HIRSCH MobilisID Bluetooth and Proximity Reader Installation Guide

Contents

HIRSCH

HIRSCH MobilisID Bluetooth and Proximity Reader

MobilisID Overview

MobilisID is a Bluetooth Low Energy (BLE) and 125kHz proximity all-in-one mobile credential solution for access control systems. MobilisID is designed to retrofit legacy PACS systems using proximity, otherwise known as Prox, and easily implement mobile devices to replace traditional physical credentials to enhance user experience at the door. The MobilisID system is cost-effective, easy to install, and does not require any rewiring or paneling. The MobilisID reader is intended to be used in conjunction with an access controller as part of the access control system to provide secure access to buildings or areas. The reader is installed and communicates an access request to the controller using the standard Wiegand protocol. This request is made by the end-user presenting a Bluetooth-enabled device storing a MobilisID mobile credential or by presenting a prox credential.

MobilisID Installation Guide

Introduction

This guide defines the steps and processes to install the MobilisID reader to an access control panel. The MobilisID reader supports 125 KHz Prox cards as well as MobilisID mobile credentials. Please review the information below to ensure the reader is installed quickly and properly.

Grounding

- The shield must run continuously from the reader to the panel. At the panel, the reader ground, shield line, and earth ground must be connected together at a single point.
- Do not ground the shield line at the reader end as this will create a potential ground loop.

Power

- Please be aware that when searching for the power source or controller, this may not be readily accessible depending on the building or door you are installing the MobilisID reader to. We recommend contacting your building tenant or owner for access to the power source or controller to ensure proper installation. If access to

the controller is not possible, do not proceed with removing the previous reader.
- It is recommended to find the data sheet for the currently installed reader to better understand the current reader to ensure proper connection for the MobilisID reader.
- A non-switching power supply at the panel is recommended to power the reader for the highest noise immunity and best performance.
- For UL 294 Compliance, the readers shall be connected to a class two power limited power supply or control panel output.
  The minimum wire gauge is 24 AWG with a maximum length of 500ft (150m).

Note: Performance will likely be unreliable if these standards are not met.

Voltage

- The minimum reader voltage required is +6 VDC to a maximum of +16.0 VDC, and 12.0 VDC is recommended.
- The reader will require 100 mA (typical @ 12 VDC)

Connection

- Connections must be in accordance with NFPA 70. DO NOT connect to a receptacle controlled by a switch.

Mounting the Reader

- Prior to installation, a voltage meter is recommended to check the input voltage of the reader. Connect the meter to the power and ground lines to verify that at least 6 volts is supplied by the controller.
- DO NOT remove an existing reader before matching up the function/purpose of each wire (regardless of wire color) so that in the event that the wires do not match, functionality is still clear.
- If the unit is used to control a door or pedestrian gate, locate the unit as near as practical to the entry point. If the unit is mounted on or in a wall adjacent to the entry point, be sure the wall is sturdy. The repeated shock and vibration from a slamming access door or spring- loaded pedestrian gate must be isolated from the unit.
- Never mount the reader directly on a moving door or gate.

Mounting Instructions

Note: Ensure power supply is not energized until all wires are properly connected and terminated.

1. Identify and mark the location on the wall for mounting screws approximately 3 inches apart. Before drilling, confirm that the power supply wires are in the center.
2. Drill two holes and install wall anchors to support mounting screws.
3. Feed power cable through the mounting bracket’s center opening.
4. Place mounting bracket on wall, align screw mounting positions with wall anchors and inserting screws.
5. Connect reader wires to corresponding Wiegand wiring on panel.
6. Connect the power supply wires to reader and feed excess cable back into the wall.
7. Mount reader into upper and lower mounting points.

Reader Wiring – Wiegand

Be advised that the colors for MobilisID readers and the colors for the connections to the controller may not be the same. Please be sure to obtain the proper information regarding the connections from the building's controller.

Conductor	RED	BLACK	GREEN	WHITE	PURPLE	ORANGE	YELLOW	BLUE	DRAIN
Purpose	DC +6-16 VDC	Ground	Data 0	Data 1	Red LED	Beeper	Card Present	Green LED	Shield Ground

Current Draw: 100mA (typical @12VDC)

UL 294 Performance Levels

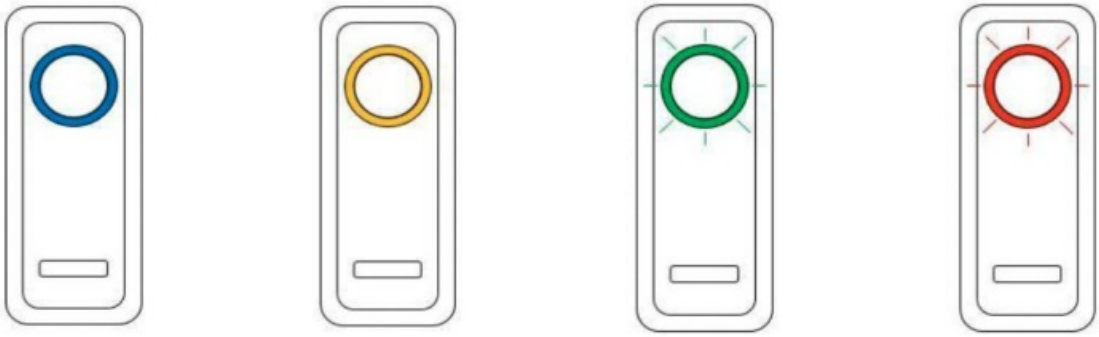
MODEL #	ACCESS CONTROL LINE SECURITY LEVEL	DESTRUCTIVE ATTACK LEVEL	ENDURANCE LEVEL	STANDBY POWER LEVEL	CONDITION
MobilisID Reader 9020BBP0000	Level I	Level I	Level III	Level I	N/A

Additional Troubleshooting

Reader Behavior	Root Cause
The reader is flashing orange and/or flashing white and beeping repeatedly	Enough voltage is present but not enough current. Apply additional power from the controller or external power supply. Check condition of wiring.
Reader boots but does not beep after presenting prox card	The prox card may not be a supported format, or the reader is likely getting >5V but <6V
Power is present, but no response occurs when a card is presented	Recommended voltage for the MobilisID reader is 12V, but 6-16V is supported. Verify that the voltage between the red and black wires is greater than 6V under all conditions.
Reader beeps after presenting mobile credential but doesn’t open the door	The card number may not be enrolled in the controller database. Verify the card number that was issued to the mobile credential. If the reader did not flash green, check that the white and green wires are connected correctly.
Power is 12V and reader beeps when a card is presented but door does not open	The green and white Wiegand lines might be not connected to the controller or are connected backwards, or the reader may not be Weigand at all (this should be verified). The cable may be longer than 500ft
Power is 12V and door opens when a card/mobile credential is presented but reader does not display green animation	LED line (Blue wire) from controller may not be connected to the reader. If it is connected, try disconnecting the blue wire and touching it to the black wire while the reader is powered up. Does the line turn green? If so that means the reader hardware is functioning properly. Check the configuration on the controller, it may be in a mode that operates the Blue line differently than is expected. For the Green LED to operate correctly, the Blue line needs to be pulled down to 0 V when access is granted.
The reader is not getting any power at all	The wires may have not been connected properly. The installer needs to verify that each wire is coming from the MobilisID reader and coming from the controller. The power from the controller is not sufficient. Please use a voltage meter to verify a minimum voltage of +6 VDC coming from the controller. This is the minimum proper power rating for the reader.

MobilisID Reader LED Animations

- Each animation corresponds with a specific response from the MobilisID reader.



- **Blue Idle:** The reader is properly enrolled and is idly waiting for an access attempt.
- **Amber Idle:** The reader is connected to power but not enrolled to an organization.
- **Green Flash**: The reader has granted entry to the access attempt.
- **Red Flash**: The reader has denied entry to the access attempt.

- **Blue Spin:** An access attempt has been made and the reader is processing.
- **Amber Spin:** The reader is going through the booting process of powering on.
- **White Spin:** The reader is going through the reboot process of a factory reset.

MobilisID Reader – Soft Reset

A reset is performed in order to clear the reader of existing organizations and corresponding end user credentials. Access to any specified organization will need to be re-established before continuing reader use.

1. To locate the reset button on the reader, dismount from the installation points. The reset button is located on the back of the reader, as depicted in Figure 1.
2. Confirm that the reader is still connected to power source; The LED ring should display a solid blue animation.
3. Hold down the reset button for a minimum of 5 seconds.
4. After the reader has successfully completed the reset, the LED ring will momentarily flash a series of red, white, and amber blinking. Once the amber is solid, the reset is complete.
5. The reader’s enrollment has now been cleared and is ready to be enrolled at a specified organization.

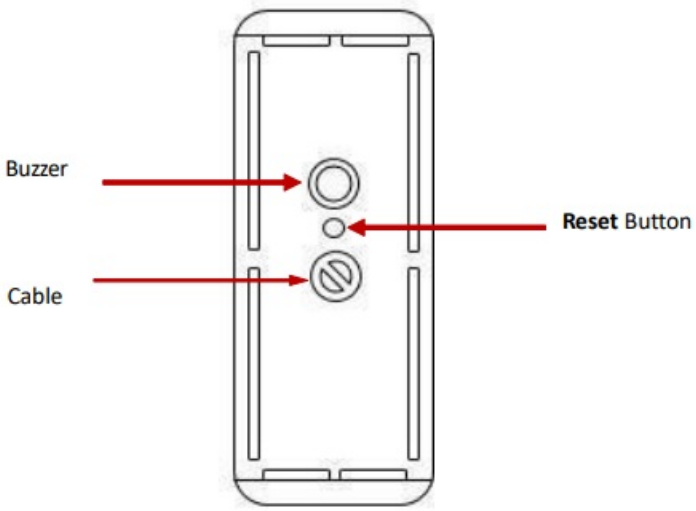


Figure 1: Reset button is located on the back of the reader between the buzzer and cable

MobilisID Reader – Full Factory Reset
A factory reset is performed in order to clear the reader of existing organizations and corresponding end-user credentials, as well as to clear any firmware updates initiated on the reader since manufactured. Access to any specified organization will need to be re-established, and firmware will need to be reinstalled to the latest version before using the reader.

- To locate the reset button on the reader, dismount from the installation points. The reset button is located on the back of the reader, as depicted in Figure 1 on Page 9.
- Disconnect the reader from the power source.
- Begin holding down the reset button; while holding the reset button, reconnect the reader to the power source. 1
- Give the reader a minimum of 10 seconds to reset and release the reset button.
- The LED on the front of the reader will momentarily be off while the reader reconfigures.
- After the reader has completed the factory reset, the LED ring will momentarily flash white, then change to amber.
- The reader's enrollment has now been cleared, along with any firmware updates that have been initiated since manufactured.

1. It is important to be sure the reader is re-connected to power while simultaneously holding the reset button; not before or after.

MobilisID Mobile Credentials
The purpose of this section is to provide an overview of mobile credentials within the MobilisID platform. The various actors in a typical deployment will be defined as well as a review of the typical lifecycle of the mobile credential. The end customer consumes a credential code in the portal. Once the process is completed, the credential code used will no longer be valid and the end customer will have a balance of credential credits within the portal. This process is outlined in the screenshots below from the perspective of the end customer.

Mobile Device and Software

- The MobilisID utilizes BLE version 5.0 or greater.
- The MobilisID reader is it to be used in conjunction with the MobilisID Mobile App (Version 1.0 or higher).

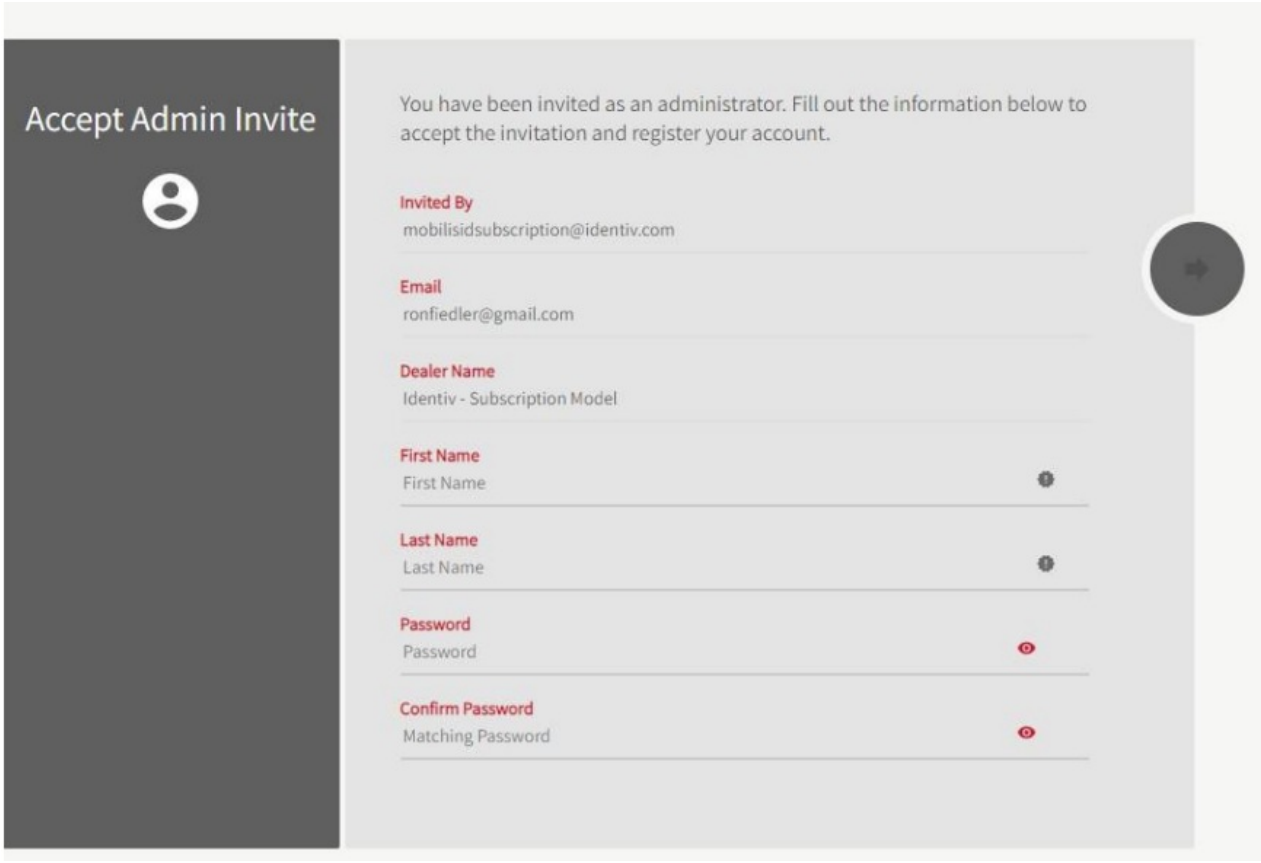
- It’s recommended that the mobile device has the latest version of the operating system for optimal performance with the MobilisID reader.

  The MobilisID app supports the following Apple® and Google® operating systems.
  - iOS Devices: iOS 11.0 or higher
  - Android Devices: v5.0 (Lollipop) or higher and peripheral mode supported.

Definitions

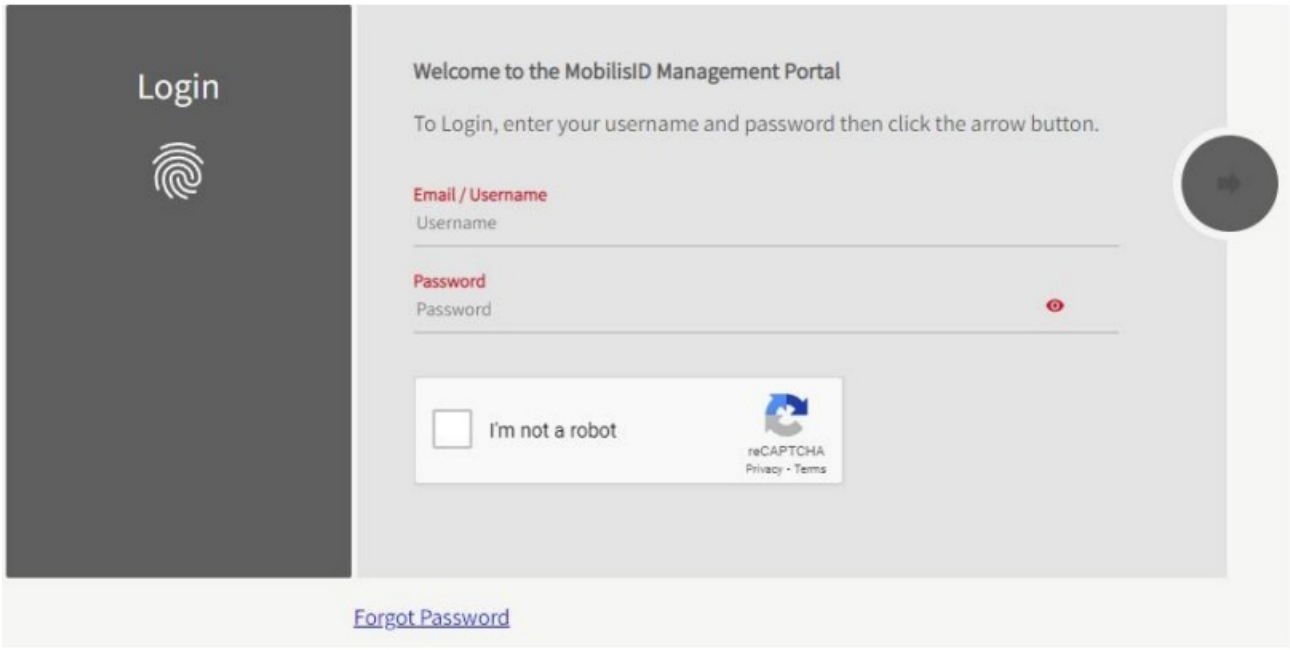
Term	Definition
Credential Credit	A mobile credential that has not yet been assigned to a mobile device
Mobile Credential	A digital key that contains card ID and facility code information that is transmitted from a mobile device to a reader for the purpose of entering a protected area

MobilisID Management Portal
Once an order is processed, Hirsch creates your Organization and an email invitation to create an Administrator account is sent. Complete the steps in the portal form and you be able to manage credentials and readers.

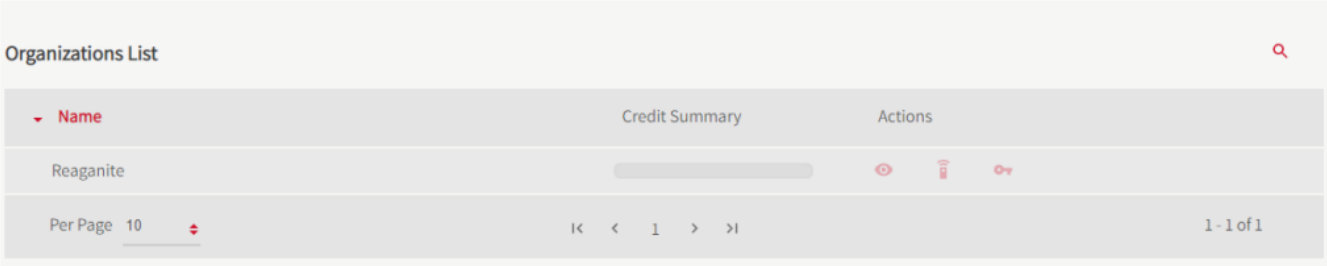


- **Step 1:** Enter your Email, First Name, Last Name, Password and Confirm Password to create your account. Click the arrow on the right

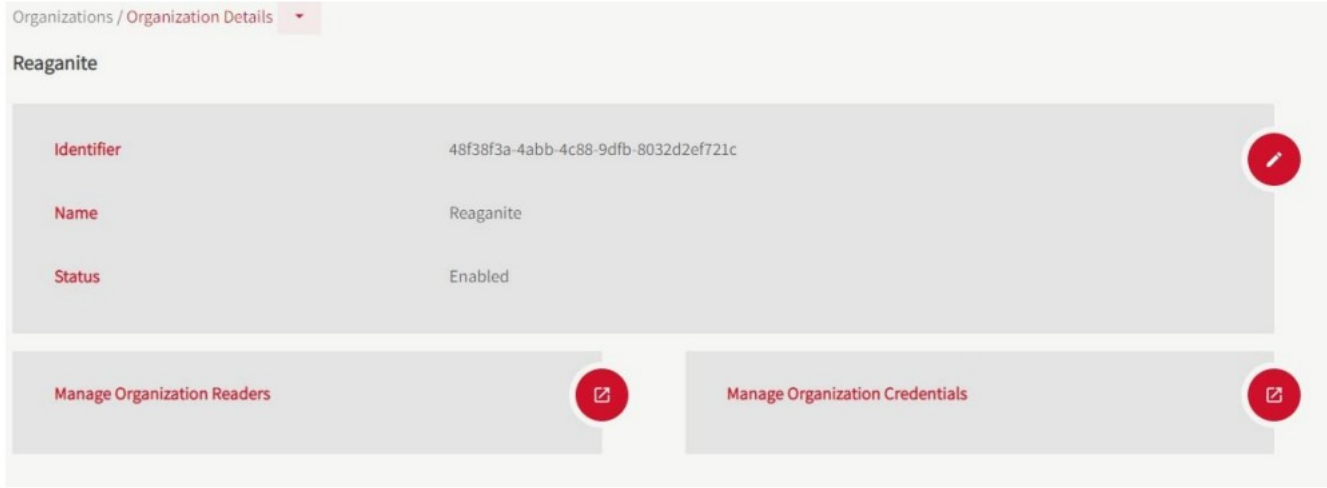
- **Step 2**: Enter your Email/Username and Password. Check “I’m not a robot”. Click the arrow on the right.



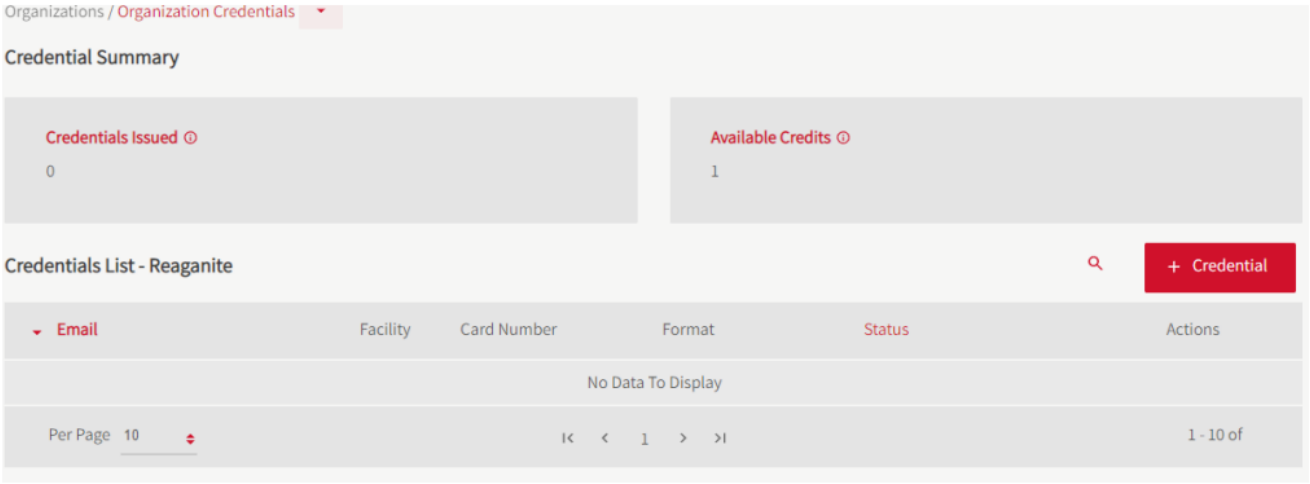
- **Step 3**: Click on Organization name (Reaganite in this example).



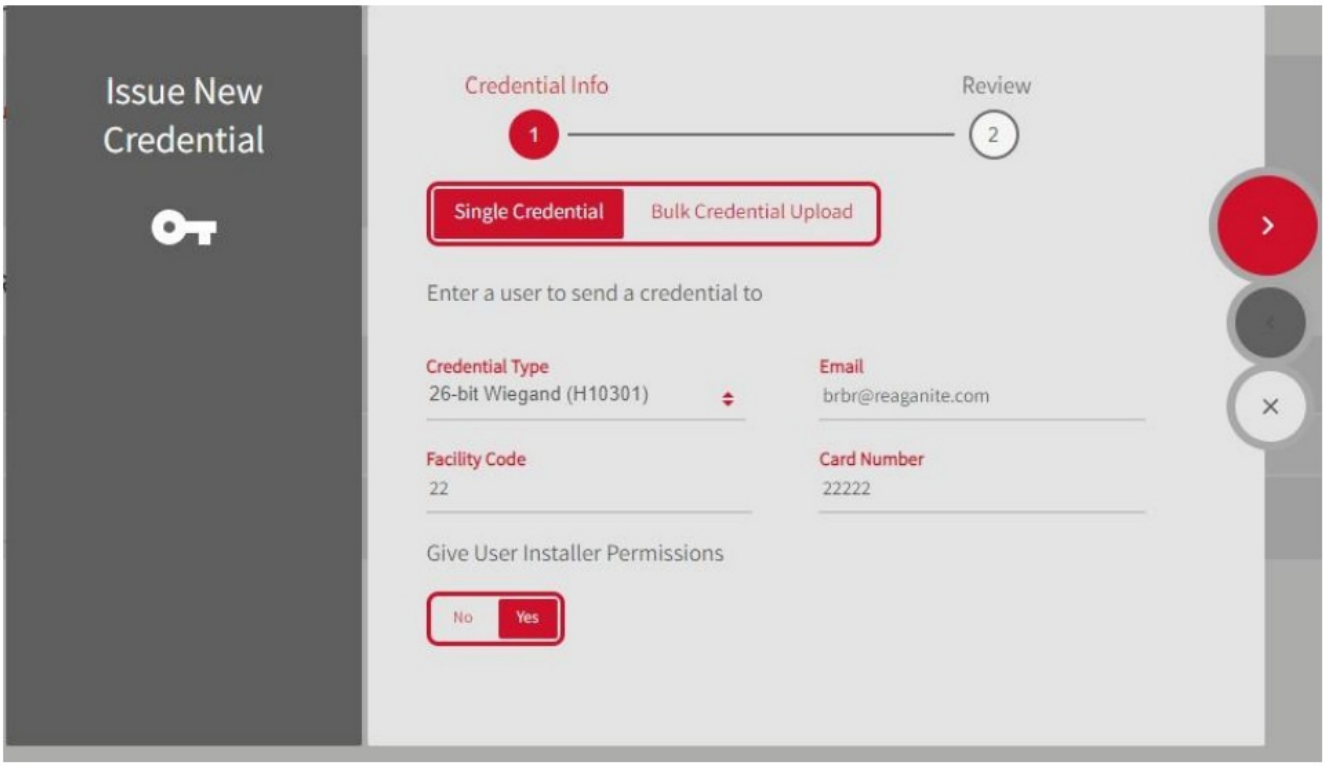
- **Step 4**: Click on round button to the right of Manage Organization Credentials.



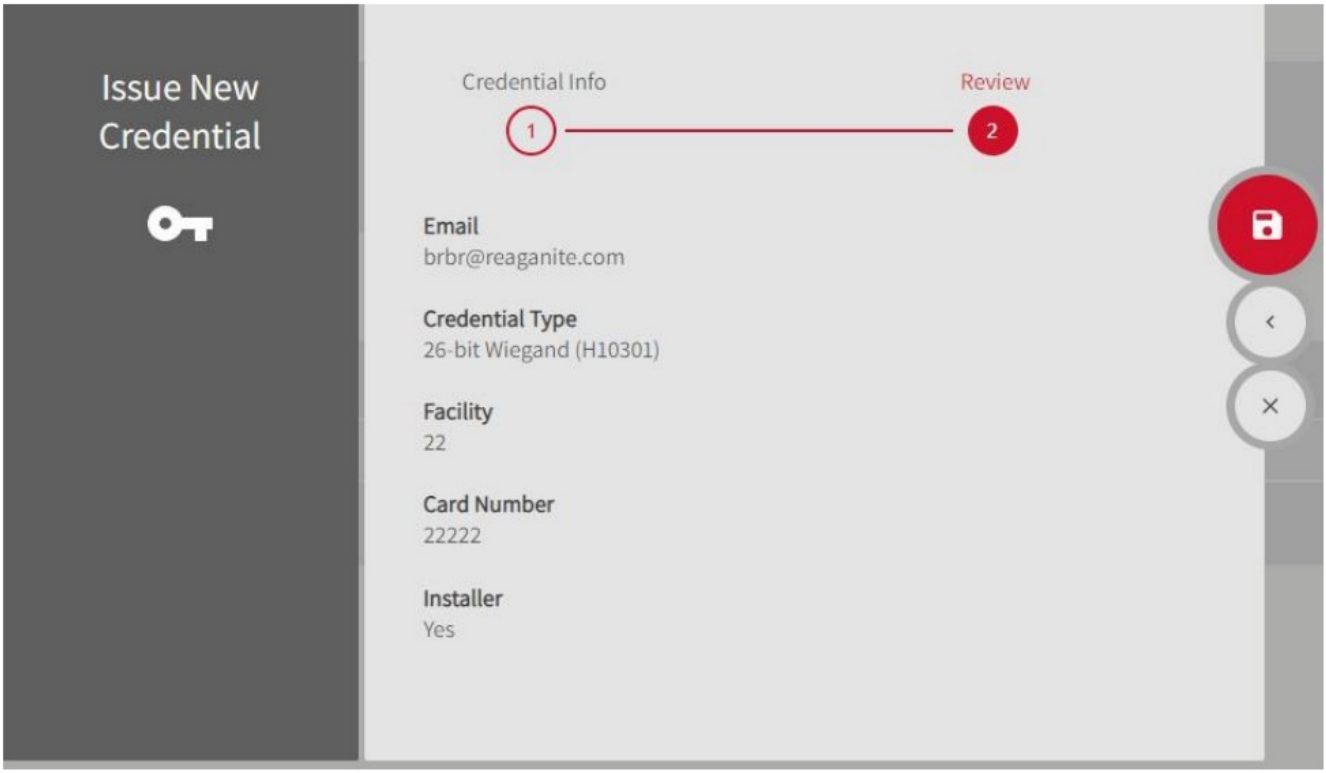
- **Step 5**: Click on + Credential.



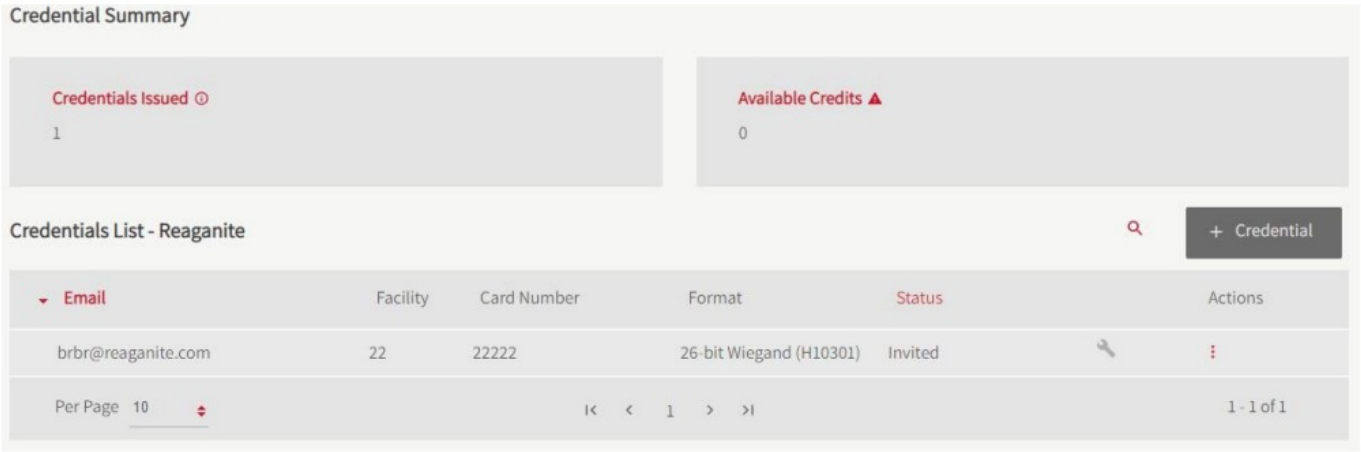
- **Step 6**: Select Single Credential or, optionally, select Bulk Credential Upload to upload a CVS file with a high volume of users at once. Formatting requirements are specified within. Enter employee Email, Facility Code and Card Number. Select Yes to give Installer Permissions (optional). Click the arrow on the right.



- **Step 7**: Review and click Save button on the right.

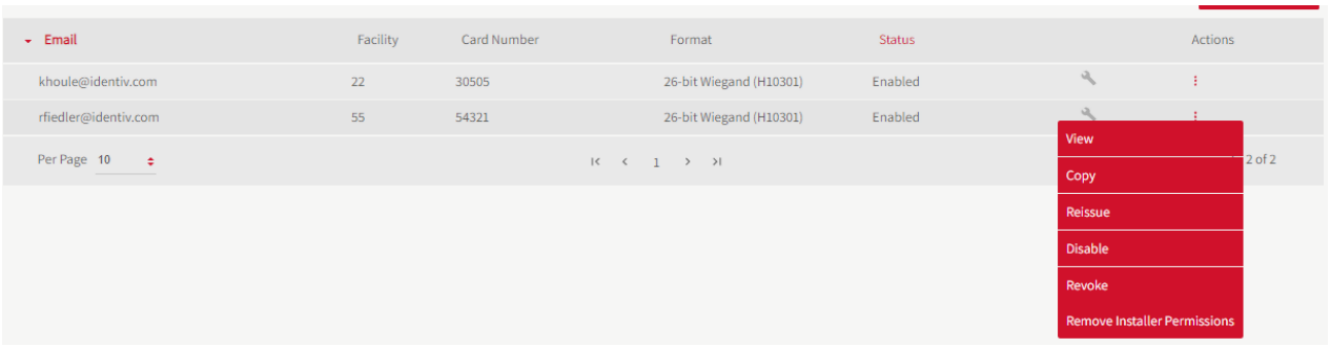


The Available Credits will decrease by one and the Credentials Issued will be increased by one waiting for the employee to accept the invite and make it Enabled.



To manage a credential, click on the three red dotes under Action for an employee. For an Enabled credential there are these options:

- View to see the details and status
- Copy to copy the card data to a new credential (consumes one credit)
- Reissue to send the email invite to an employee that had the credential Disabled
- Disable to disable an employee credential temporarily
- Revoke to remove the credential from the employee (this will decrease the Credentials Issued by one and increase the Available Credits by one for reuse, such as with a visitor or temporary employee)



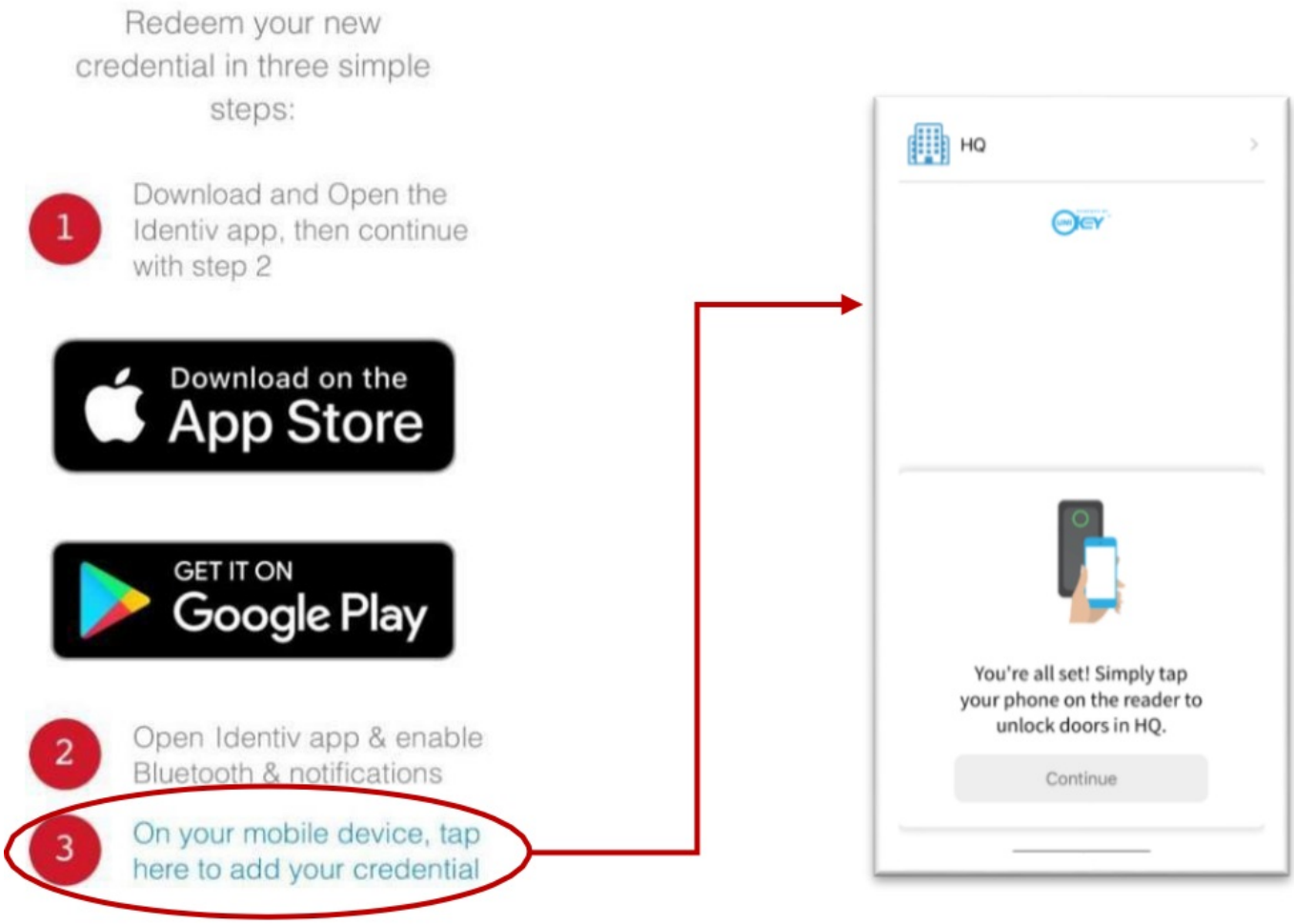
- From the Organization page, click on Manage Organization Readers to view enrolled readers with status and

- Proceed to the MobilisID Mobile App section for instructions on downloading the mobile app and registering your readers

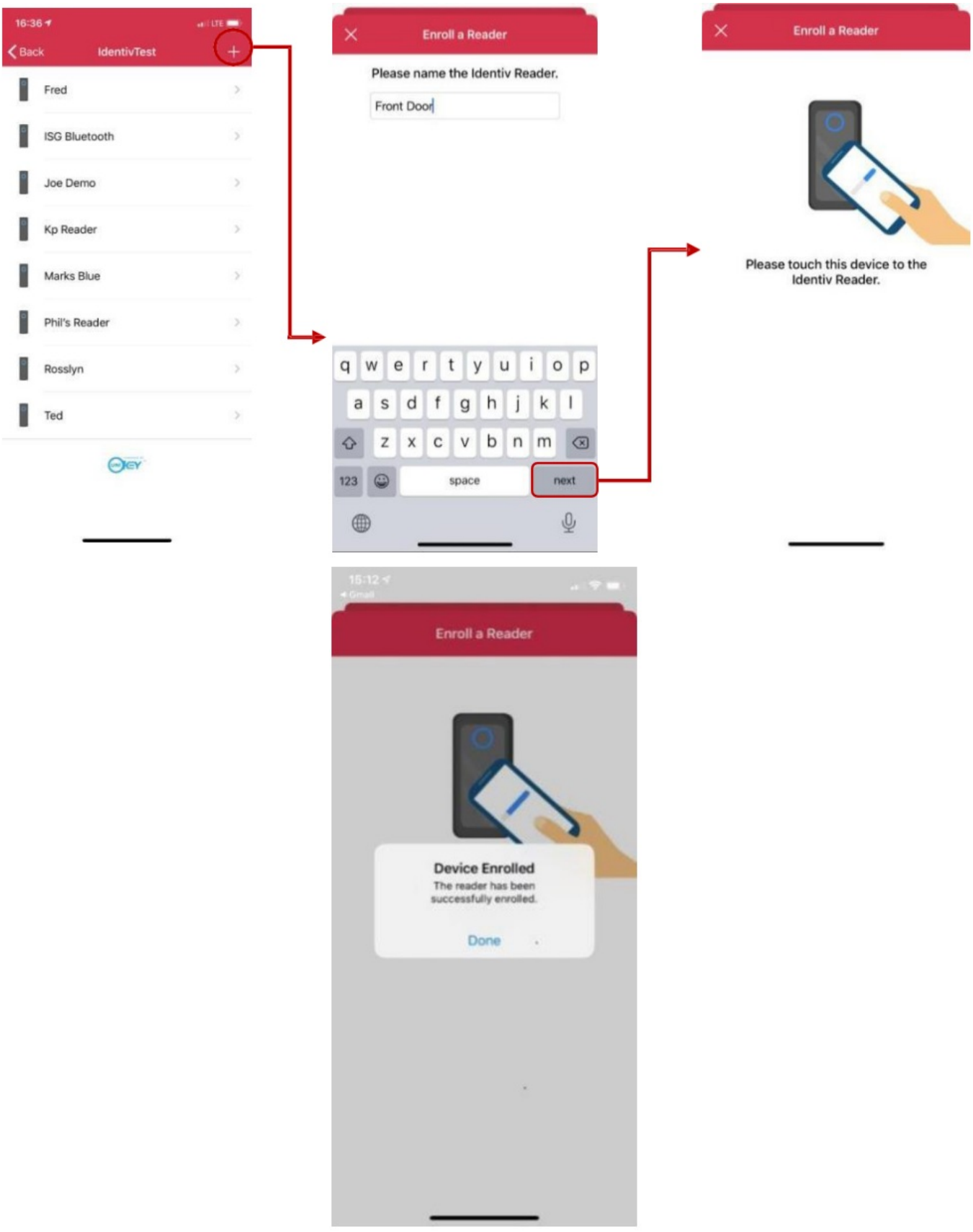
MobilisID Mobile App

The portal is now configured and some credential invitations may have been sent. The readers can now be enrolled using the MobilisID mobile app.

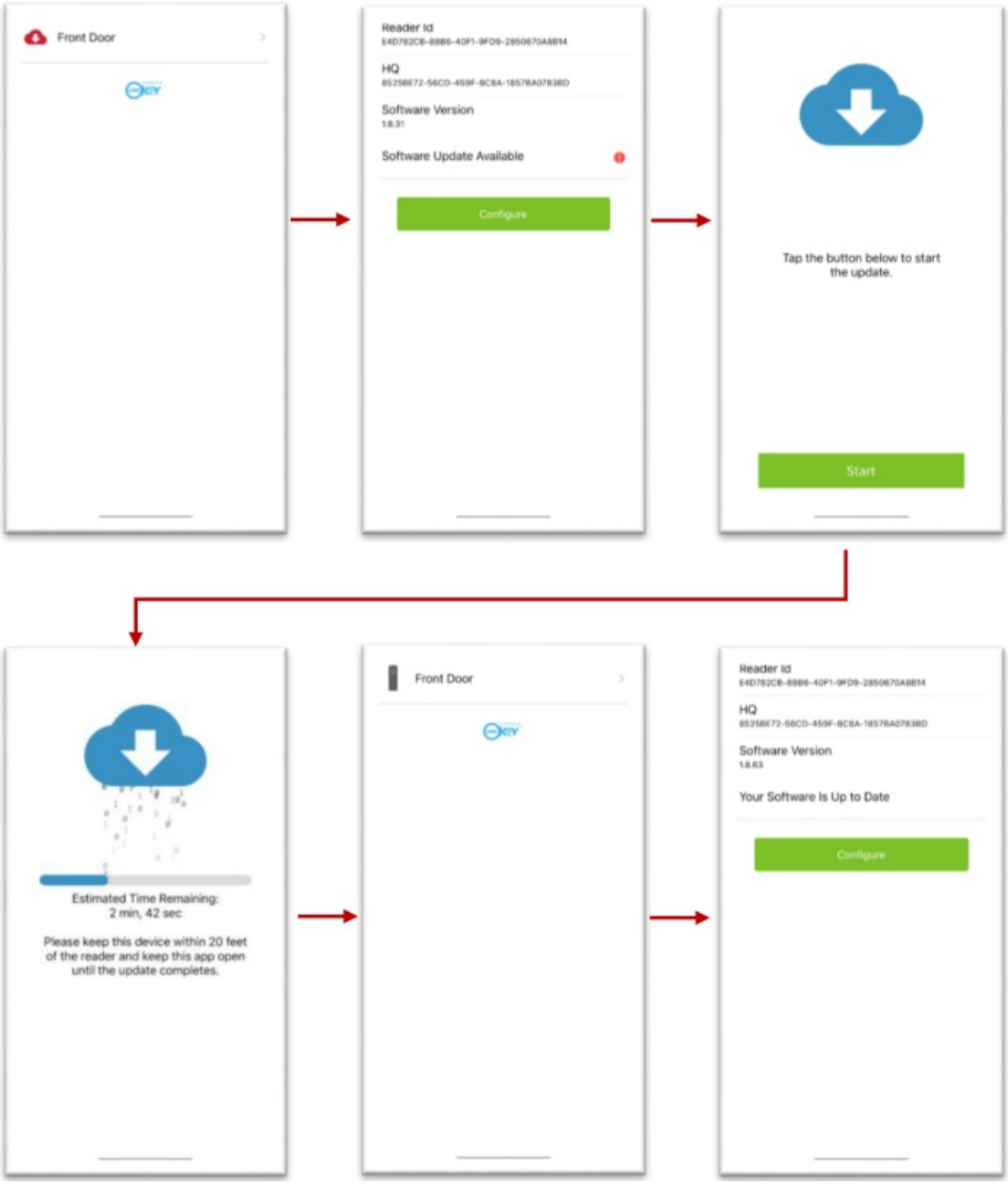
Step 1: The administrator and installers should have downloaded the mobile app through the credential email received. The readers can be added to the organization.



Step 2: Enroll the reader through the installer's mobile device.



Note: If a firmware update is available, a red icon will appear next to the reader name. Follow the steps illustrated below. Once the update is complete, the red icon will disappear and the reader details screen will confirm that the reader's software version is up to date.



FCC STATEMENT

FCC Compliance Statement
This device complies with Part 15.105 (b) of the FCC rules.

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 of the following measures:

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

FCC Part 15 Clause 15.21 [Do not Modify warning

- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment
- FCC Part 15.19(a) [interference compliance statement], unless the following statement is already provided on the device label
- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Guidance

- In order to comply with FCC RF Exposure requirements, this device must be installed to provide at least 20 cm separation from the human body at all times.

ISED

ISED RSS Gen Notice:

1. This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:
    - This device may not cause interference; and
    - This device must accept any interference, including interference that may cause undesired operation of the device.
    - ISED Canada ICES Compliance: CAN ICES-3 (B)/NMB-3(B)

ISED RF Exposure Guidance:

1. In order to comply with FCC / ISED RF Exposure requirements, this device must be installed to provide at least 20 cm separation from the human body at all times.
2. Afin de se conformer aux exigences d'exposition RF FCC / ISED, cet appareil doit être installé pour fournir au moins 20 cm de séparation du corps humain en tout temps.

Specifications

- **Technology**: Bluetooth Low Energy (BLE) and 125kHz proximity
- **Compatibility**: Works with access control systems
- **Installation**: Easy retrofit for legacy PACS systems
- **Features**: Mobile credential solution for enhanced user experience
- **Power Draw**: 100mA (typical @12VDC)
- **Security Compliance**: UL 294 Performance Levels

FAQS

Q: Can MobilisID be used with mobile devices?

A: Yes, MobilisID is designed to work with mobile devices for access control.

Q: Is rewiring necessary for installing MobilisID?
A: No, MobilisID is easy to install and does not require rewiring or paneling.

Documents / Resources

	HIRSCH MobilisID Bluetooth and Proximity Reader [pdf] Installation Guide MobilisID Bluetooth and Proximity Reader, MobilisID, Bluetooth and Proximity Reader, Proximity Reader, Reader

References

- User Manual