocks as required, ideally using a data carrier of the same type to be used with the locker system to ensure that the data carrier functions properly.

3.3 Replacement after break-in

If a break-in (forced opening) is attempted or occurs at a locker, the entire lock including the locker door must be replaced with a new one.

3.4 Operating conditions

The GL7p is suitable for locker doors made of metallic and non-metallic materials. The lock may only be used indoors (see section "6.8 Environmental conditions"). The installation in lockers with metallic doors does not differ from the installation of lockers with non-metallic doors.

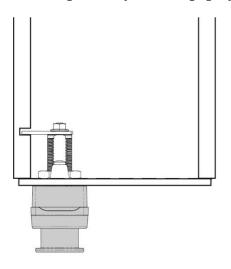
There is a difference in the IP protection ratings for the two installation methods of the GL7p. When installing the GL7p horizontally, a rating of IP40 must be considered as opposed to IP42 for a vertical installation. These ratings apply in each case in the installed state.



3.5 Door width and thickness

The GL7p is suitable for locker doors with a door leaf thickness of 1 mm to max. 28 mm. Depending on the thickness of the door leaf, different screws and/or the supplied spacer sleeve must be used for anti-rotation prevention. For details, see "3.8.3 Installation instructions".

When installing into lockers with narrow doors, ensure that the GL7p does not touch the locker body when opening and closing the door (see following figure).



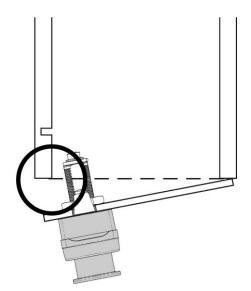


Fig. 3.1 - Width and thickness of the locker door

3.6 Latch types

There are straight and offset latches and both types are available with a closed or hooked end. The hooked latches provide additional protection against break-in as the hook is engaged with the bolt (see "3.8.2 Measurements for hooked latches" for more information).



NOTE! For 2 mm latches with a length of \geq 40 mm, a reduced break-in resistance must be expected. Before using such a latch, the reduced break-in resistance must be clarified with the end customer and approved.

It is possible to increase the break-in resistance by using a 3 mm latch ("/3" in the article designation). Damage to the lock mechanism must be expected in the event of a break-in or attempted break-in!



A standard latch is included with the GL7p. This is a straight latch and when installing in a new locker, the position of the latch stop in the locker body must be aligned accordingly so that the latch is present at the stop when the door is closed. The distance from the underside (mounting side) of the GL7p to the latch is 34 mm (1.34 in) (see following picture).

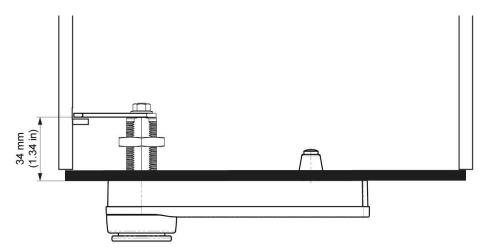


Fig. 3.2 - Standard latch included

To retrofit the GL7p into existing lockers, GANTNER also offers offset latches that can be adapted to an existing latch stop. In this case, please contact GANTNER Electronic GmbH or your local sales partner to order a suitable latch.

NOTE! To ensure the correct operation of the GL7p, do not bend or modify the supplied latch yourself.

Complete the following steps to find the exact measurement for the latch:

- > Install the supplied standard latch.
- > Lock the GL7p using a valid data carrier or PIN code while keeping the locker door closed so far that the latch retracts exactly into the existing latch opening in the locker wall.

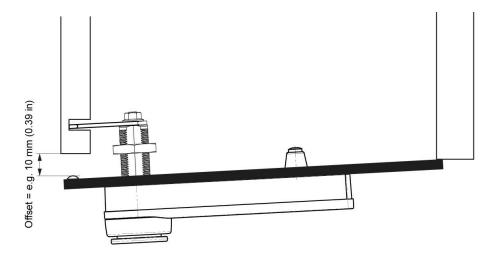


Fig. 3.3 - Measuring the required latch offset using the supplied latch



- ▶ Measure the gap size of the door from the edge of the locker body to the point of impact on the door (i.e., to the inside of the door or any bump stops).
- ► The latch must be offset by the measured gap size.

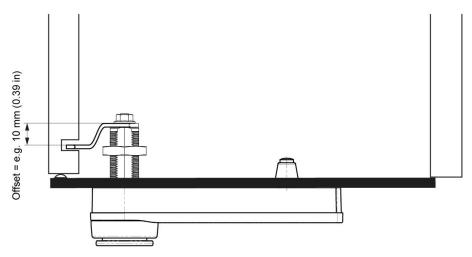


Fig. 3.4 – Example of offset latch for existing locker

Please provide the latch length (A) and latch offset (B) to GANTNER or your distributor when ordering the offset latch.

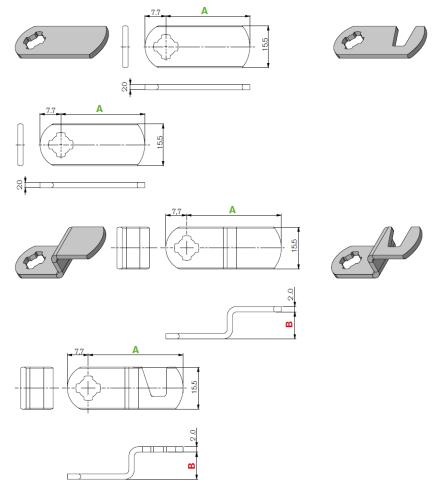
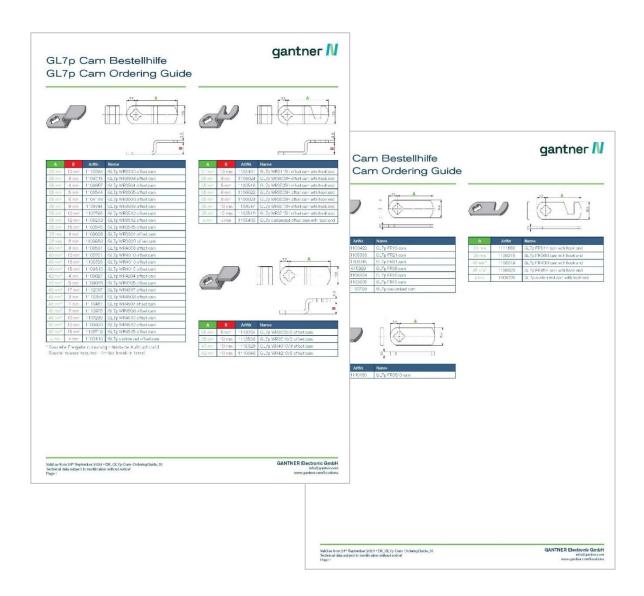


Fig. 3.5 – Measuring the required length and offset of the latch





The "GL7p Cam Ordering Guide" provides an overview of the possible latch types and measurements. Some latches with part numbers are listed here. Please use one of these latches if possible or else provide the correct measurements when ordering.





3.7 Definition of the door direction (right or left door)

During installation, it must be noted whether the locker door is a "right" or "left" door. These terms are used in this manual in accordance with the definition in DIN 107. Accordingly, the hinge or the axis of rotation when looking at the locker door (= the side of the door towards which the door opens) is on the left for a left-hand door and on the right for a right-hand door as shown below:

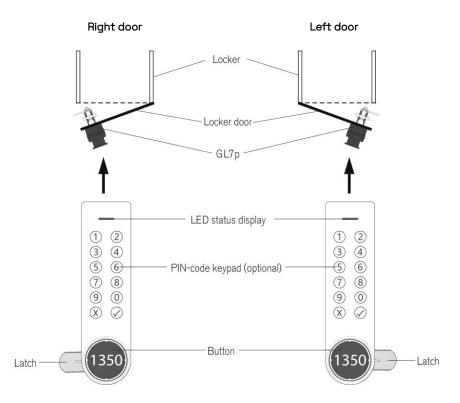


Fig. 3.6 - Definition of the locker doors (left/right) with vertical installation of the lock

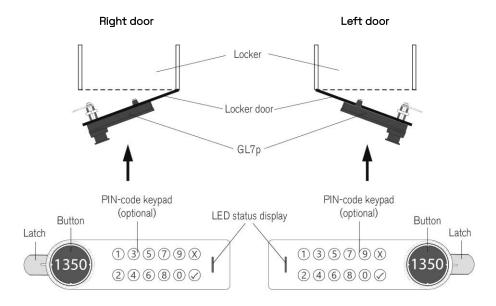


Fig. 3.7 - Definition of the locker doors (left/right) for horizontal mounting of the lock

The position of the GL7p latch is different for right- and left-hinged doors. The latch can be adjusted accordingly during installation (see "3.8.3 Installation instructions").



The installation for right-hinged doors is described in the following pages. The installation procedure for left-hinged doors is basically the same as for right-hinged doors, except that the locker door is rotated by 180° and the lock is also rotated by 180° when the GL7p is installed horizontally.

3.8 Installation of the GL7p

After determining the alignment of the lock and the door stop, the mounting holes can be drilled. The following description shows the holes for a right-hinged door with vertical lock mounting.

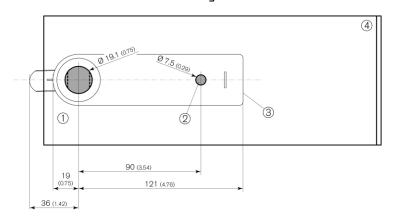
NOTE! Before installing all locks in a new locker system, a test installation of one lock into a completed locker and a functional check must be performed. See section "3.2. Test installation".

3.8.1 Mounting holes in the door

Two holes must be drilled in the door. If a DD cut-out with $19.1 \times 16.1 \, \text{mm}$ (0.75 x 0.63 in) already exists, e.g., when replacing an existing mechanical lock, this can also be used.

Vertical mounting (90.475) (90.75) (9

Horizontal mounting



- 1. Hole or DD cut-out for mounting thread
- 2. Hole for anti-rotation prevention
- 3. Lock position after installation
- 4. Locker door

(Measurements in mm, inches shown in brackets)

- Fig. 3.8 Mounting holes in the door (measurements for standard latch shown)
- For the mounting thread, drill a hole (1) of \emptyset 19.1 mm (0.75 in) in the locker door. If a DD cut-out with 19.1 x 16.1 mm (0.75 x 0.63 in) already exists, e.g., when replacing an existing mechanical lock, this can also be used.
- ▶ A second hole (2) of Ø 7.5 mm (0.29 in) is also required in the locker door to prevent rotation of the lock.



3.8.2 Measurements for hooked latches

If a hooked latch is being used, the hooked end engages into a bolt for additional break-in protection. The bolt must be correctly installed according to the bolt size.

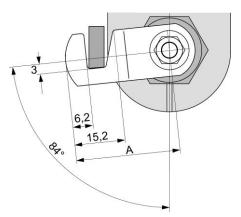


Fig. 3.9 - Dimensions for latches with hook ends (measurements in mm)

Measurement A depends on the type of bolt being used (standard bolt = 36 mm). The bolt must be positioned according to this measurement minus the cut-out measurements of the bolt shown in the picture. The cut-out measurements of the hook end specified here are the same for all latches in the GANTNER range.

ATTENTION! For the installation process, keep in mind that the latch is not exactly in the 90° position when the GL7p is locked, but at approx. 84°. Conversely, the latch is not exactly in the vertical/horizontal position in the unlocked state. The following image shows the movement of the latch during the locking process. The direction of rotation is clockwise when seen from behind the GL7p, i.e., from the inside of the door.

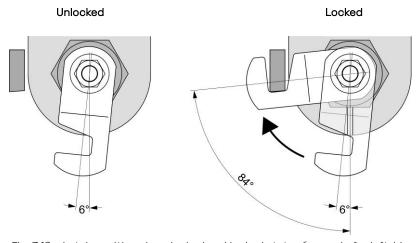
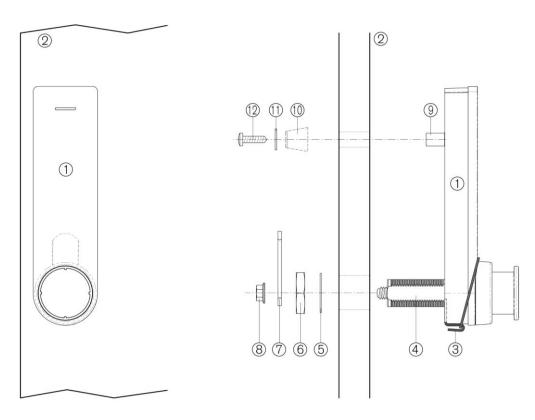


Fig. 3.10 - Latch positions in unlocked and locked states (example for left-hinged doors)



3.8.3 Installation instructions

After drilling the mounting holes, complete the following steps to install the GL7p according to the installation diagram.



1. GL7p

2. Locker door

3. Transportation lock

4. Mounting thread

5. Shim washer

6. Fixing nut

7. Latch

8. Lock nut

9. Anti-rotation dome

10. Spacer sleeve (only for thin doors <10 mm, e.g., single-wall metal door)

11. Washer (only if spacer is not used)

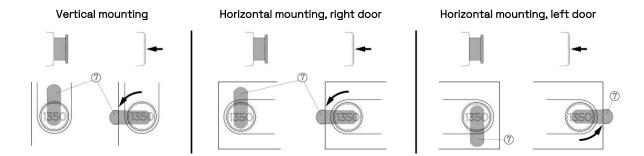
12. Screw for anti-rotation 1)

1) For doors with a thickness of 1 to 5 mm and 13 to 18 mm, a corresponding KA35 screw is included with the delivery. For other door thicknesses, use appropriate KA35 or 3.5 mm self-tapping screws.

Fig. 3.11 - Installation of the GL7p

- ▶ Mount the GL7p onto the locker door by inserting the mounting thread (4) and anti-rotation dome (9) into the holes in the locker door.
- ▶ Place the supplied shim washer (5) onto the mounting thread.
- Screw the fixing nut (6) onto the mounting thread and tighten the nut so that the GL7p is held firmly on the door (torque max. 5 Nm, wrench size = 24 mm).
- Now remove the transportation lock (3). See chapter "3.9 Removing the transportation lock" for details. The transportation lock may no longer be inserted in the lock to install the latch.
- ▶ Insert the latch (7) in the correct orientation onto the fixing screw.





- Tighten the lock nut (8) so that the latch is firmly attached (torque max. 1.5 Nm).
 - NOTE! Hold the latch firmly so that no force is exerted on the lock when tightening the lock nut!
- Secure the anti-rotation (tightening torque max. 1.0 Nm) using a screw (12) suitable for the door thickness and, if necessary, the spacer sleeve (10) and/or washer (11):

Door thickness	Required parts
1 to 5 mm	Supplied screw + spacer sleeve
5 to 10 mm	KA35x20 screw + spacer sleeve
>10 mm	Supplied washer + KA35 screw suitable for the door thickness or 3.5 mm tapping
	screws

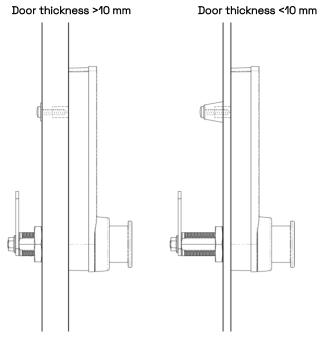


Fig. 3.12 – Side view of the GL7p after installation with different door thicknesses

- Finally, ensure that the latch can be closed and opened without resistance (press the button).
- When the locker is locked, ensure that the door is held in the closed position by the latch without creating a door gap.



See chapter "4 COMMISSIONING" for information on how to insert the batteries and commission the GL7p.



3.9 Removing the transportation lock

Before the GL7p can be put into operation, the transportation lock must be removed after tightening the fixing nut. The transportation lock blocks the button with the mounting thread and thus prevents unintentional button actuation or unintentional loosening of the mounting thread during transportation and installation.

NOTE! This step should be completed before fitting the latch after the GL7p has been mounted to the door and the fixing nut tightened. It is not permitted to fixate the push-button using the transportation lock to install the latch! See also chapter "3.8 Installation of the GL7p".

▶ Remove the rubber band (1) that holds the transportation lock (2) in place.

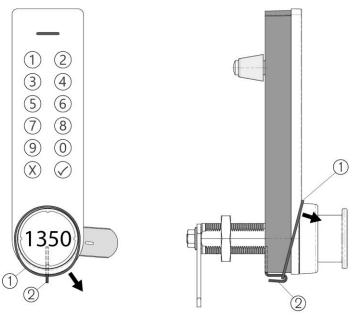


Fig. 3.13 - Remove rubber band

▶ Pull the transportation lock (2) out of the GL7p housing.

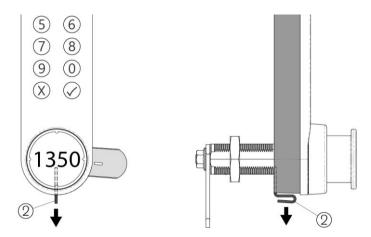


Fig. 3.14 - Remove transportation lock

► Keep the transportation lock for a possible later use.

3.10 Attaching the button plate

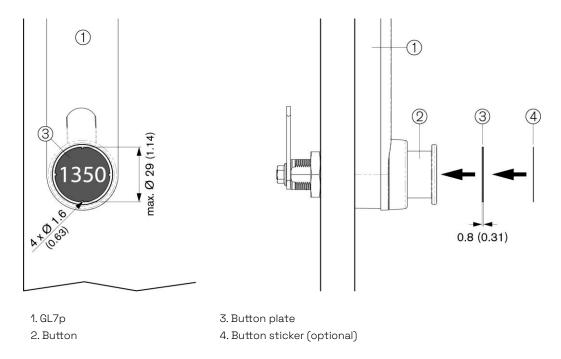


Fig. 3.15 – Button plate and button sticker on a right-hinged door

- ▶ Before attaching the button plate, ensure that the surface of the button is free of dirt and dust.
- ▶ Align the button plate with the 4 tabs in the button and attach it.

NOTE!

- > If you are using a numbered or customized **button plate**, do not attach the supplied blank button plate, as it is difficult to remove again.
- > If you are using a numbered or customized **button sticker**, attach the supplied blank button plate into the push-button before attaching the button sticker.
- ▶ If using a button sticker, align the button sticker with the 4 tabs in the button and attach it to the button plate.



4 COMMISSIONING

4.1 Target group

This chapter provides information for technicians responsible for putting the battery lock into operation. A base knowledge of electronics is assumed. Previous knowledge of GANTNER battery locks is not required.

4.2 Battery lock configuration set

To configure and maintain the battery locks of your locker system and to perform important system functions, GANTNER provides four configuration sets to suit the different GL7p variants (see chapter "2.4 GL7p variants").

4.2.1 GAT ECO. Basic Set

The GAT ECO.Basic Set is intended for all GANTNER battery locks without CardNET function and OSS Standard Online function. Two GAT ECO.Basic Sets are available to suit the required RFID technology:

- > GAT ECO Basic Set BA lite Part No. 1110090. Suitable for the GL7p.x3xx locks.
- > GAT ECO.Basic Set FD lite Part No. 1110092. Suitable for the GL7p.x5xx locks.

The following items are included in the GAT ECO. Basic Set lite.



System data carriers	Additional items included in the GAT ECO.Basic Set lite		
MASTER data carrier (3 pieces, red)	3 m USB programming cable		
DELETE MASTER data carrier (orange)	GANTNER lanyard		
PROGRAM data carrier (black)	Battery compartment key "GL7p Battery CoverKey"		
BATTERY data carrier (blue)	Battery compartment key "GAT ECO.Lock 7000 - Battery Key GEA"		
SERVICE data carrier (yellow)	Pot magnet (for removing the battery from the GL7p)		
APP KEY data carrier (purple)			

Optional data carriers

OPEN MASTER data carrier

NOTE! To maintain the security of the locker system, ensure that the GAT ECO. Basic Set is kept in a secure location protected from unauthorized use.



4.2.2 GAT DL 300 Master Key Set

To configure the GANTNER battery locks with CardNET function or OSS Standard Online function, GANTNER offers the following configuration sets to suit the required RFID technology:

- > GAT DL 300 Master Key Set (ISO 15693) Part No. 253022
- > GAT DL 300 Master Key Set (ISO 14443) Part No. 1105331

The following system data carriers, in the form of RFID chip cards, are included in the set.

PROGRAMMING Data Carrier



BATTERY Data Carrier



DELETE Data Carrier



WINET Data Carrier



DEMOUNTING Data Carrier



Optional data carriers

COMMUNICATION Data Carrier



DATA SECURE Data Carrier



NOTE! To maintain the security of the locker system, ensure that the GAT DL 300 Master Key Set is kept in a secure location protected from unauthorized use.



4.3 Power supply

4.3.1 Battery information

The GL7p is powered by one 3.6 V AA lithium battery. The lifespan of the battery depends on the number of locking cycles (usage frequency of the lock) and the ambient conditions. The battery must be replaced with a new one when the battery voltage becomes too low. If the battery becomes too weak, the locker can no longer be locked.



A low battery condition is indicated during an unlocking or locking attempt by the LED flashing red 5 times and 5 beeps being emitted.

NOTE! Only battery types approved by GANTNER may be used (see "6. TECHNICAL DATA").

4.3.2 Inserting the battery

To put the GL7p into operation, the battery must be inserted into the battery compartment of the GL7p. To access the battery compartment, the battery cover must be opened using the GL7p Battery CoverKey (3), which is included in the GAT ECO.Basic Set and available to order separately (Part No. 749230).

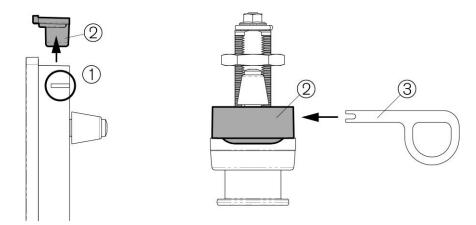


Fig. 4.1 - Opening the battery compartment

- ▶ Insert the GL7p Battery CoverKey (3) into the slot (1) on the side of the GL7p.
 - o The battery compartment cover unlocks.
- ► Remove the battery compartment cover (2).
- ▶ Insert the battery (4) into the battery compartment with the polarity as shown in the following figure.



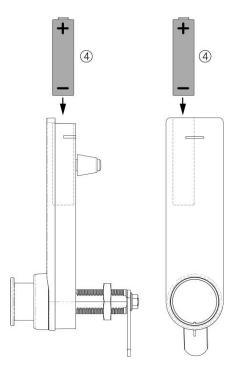


Fig. 4.2 - Insert battery - observe the correct polarity!

- Replace the battery compartment cover onto the battery compartment and push it down until it clicks into place.
- ▶ Press the button of the GL7p in completely using the BATTERY data carrier.
 - The BATTERY data carrier is read by the GL7p and, if read correctly, the GL7p is enabled.

 NOTE! If the battery alarm occurs again after resetting, wait 2-3 minutes until the internal energy storage is charged. The battery alarm can then be cleared using the BATTERY data carrier.

4.3.3 Replacing the battery

The battery of the GL7p must be replaced when the LED flashes red 5 times and 5 beeps are emitted during a locking or unlocking attempt. In this state, the GL7p can no longer be locked until the batteries are replaced.

To ensure that the time and date remain correct after a battery change, the battery replacement must not take longer than 3 minutes. If the GL7p is without battery for more than 3 minutes, the time and date must be reset. Since the time may be different from the real time after prolonged use of the GL7p, GANTNER recommends resetting the time and date after each battery change (see the "GANTNER Battery Locks Function Manual" for instructions).

- ▶ When the GL7p is installed, the battery can be difficult to remove from the compartment. To assist with removal, use the pot magnet that is included in the GAT ECO.Basic Set to lift the battery out.
- Following battery replacement, return the GL7p to its normal operating mode by pressing the button of the GL7p in completely using the BATTERY data carrier (= battery cover key).

NOTE! If the battery alarm occurs again after resetting, wait 2-3 minutes until the internal energy storage is charged. The battery alarm can then be cleared using the BATTERY data carrier.



Always dispose of used batteries in an environmentally friendly manner, e.g., at an electronic waste recycling facility.



- ▶ Complete the instructions described in section "4.3.2. Inserting the battery".
- Press the locker door shut with one hand and hold it shut.
- ▶ Press the button of the GL7p in completely using the BATTERY data carrier.
 - o The BATTERY data carrier is read by the GL7p and, if read correctly, the GL7p is enabled.

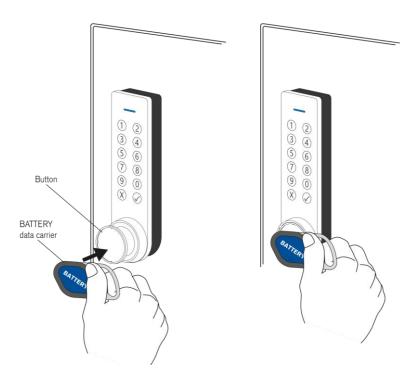


Fig. 4.3 – Activating the GL7p with the BATTERY data carrier



After battery replacement, it is recommended to always check the date and time of the GL7p and reset these parameters correctly if necessary.

4.4 USB connection

To connect to a computer with a Windows® operating system (min. Windows® 7), a Micro-B USB port is provided on the side of the GL7p. The USB port location allows configuration to be carried out even while the lock is installed. Always use the correct USB cable, i.e., the 3 m USB cable included in the GAT ECO.Basic Set.

NOTE! The maximum cable length between the GL7p and a computer is 5 m. The Micro-B USB connector can have a maximum width of 4 mm.

After the USB cable is connected, the SERVICE data carrier is used to put the GL7p into configuration mode. In this mode the lock can be configured using the respective configuration software (GAT ECO Lock Configurator or GAT DL Analyzer).

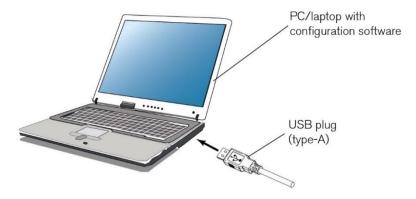


The configuration software is available to download from the GANTNER website (login required). Further information on configuring the lock is available in the "GANTNER Battery Locks Function Manual".

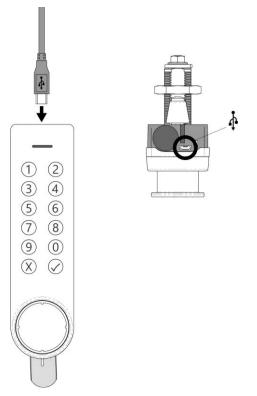


To configure the GL7p via PC/laptop:

- ▶ Start the configuration software on the PC/laptop.
- ▶ Connect the USB cable (type-A connector) to a spare USB port on your computer.



- ▶ Open the battery compartment (see section "4.3.2. Inserting the battery").
- ▶ Connect the Micro-B connector of the USB cable to the USB port on the GL7p.



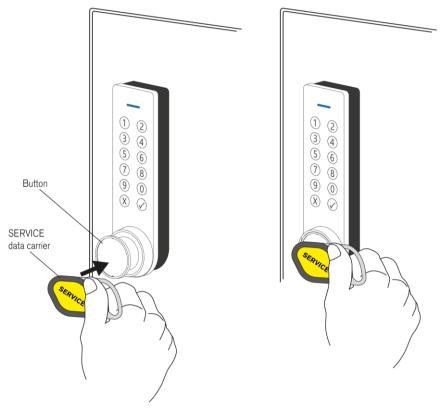
 When the GL7p is connected to the computer for the first time, the driver is automatically installed, and the lock recognized.



If the automatic driver installation does not work and you need the driver, it is available to download from the GANTNER partner website (login required) or via the direct link (QR code) on the GAT Basic Set documentation.



- After connecting to the computer, the LED flashes red/green alternately (if the GL7p has already been configured once).
- ▶ Now press the button of the GL7p to activate configuration mode.
 - o If the lock has not been configured yet (default setting), the GL7p only must be connected.
 - o If the lock has already been configured at least once, i.e., the default setting has been deactivated, the button must be pressed with the SERVICE data carrier from the GAT ECO.Basic Set. For locks with CardNET function or OSS Standard Online function, the PROGRAMMING data carrier from the GAT DL 300 Master Key Set or the optional COMMUNICATION data carrier must be used to set the lock into configuration mode.



o The GL7p enters configuration mode, and the LED slowly pulses green to indicate this state.



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5 MAINTENANCE

This chapter contains information for the cleaning personnel and service technicians responsible for the cleaning and maintenance of the GANTNER battery locks or lockers.

ATTENTION! The instructions described in this chapter may only be carried out by suitably trained personnel. The warnings in this chapter must be observed and followed during functional testing, cleaning, and maintenance.

5.1 Cleaning

Regular cleaning of the locker components ensures that the locker system remains in good condition and the correct working order is maintained.

NOTE! Do not use cleaning agents that contain solvents, alcohol, surfactants, acids or abrasive ingredients. Using these cleaning agents may damage the color or printing. In addition, the components must not be cleaned using a high-pressure or steam cleaner otherwise damage may occur!

Complete the following steps to clean the locker:

- ▶ Wipe off dirt and dust using a soft, lint-free, dry cloth.
- For extreme dirt, clean the locker components using a damp cloth. Do not allow any moisture to enter the inner parts of the lock.



Also refer to the GANTNER document "Cleaning and care instructions" for detailed instructions.

5.2 Maintenance

The components of the GANTNER battery locks are maintenance-free, i.e., maintenance of the mechanical parts is not required. Should a malfunction be detected during functional testing that cannot be remedied, the corresponding faulty part(s) must be replaced.

5.3 Functional testing

To ensure that the locker locks are functioning correctly, periodically test the functionality of the locker doors and lock components.

Frequency

- > After every 1000 locking operations, or,
- > If the locking function of a locker door is impaired.

Instructions

- ► Close the locker door.
 - o The door must close shut without increased effort. Readjust the door (see below) if this does not happen.
- ▶ Lock the door. Depending on the type of lock (data carrier or PIN code), press the button of the lock in with a valid data carrier or enter a valid PIN code when the door is closed.



- o The locker door must lock. If it does not, check that the data carrier authorization is valid.
- ▶ Unlock the door. Depending on the type of lock (data carrier or PIN code), press the button of the lock in with a valid data carrier or enter the PIN code when the door is locked.
 - o The locker door unlocks and must open without resistance. If the door or latch jams, re-adjust the door or latch (see below).
- ▶ Check that the latch is firmly seated on the mounting thread.

Adjusting the locker door and door latch

If a problem, as described previously in "Instructions", occurs while opening or closing the locker door during functional testing:

- Adjust the position of the locker door using the dimensions in sections "3.8 Installation of the GL7p" and "2.3 GL7p dimensions and components".
- ▶ If the door does not adjust properly, mount it in a different position.
- ▶ If the door is damaged, replace the door with a new door.
- ► Ensure that the correct latch is installed so that it sits exactly against the stop on the locker wall when the door closed and keeps the door closed without any play. See sections "3.8 Installation of the GL7p" and "2.3 GL7p dimensions and components".
- ▶ If the supplied standard latch does not suit the locker wall (e.g., when retrofitting), a corresponding offset latch can be ordered. The standard latch must not be bent or modified in any way.
- If the latch is damaged, it must be replaced.

5.4 Disposal



- Always dispose of the GANTNER battery lock and the associated components at an electronic waste recycling facility in accordance with the local regulations (e.g., European Directive 2002/96/EC).
- > Recycle defective or used batteries in accordance with the local regulations (e.g., European Directive 2006/66/EC).
- > Observe local regulations for the separate disposal of batteries.
- > Recycle packaging in an environmentally friendly manner.



6 TECHNICAL DATA

6.1 Power supply

Power supply 1 x 3.6 V lithium battery, type AA, capacity 2.4 Ah

GANTNER approved battery type - Tadiran SL-860/S (Part No. 914430)

- Tadiran TL-4903/S (alternative)

Battery lifespan Up to 10 years* with 10 operations per day and +20 °C

* Depending on usage, configuration, and ambient conditions.

6.2 Reading field

Reader type

GL7p.x**3**xx: LEGIC advant
 GL7p.x**5**xx: MIFARE / ISO 15693

See "2.4 GL7p variants" for details on the RFID technologies.

NOTE! It is recommended to have customer-specific data carriers

approved by GANTNER before use.

Reading field frequency - RFID: 13.56 MHz

- Wireless interface: 2.4 GHz

Maximum transmission power - RFID: < 500 mW

- Wireless interface: 3.7 dBm (2.344 mW)

Reading field range 5 to 35 mm $(0.2^{\circ\prime\prime}$ to 1.38 $^{\circ\prime\prime}$) *

* Depending on the installation and data carrier.

6.3 Memory and time management

Data storage EEPROM with capacity for 150 bookings, data retained during battery

change

Internal clock Quartz-controlled, real-time clock

6.4 Control and user guidance

Control element Button

User guidance - LED (multi-colored) to display the different operational states

- Beeper



6.5 Mechanical

Locking Mechanical with motorized latch lock

Break-in resistance DIN 4547-2 *

 * Applicable for the GL7p FR36 cam (supplied latch). The opening force

varies depending on the length and thickness of the latch used.

6.6 Interface

Interface type USB 2.0

Interface connection USB type Micro-B

Wireless interface - NFC (13.56 MHz)

- Wireless (2.4 GHz)

6.7 Housing

Material Plastic (PC), halogen-free, VO

Latch Steel

Mounting thread Die-cast zinc

Color - white variant: Front part: white. Rear part: dark gray

- black variant "BK/GY": Front part: black. Rear part: dark gray

Weight Approx. 250 g (8.82 oz.)

6.8 Environmental conditions

Permitted storage temperature -20 to +35 °C (-4 to +95 °F). Max. storage time without battery inserted:

18 months

Max. storage temperature 60 °C (140 °F). Max. storage time without battery inserted: 6 months

Permitted ambient temperature -20 to +60 °C (-4 to +140 °F)

Protection class - For vertical installation: IP42 (when installed)

- For horizontal installation: IP40

Environment class (VdS 2110) II (conditions in indoor areas)

Certification CE, FCC, IC

NOTE! An overview of all certifications is available on the GANTNER

website.





SALTO WECOSYSTEM

SCAN FOR CONTACT





