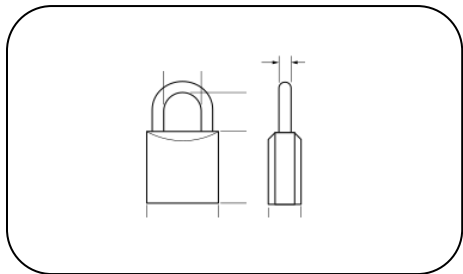
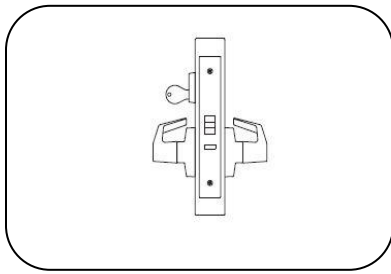
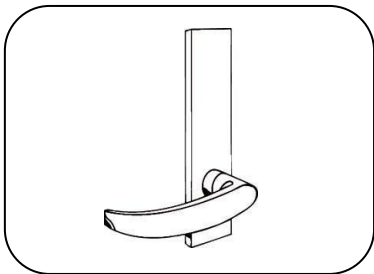
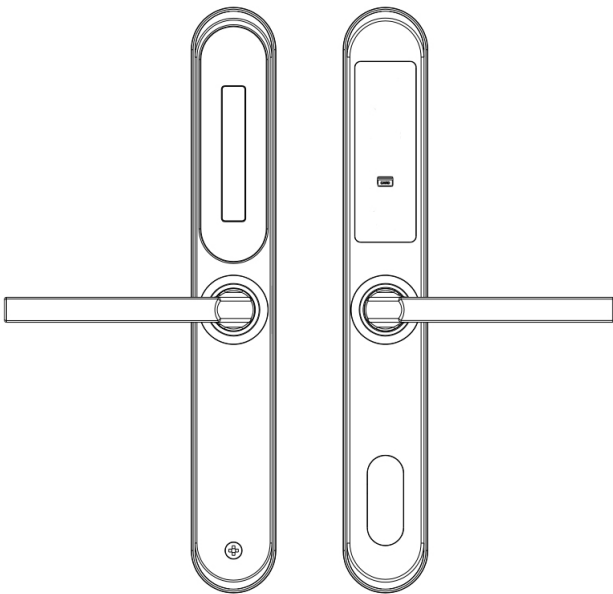


By EnnfuScientific

4 G NB I O T Smart Access Control Systems



NB Mortise
Doorlock
Hardware Manual



About This Manual

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Safety and warning instructions

- This manual outlines the commissioning, installation and operation of a 4G IoT MortiseDoorlock
- This equipment may only be used for the purpose specified by the manufacturer.
- This manual should be kept accessible.
- Illegal changes and the use of spare parts as well as accessories that have not been sold or recommended by the manufacturer of this unit can cause fires, electric shocks and injuries. Such measures lead to an exclusion of liability, and the manufacturer accepts no responsibility.
- Repairs may only be carried out by the manufacturer or accredited distributor/re-seller.
- Basis for the guarantee of the manufacturer is the version of the warranty policy for the unit at the time of purchase. No liability is accepted for inappropriate, incorrect manual or automatic setting of the parameters for the device, or its improper use.
- The distributor/re-seller in conjunction with the lock purchaser (if required), is responsible for ensuring that the device is assembled and mounted according to the recognised technical guidelines as well as other valid regulations in the country of use

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Introduction Summary

This manual outlines the functions of the 4G N B IoT Mortise Doorlock, how to install and use the product.

The technology

The 4G N B Mortise Doorlock is operated completely independent of any external cable connections (product is battery powered with 2 ER14505H lithium thionyl chloride batteries (+SPC1550 super capictor) and can be installed and operated where appropriate including outdoors under most weather conditions.

The operation of the 4G N B IoT Smart Doorlock occurs via 4G N B IoT technology, combined with NFC technology, and with cloud-based software and smartphone apps.

In order to unlock the lock, any smartphone which can connect to the internet, which has also been authorized, can be used. Smartphones which have NFC in built (most Android phones) which have also been authorized, can be held in front of the lock to gain access (within 2-4 centimeters) from armoured glass. NFC tokens/keycards, which have been authorised can also be used for unlocking. With these authorized devices/tokens, a mechanical coupling is activated for a few seconds that allows the 5G IoT smart padlock to be opened and closed by pulling the shackle up.

Operation

After the 4G NB-IoT Smart Doorlock has recognised a valid digital key, a mechanical coupling is produced for a few seconds between the CPU and the motor and the unlocking mechanism inside the lock.

Flexibility

The 4G-NB IoT Smart doorlock is an autonomous door locking system that can manage an unlimited number of users, on any time-limtable digital keys, and an unlimited number of locks per account. With this, individual time-limited access rights can be assigned to every user. The fact that every digital key can be authorised for every lock, means a high degree of flexibility is reached. Various access profiles can be set within the locking system.

If a digital key on a NFC card/token or smartphone is lost, the digital key can be deleted without making it necessary to physically attend to the smart doorlock.

The system concept

The 4G N B IoT Mortise Smartlock is complemented by;
Access Management Cloud Based Software
Digital Keys Apps (Android and iOS available for unlimited downloads from online app stores)
Digital Keys NFC keycards and tokens (3 cards provided). Please check with your local distributor to purchase more.

The security

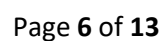
4G N B IoT is part of local mobile networks (part of the 4G standards), fully managed with standardized security to guarantee the credential and integrity of all data running through it. 4G IoT has passed security protocols as outlined by 3GPP/GSMA, the organizations responsible for managing global mobile networks.

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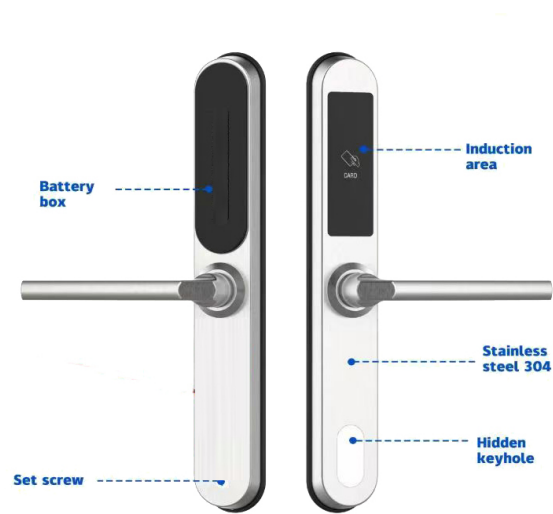
The 4G N B I oT module chipset included in our 4G IoT smart locks applies 2048 bit RSA encryption. All communications are running on HTTPS 128 bit military grade encryption between all the vertical applications including software and hardware. Between the telco's mobile network, and the IoT device management platform a layer of Internet Protocol Security (IPSEC) is provided. The Telecommunication company on some occasions, also provides a dedicated VPN for further security and reliability.

Unlocking methods:

sensitive use with Digital Keys app (and NFC HCE compatible phones), time-sensitive PIN, remote unlock button inside cloud based lock management software (access management software is provided).



What’s included



4G-NB IoT Mortise Doorlock



EU/ANSI Stainless steel mortise



NFC keycards



Strike plate



Nano SIM Card

5G-IoT/LTE-M SIM card

General information

Option 1: IR SENSOR WAKEUP MODE

Thanks for ST STH34PF80 IR sensor inside the smart doorlock, The 4G NB IoT Mortise Doorlock will auto wakeup with 2seconds when the smart lock detect some body nearby (within 4meters range)or actived by swiping a hand.

Then the operator can swipe NFC EV3 Cards to unlock. If pass the verification with inside of the doorlock, The door will be unlocked. it will auto lock after about 5 seconds.

If fail to verificate with inside authorized access records of the locks, the fail buzz sound will be actived and at same time, it will auto to active to connect with 4G/NB networking to get the new authorized access from the server backend.

Option 2: NFC WAKEUP MODE

The smartlock can support NFC wakeup mode too, it can be actived once nfc holding close the RF area of the lock for more than 4seconds. wakeup buzz sound will be actived.

Programming

The programming for the 4G IoT Smart Doorlock, can be carried out with our Access Management Software, and the Digital Keys apps (Digital Keys apps are FREE to download from the online app stores Android and iOS). The programming is described in the accompanying software manual. When using NFC phones and NFC tokens/cards, programming of the lock is carried out over the 4G IoT network on the first time the phone or token/card is presented to the door for unlocking. For all future unlocks with NFC, this will be done locally, and commands do not need to be sent over the 4G IoT network everytime. When NFC is used to unlock, the 4 G IoT is still used for live audits, live battery status, and live notifications.

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Operator guidance

Operation is supported by buzz sound indicating- a buzz sound occurs when the lock has successfully received its command, and the lever handle can then be pulled down to unlock the door.

Information on unlocking

To unlock the lock, please follow the instructions below;

1. Wakeup can be activated by swipe and holding the nfc card for 4seconds, or auto detected some body temperature by IR sensor **1**
2. A buzz noise occurs.
3. Swipe the NFCdesfire EV3 card to unlock. it will auto lock after 5seconds.
4. Pull handle down.
5. Pull handle up to engage deadbolt for added security measure

When unlocking with NFC (NFC phones and tokens) there should not be any delay in the lock being ready to be opened by pulling the shackle up. NFC phones and tokens must be held within 1-4 centimeters from the plastic pad on the lock.

Time Zones

The 4G IoT smart locks use local internet time, which can be set when the locks are first set-up and commissioned by our local distributors. Locks can be programmed to work for a minimal 30 minute timeslot. When the programmed time for the digital keys expires, the unlock icon will disappear from the digital keys app.

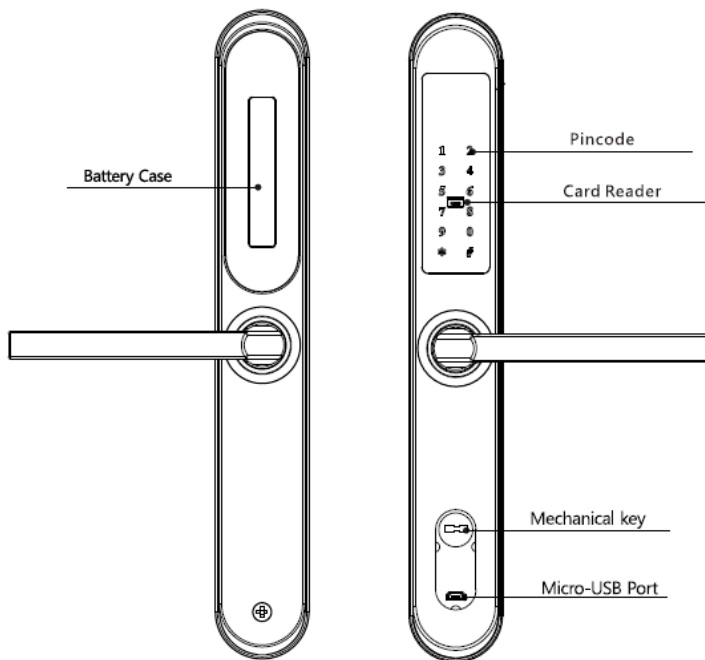
NFC Tokens/cards

The 4G IoT smart locks only work with special Digital Keys NFC cards/tokens. The product will not work with any NFC cards bought online from third parties, or from non-certified 4G IoT smart lock re-sellers. 2 NFC tokens are provided in every pack. Please contact EnnfuScientific or your local distributor/re-seller if you need to buy more keycards/tokens.

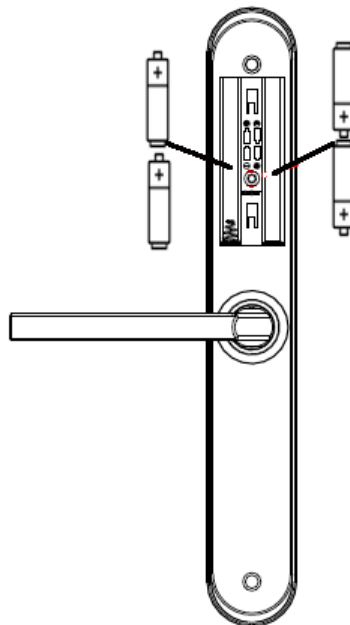
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Battery replacement

1. Slide the black battery case cover down on the back of the lock – see below



2. Place batteries into the battery holder as shown below.



3. Slide the cover back in place

Note: No digital keys are deleted during the battery changeover.

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Battery Notifications/monitoring

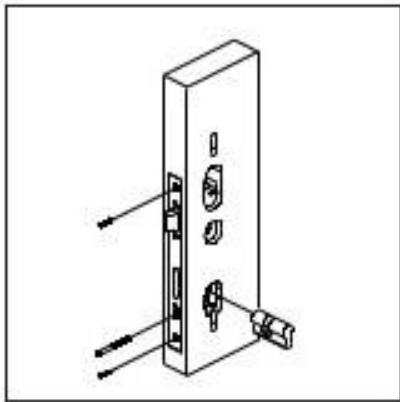
A live battery status is shown in the access management software (please see section 2 User guide for more information). Account administrators can set up email notifications for when battery status gets below 10%.

Care and maintenance

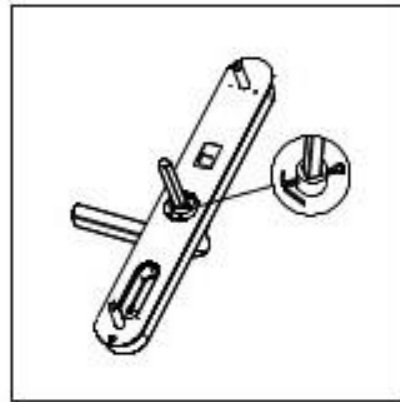
The 4G N B IoT mortise Doorlock is maintenance-free. At no time may they be oiled or greased with lubricants containing mineral oil. Cleaning may only be carried out with non-stick, residue-free cleaning and disinfection agents. No abrasive cleaning agents, or acids may be used for care and maintenance. Equally, pressure washers may not be used. Although the 4 G IoT Smart Doorlock is weatherproof we don't suggest the use of a high pressure hose to spray product, as it can lead to damage and liability exclusion.

Installation

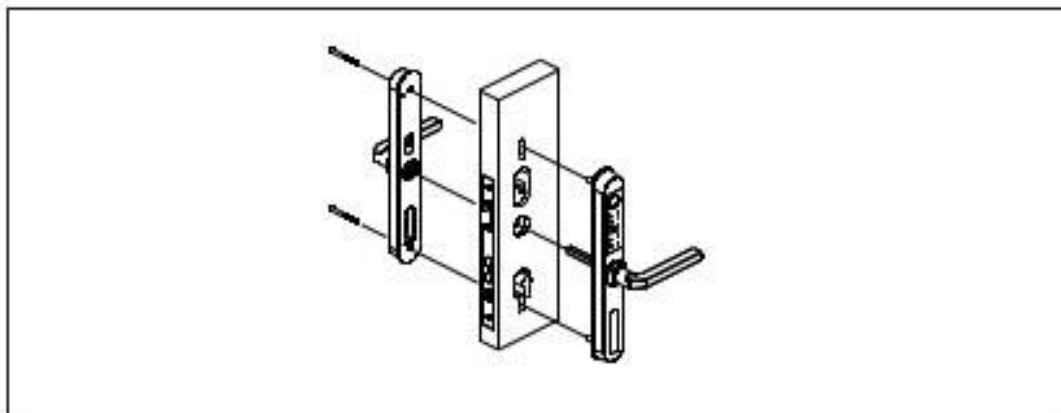
Please follow the installation instructions below



- a** Drill the holes on the door and then install the mortise into the door;

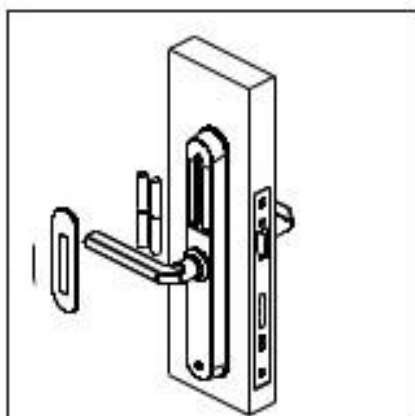


- b** Install the spindle into the handle hole in the front panel, and then insert the rod and fasten it;

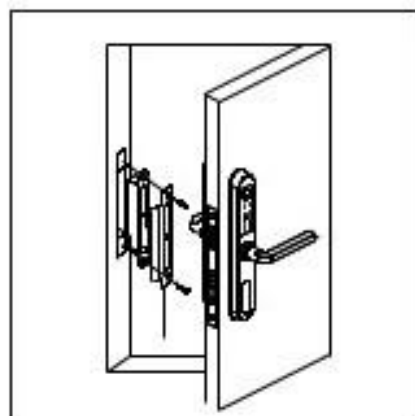


- c** Install the front panel on the door
Connect the cable between the front and back panels

- d** Install the back panel on the other side of door, and then fasten both panels



- e** Install the batteries



- f** Test the installation to confirm the installation is successful

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