HID® READER MANAGER™ SOLUTION
USER GUIDE (iOS)

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September 2018

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Section 1

1 Introduction

1.1 Document purpose

This document provides an overview of the HID® Reader Manager™ solution and provides information and procedures for Reader Manager Administrators and Technicians to:

- Download and install the HID Reader Manager mobile app
- Register and authenticate the HID Reader Manager app on a mobile device
- Enroll Reader Technicians and issue Authorization Keys in the HID Reader Manager Portal
- Change reader configurations for supported iCLASS SE®/multiCLASS SE® readers
- Update reader firmware for supported iCLASS SE/multiCLASS SE readers
- Upgrade supported iCLASS SE/multiCLASS SE readers with Bluetooth Low Energy (BLE) modules

1.2 Intended audience

This document is intended for personnel performing the following roles:

- **Reader Manager Administrator:** the Reader Manager Administrator performs the following tasks:
  - HID Reader Manager Portal account management
  - Enrolling Reader Technicians and issuing invitation codes
  - Issuing and revoking authorization keys
- **Reader Manager Technician:** the Reader Manager Technician performs the following tasks:
  - Carrying out compatibility checks for the reader and HID Reader Manager app
  - Self-registration within the HID Reader Manager app
  - Linking the HID Reader Manager app to the HID Reader Manager Portal via an issued invitation code
  - Performing reader configuration changes and firmware upgrades
  - Reader configuration update testing

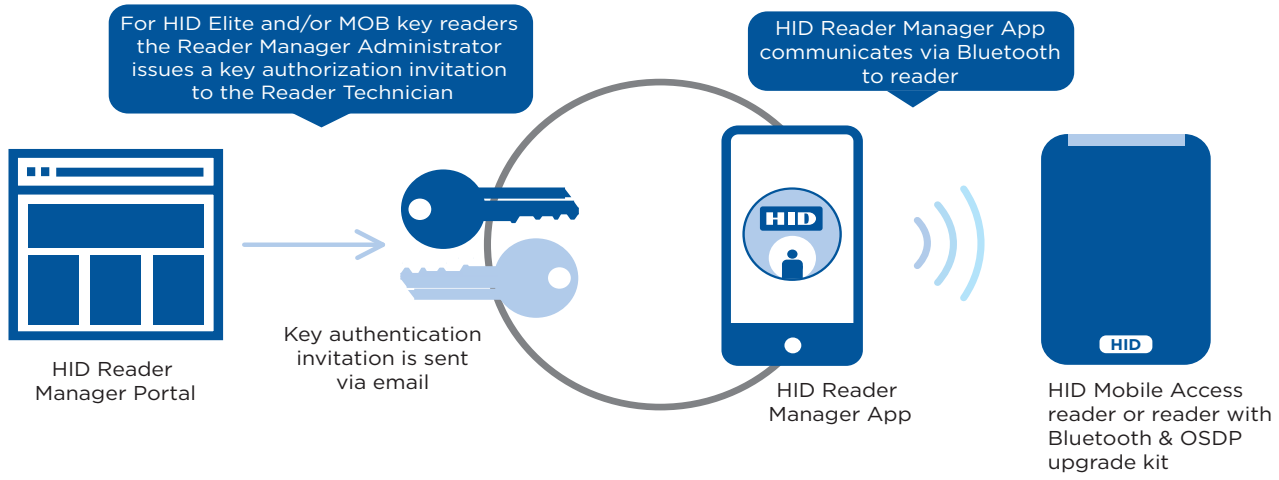
1.3 HID Reader Manager solution overview

The HID Reader Manager solution streamlines management of BLE capable readers in the field. Administrators can easily adjust certain configuration settings (for example audio/visual settings, read range settings), upgrade firmware, inspect connected reader status and extend functionality on supported iCLASS SE® and multiCLASS SE® readers.

The main components of the HID Reader Manager solution are:

- **HID Reader Manager Mobile Application:** Mobile app which connects, via Bluetooth, to a reader for configuration changes, firmware upgrades and reader inspections by Reader Technicians.
- **HID Reader Manager Portal:** Web Portal which facilitates Reader Technicians to use the HID Reader Manager Mobile Application with readers that have HID Elite™ and/or MOB keys. The portal is used by HID Elite and/or MOB key Reader Manager Administrators to issue Key Authorization to only authorized Reader Technicians.

  Note: The HID Reader Manager Mobile Application can be used with Standard Key readers for OSDP field upgrade or audio/visual setting configuration. However the Reader Manager Portal is not required for Standard Key readers as these do not use HID Elite and/or MOB keys.
- **iCLASS SE/multiCLASS SE Bluetooth and OSDP Upgrade Kit:** Plug-in module and adhesive reflector back plate kit, to be used with the HID Reader Manager Mobile Application to upgrade readers to support Bluetooth and/or Open Supervised Device Protocol (OSDP). This module can also be temporarily connected to readers without Bluetooth that do not permanently require Bluetooth support. This enables HID Reader Manager App support for the reader while the plug-in module is connected. For more information, see *Appendix A - Reader upgrade*.



1.3.1 Key authorization

HID Reader Manager uses key authorization to:

- Securely connect and control access by the mobile app to iCLASS SE and multiCLASS SE readers using either of two keyset types:
  - Mobile (MOB####): Issued for HID Mobile Access credentials only
  - HID Elite (ICE####): Issued for HID Elite physical and/or HID Mobile Access credentials
- Securely pair the readers and credentials to ensure only matching secure pairs will communicate with each other.

Each key is specific to the individual customer and are issued when enrolling into either the HID Mobile Access or HID Elite credential programs.

IMPORTANT: Access to authorization keys must be carefully controlled to ensure only authorized personnel have configuration access to readers and to prevent keys being used and loaded onto unauthorized readers.

1.4 Reader and Mobile device compatibility

1.4.1 Readers

The HID Reader Manager solution is only compatible with iCLASS SE and multiCLASS SE, Rev E readers. While most firmware versions of iCLASS SE and multiCLASS SE Rev E readers are compatible you will need to verify this, even if the reader is “Mobile Ready” or “Enabled”, with the list of compatible readers at:

https://www.hidglobal.com/reader-manager-system-requirements

For details on supported firmware versions, see *Appendix B - HID Reader Manager app 1.0*.

1.4.2 Mobile devices

The HID Reader Manager application is compatible and available for Android and iOS mobile devices. As more versions are added with new releases you will need to check for version compatibility at:

https://www.hidglobal.com/reader-manager-system-requirements

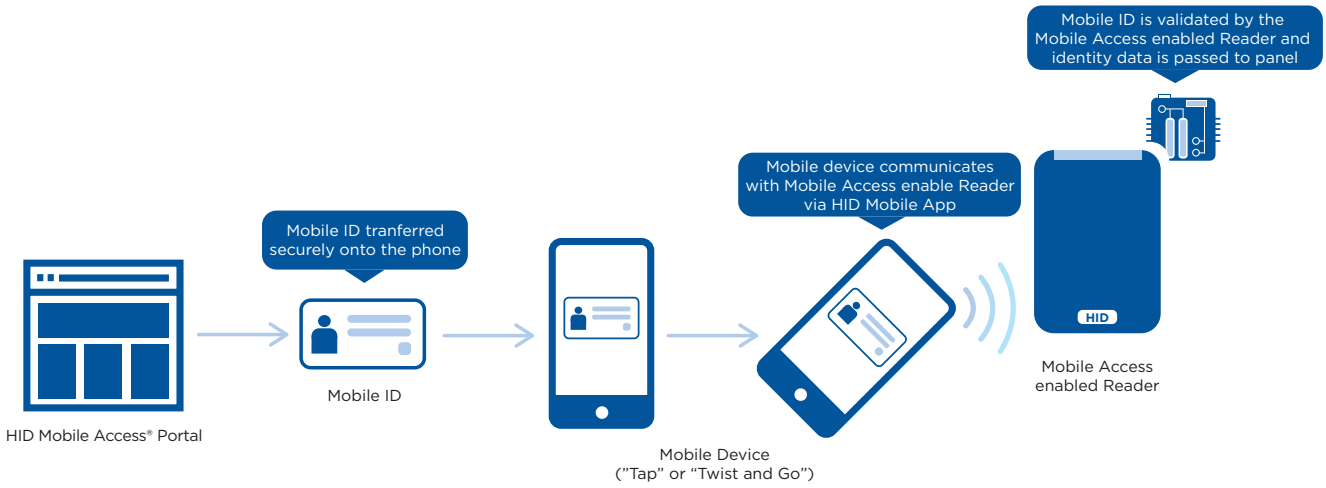
1.5 Related products and services

1.5.1 HID Mobile Access solution

HID Mobile Access complements an existing access control solution. As an alternative to using cards or fobs, the HID Mobile Access service enables company personnel to securely access locations using their Android and iOS mobile devices. To support HID Mobile Access the HID Reader Manger Solution allows supported iCLASS SE and multiCLASS SE readers to be upgraded in the field.

HID Mobile Access is powered by Seos® and consists of the following components:

- **HID Mobile Access Portal:** The management portal that allows administrators to manage users and securely issue or revoke Mobile IDs to user mobile devices
- **HID Mobile Access Application:** The app for Android and iOS devices
- **Mobile IDs:** The Mobile IDs with integrated Seos technology for management of trusted identities
- **Mobile Access enabled readers:** iCLASS SE or multiCLASS SE readers



For more detailed information on the Mobile Access solution, refer to **HID Mobile Access Solutions**.

Section 2

2 HID Reader Manager mobile application

This section provides the required steps and procedures to be performed by the Reader Technician in order to install, register, and activate the HID® Reader Manager™ app on a mobile device. The section also provides information on the functionality of HID Reader Manager app.

2.1 Mobile application setup

2.1.1 HID Reader Manager app setup prerequisites

Note: The following prerequisites only apply to HID Elite™ or Mobile (MOB) key users:

- A HID Mobile Access® Portal instance has been setup for the Organization.
- A HID Reader Manager Portal instance has been setup for the Organization. See *HID Mobile Access Portal – HID Reader Manager Portal Change Form* located at:

  https://www.hidglobal.com/documents

- A Reader Manager Administrator has been setup and enabled within the Organizations Reader Manager Portal instance.

2.1.2 Setup process overview

The HID Reader Manager app setup process consists of the following steps:

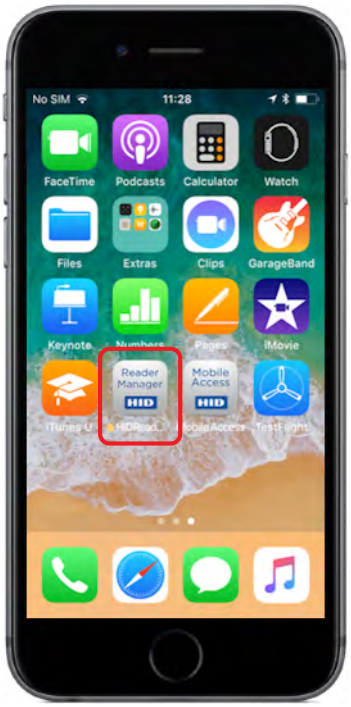
1. The Reader Technician downloads and installs the HID Reader Manager app onto a mobile device. See *Section 2.1.3 Download and install the Reader Manager app*.
2. The Reader Technician performs registration with the HID Reader Manager app. See *Section 2.1.4 Register an account within the app*.

Note: The following additional setup steps are required for HID Elite or Mobile (MOB) key users:

1. The Reader Manager Administrator enrolls the Reader Technician in the HID Reader Manager Portal and issues an invitation code and key authorization. See *Section 3 HID Reader Manager Portal*.
2. The Reader Technician activates the issued invitation code in the HID Reader Manager app. See *Section 2.1.6 Activate the HID Reader Manager app*.
3. The Reader Technician verifies key authorization has been received in the HID Reader Manager app. See *Section 2.1.6 Activate the HID Reader Manager app*.

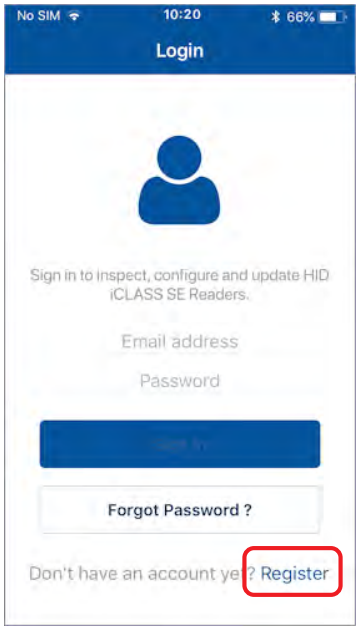
2.1.3 Download and install the Reader Manager app

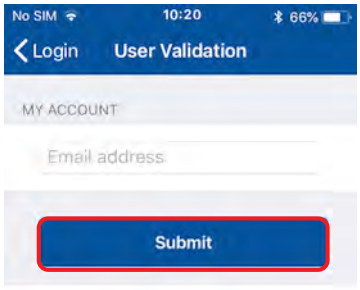
1. Ensure your iOS mobile device is connected to the Internet, either via mobile data network or Wi-Fi
2. On your mobile device go to the App Store (for iOS devices)
3. Search for **HID Reader Manager**
4. Download and install the app on your mobile device.



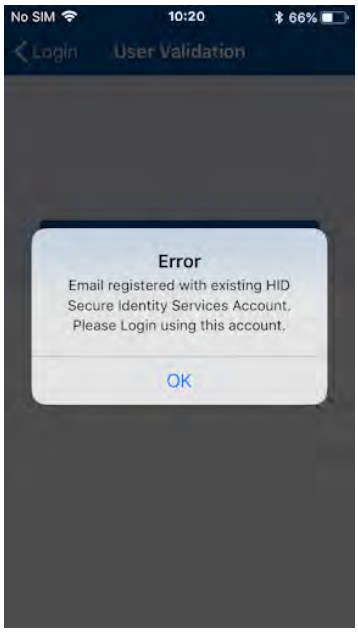
2.1.4 Register an account within the app

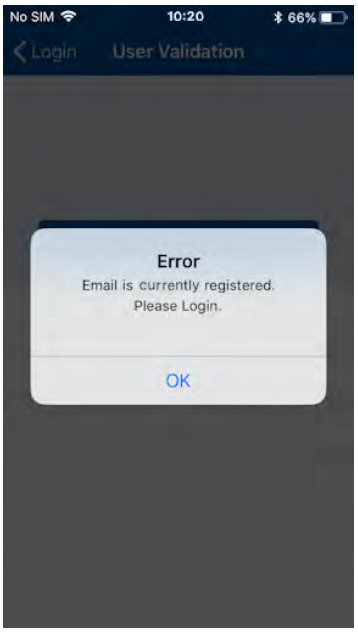
1. Open the HID Reader Manager app on your mobile device.
2. On the **Login** screen, tap the **Register** link.
3. On the **User Validation** screen, enter your email address and tap **Submit**.





Note: If the entered email address is associated with an existing HID Secure Identity Services account or the email address is already registered then the following messages are displayed. Tap **OK** to return the **Login** screen and sign in with your assigned username and password. See *Section 2.1.5 Log into the HID Reader Manager app*.

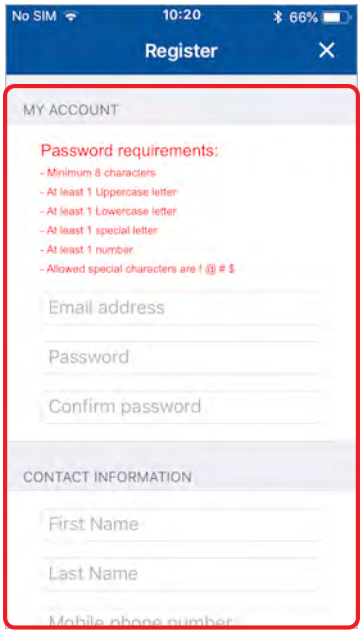


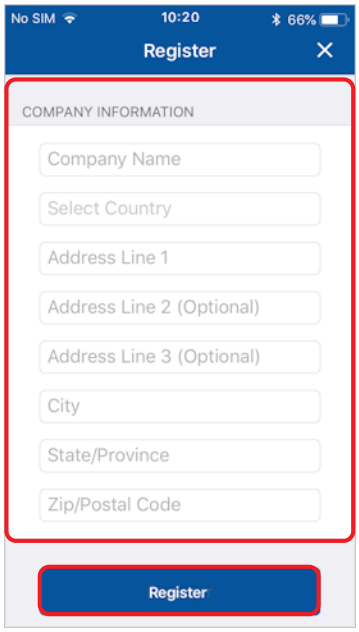


4. On the **License** screen, read the privacy polices and license agreements and tap **AGREE**.

   Note: Tapping **DISAGREE** will return you to the **User Validation** screen.

5. Enter your registration details (optional fields are indicated) and tap **Register**.

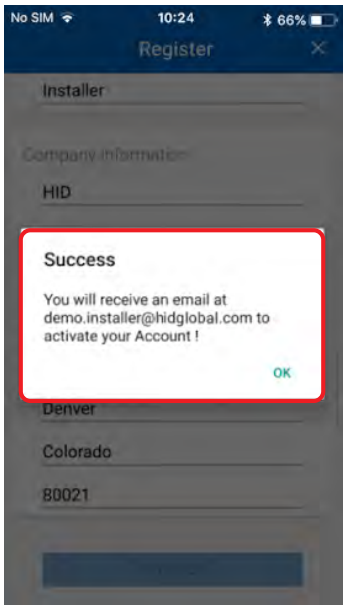


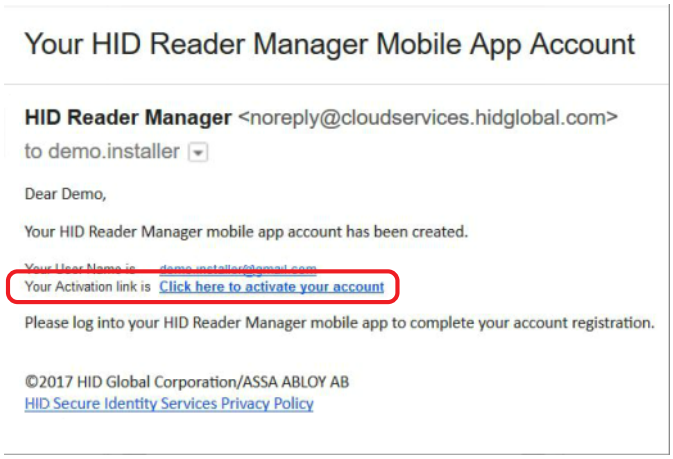


6. After receiving a **Success** prompt, tap **OK**.

7. Check your registered email account for an email containing an activation link. Click the activation link in the email. A successful activation message will appear in a new browser.

   You can now log into the HID Reader Manager app using the registered email address and password.

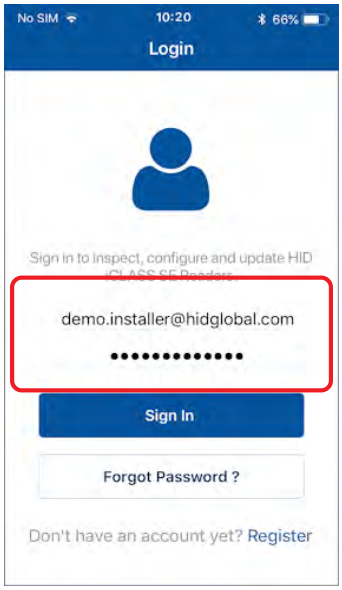


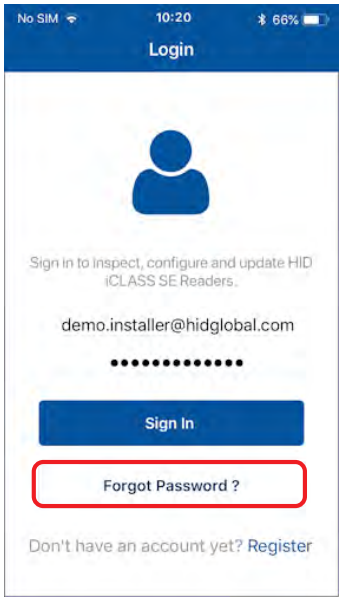


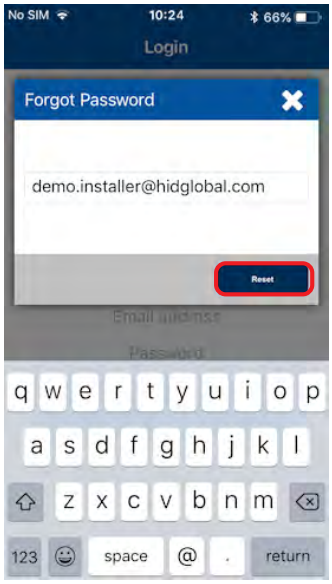
2.1.5 Log into the HID Reader Manager app

When the account registration process has been completed you can log into the HID Reader Manager app using the email address and password details provided during registration.

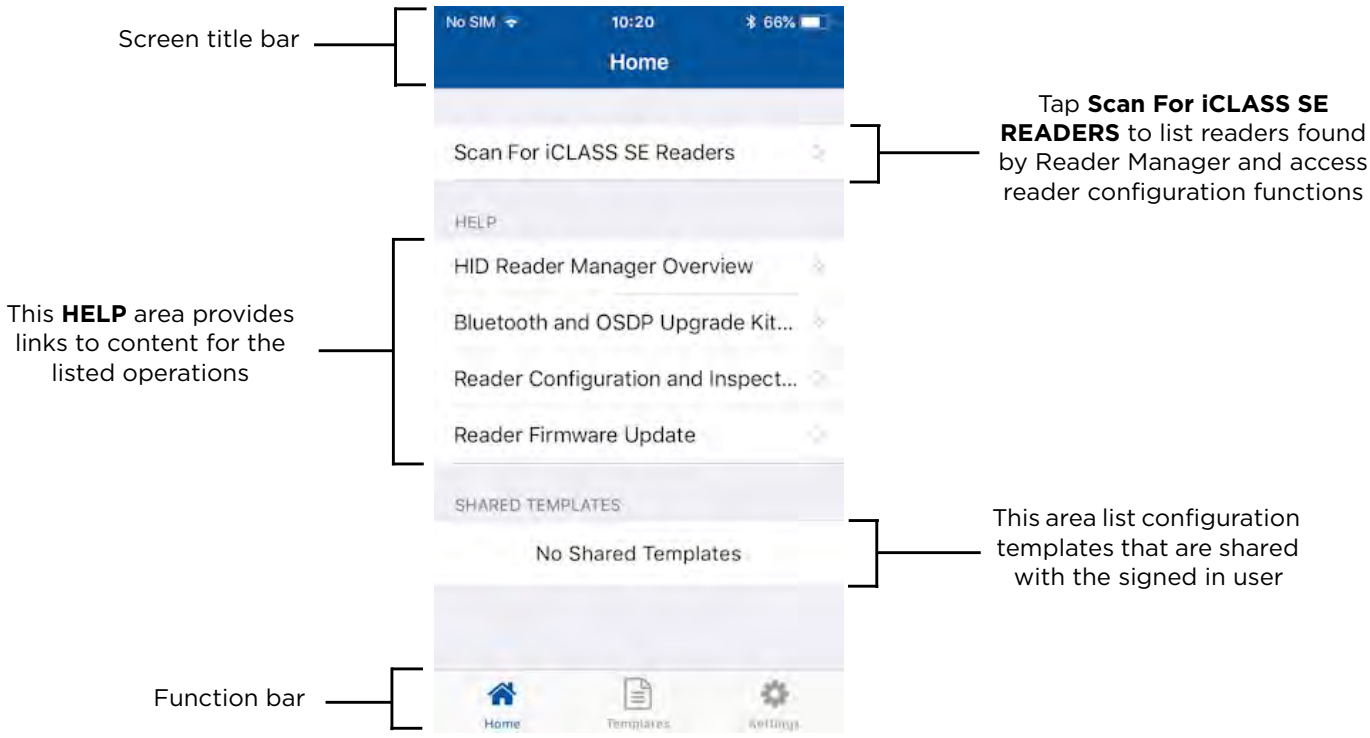
Note: If you have forgotten your login password, tap **Forgot Password?**. Enter your email address and tap **Reset**. Check your registered mail account for a password resent email and follow the instructions in the email to reset your password.







Home screen layout:



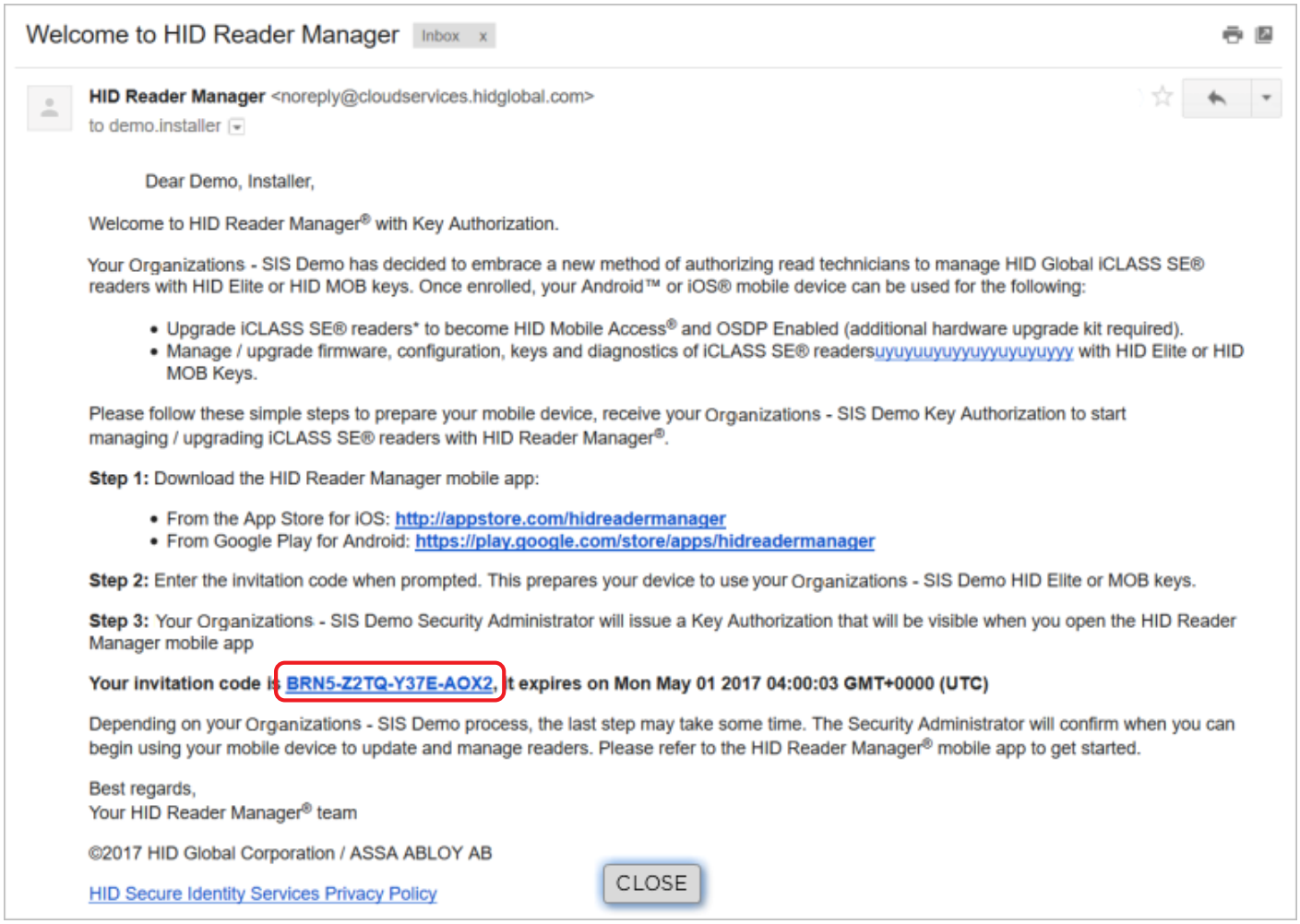
2.1.6 Activate the HID Reader Manager app

Note: This section does not apply to Standard Key readers as these do not use HID Elite and/or MOB Keys.

Prior to activating the HID Reader Manager app, the Reader Manager Administrator must enroll the Reader Technician within the HID Reader Manager Portal. See *Section 3.3 Enroll a Reader Technician*.

Once the Reader Manager Administrator has enrolled a Technician within the HID Reader Manager portal an invitation email will be sent to the Technician's registered email address containing an invitation code.

Sample invitation email



Welcome to HID Reader Manager Inbox x

HID Reader Manager <noreply@cloudservices.hidglobal.com>
to demo.installer

Dear Demo, Installer,

Welcome to HID Reader Manager® with Key Authorization.

Your Organizations - SIS Demo has decided to embrace a new method of authorizing read technicians to manage HID Global iCLASS SE® readers with HID Elite or HID MOB keys. Once enrolled, your Android™ or iOS® mobile device can be used for the following:

- Upgrade iCLASS SE® readers* to become HID Mobile Access® and OSDP Enabled (additional hardware upgrade kit required).
- Manage / upgrade firmware, configuration, keys and diagnostics of iCLASS SE® readersuyuyuuyuyyuyyuyuyuyyy with HID Elite or HID MOB Keys.

Please follow these simple steps to prepare your mobile device, receive your Organizations - SIS Demo Key Authorization to start managing / upgrading iCLASS SE® readers with HID Reader Manager®.

Step 1: Download the HID Reader Manager mobile app:

- From the App Store for iOS: http://appstore.com/hidreadermanager
- From Google Play for Android: https://play.google.com/store/apps/hidreadermanager

Step 2: Enter the invitation code when prompted. This prepares your device to use your Organizations - SIS Demo HID Elite or MOB keys.

Step 3: Your Organizations - SIS Demo Security Administrator will issue a Key Authorization that will be visible when you open the HID Reader Manager mobile app

Your invitation code is BRN5-Z2TQ-Y37E-AOX2, it expires on Mon May 01 2017 04:00:03 GMT+0000 (UTC)

Depending on your Organizations - SIS Demo process, the last step may take some time. The Security Administrator will confirm when you can begin using your mobile device to update and manage readers. Please refer to the HID Reader Manager® mobile app to get started.

Best regards,
Your HID Reader Manager® team

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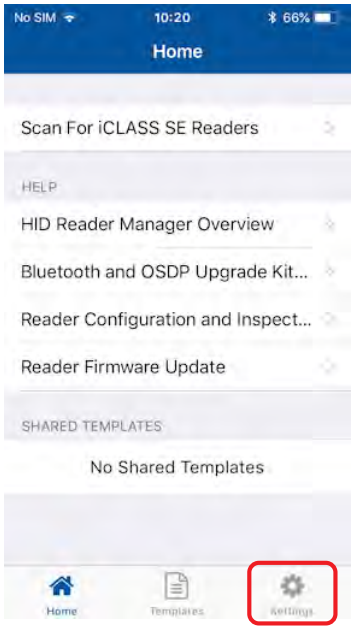
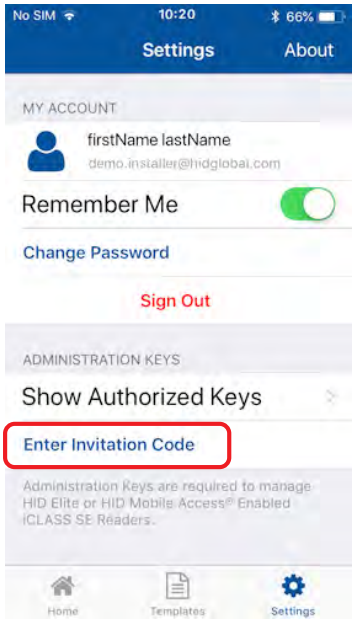
HID Secure Identity Services Privacy Policy

CLOSE

To activate an invitation code in the HID Reader Manager app:

1. Log into the HID Reader Manager app using your registered email and password.
2. Tap the **Settings** icon on the **Home** screen.
3. Tap **Enter Invitation Code**.

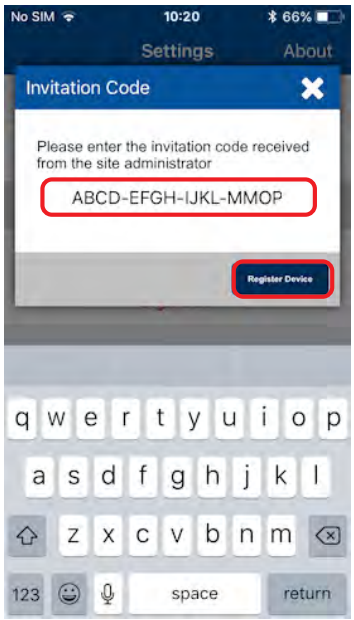


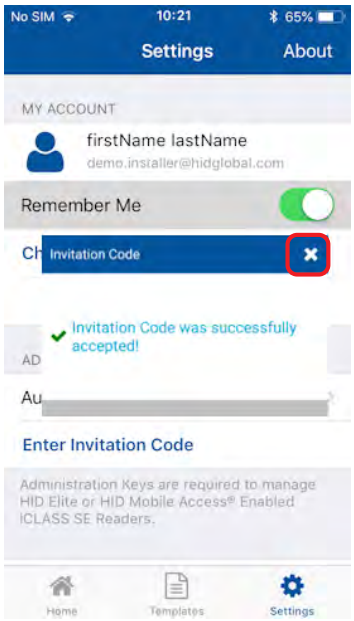


4. Enter the invitation code received in the invitation email and click **Register Device**.

   Note: The invitation code is a one time use code.

   An "**Invitation code was successfully accepted!**" message will display if the code was valid and entered correctly. Tap **X** to close.





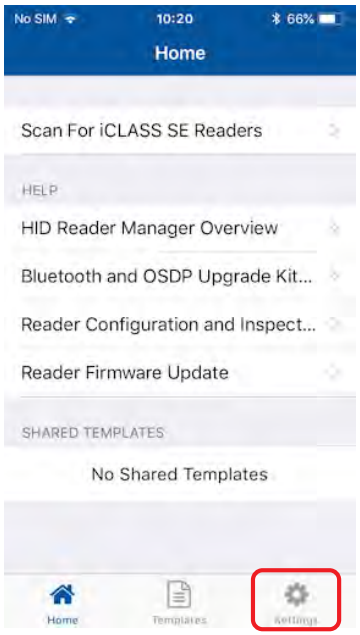
2.1.6.1 Display authorized keys

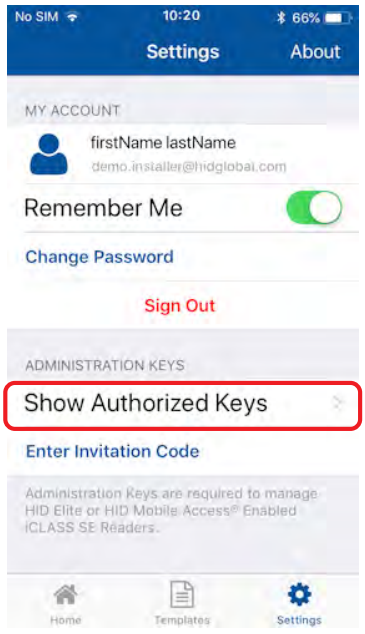
Note: This section does not apply to Standard Key readers as these do not use HID Elite and/or MOB Keys.

Authorization keys issued via the Reader Manager portal can be viewed in the Reader Manager app:

1. Tap the **Settings** icon on the **Home** screen.
2. Tap **Show Authorized Keys**.
3. Verify that issued authorization keys are displayed.

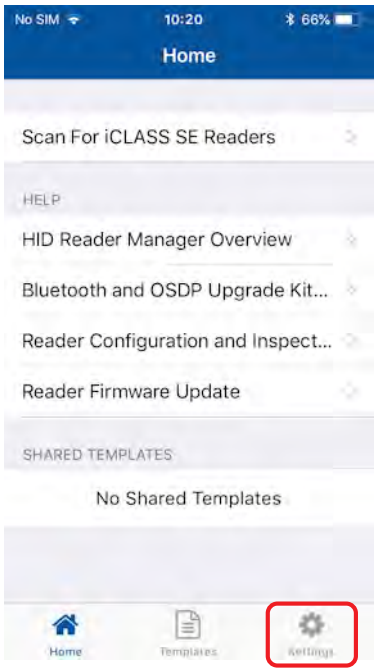
   Note: If a received issued authorization key is not displayed swipe down to refresh the screen.

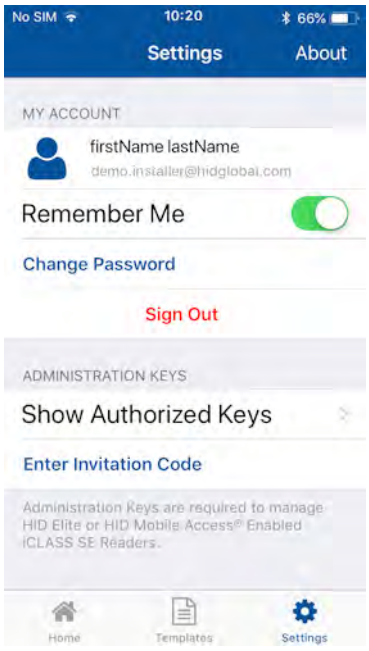




2.1.7 HID Reader Manager app settings

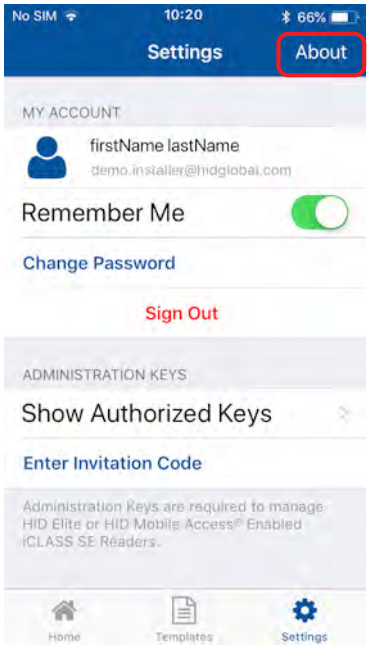
Tap the **Settings** icon, on the **Home** screen, to access HID Reader Manager app settings.

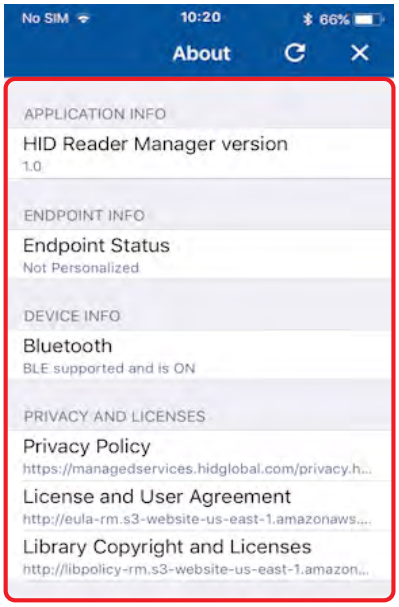




2.1.7.1 About HID Reader Manager

Tap **About**, on the **Settings** screen, to display Application, Endpoint, and Device information as well as Privacy and License agreements.

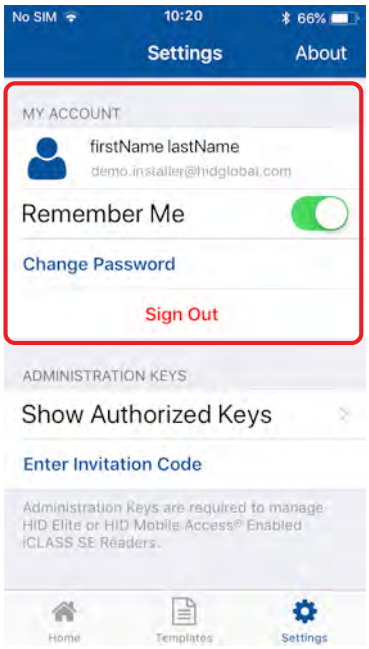


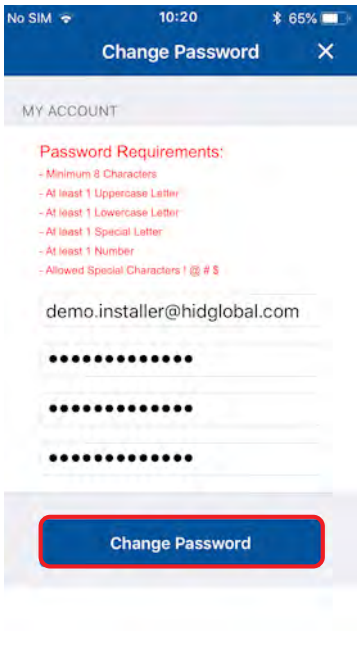


2.1.7.2 My Account

On the **Settings** screen the **MY ACCOUNT** area displays user account information and provides the following options:

- **Remember Me:** toggle the **Remember Me** option to enable the system to remember your account information.
- **Change Password:** tap **Change Password** to access the **Change Password** screen. Enter a new login password (refer to the on screen password requirements) and tap **Change Password**.
- **Sign Out:** tap **Sign Out** to exit the app.





2.1.7.3 Administration Keys

On the **Settings** screen the **ADMINISTRATION KEYS** area provides the following functions:

- **Show Authorized Keys:** displays a list of the issued authorized keys.
- **Enter Invitation Code:** allows you to enter and activate the issued invitation code in the HID Reader Manager app.

2.2 Reader configuration

The HID Reader Manager solution is only compatible with select iCLASS SE® and multiCLASS SE® reader models. To see the complete list visit:

https://www.hidglobal.com/reader-manager-system-requirements

The process to apply configuration changes to a reader consists of the following steps:

1. The Reader Technician checks the reader firmware version and, if necessary, performs a reader firmware upgrade. See *Section 2.3.5 Update reader firmware*.
2. The Reader Technician creates a configuration template to simplify programming the reader. See *Section 2.3.1 Create a new template*.
3. The Reader Technician applies the created configuration template to the reader. See *Section 2.3.7 Apply configuration changes*.

2.2.1 Test configuration changes

It is important to fully test any configuration changes performed with the HID Reader Manager app to ensure complete working functionality:

- If you have upgraded to Mobile Access, test mobile credentials with the Mobile Access app to check valid access is granted and BLE operations perform as configured.
- If you have loaded any HID Elite keys (ICE####), ensure that all physical Elite credentials work at the reader.

2.3 Basic functionality

2.3.1 Create a new template

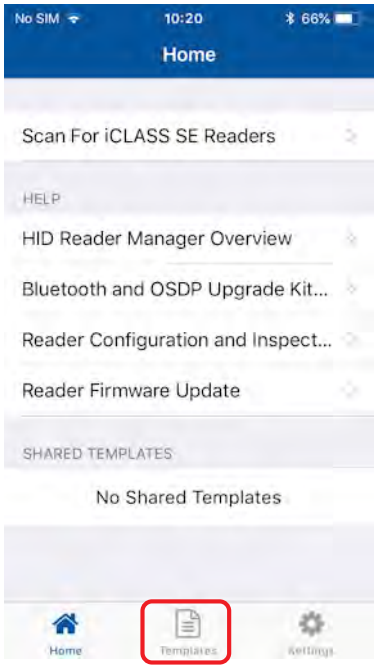
Templates store reader settings. When a template is created it can be applied to multiple readers that require the same configuration or shared with other Technicians to speed up the configuration of multiple readers.

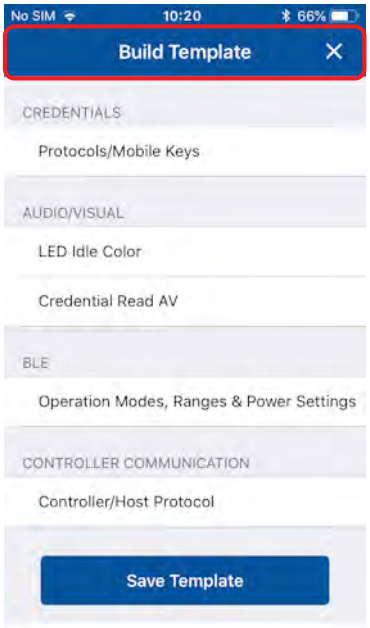
Note: Templates only need to include the reader configuration settings that are required to be changed.

To create a new template:

1. Tap the **Templates** icon on the **Home** screen.
2. Tap the plus icon [+] to access the **Build Template** screen.

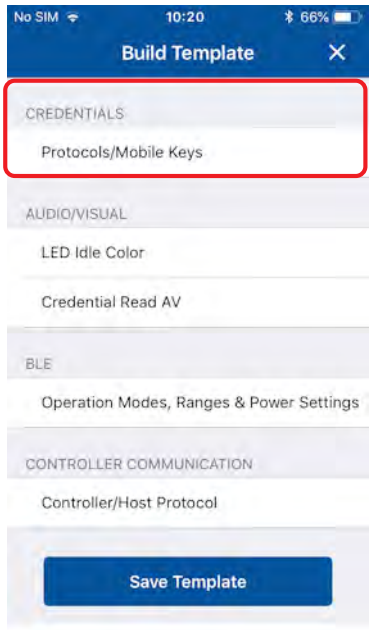
   From the **Build Template** screen you can configure and add settings to a template. These template settings are described in the following sections.

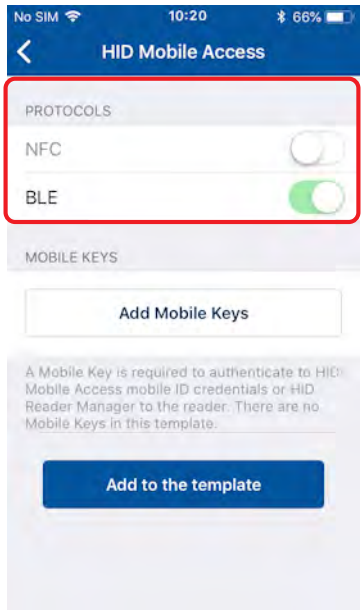




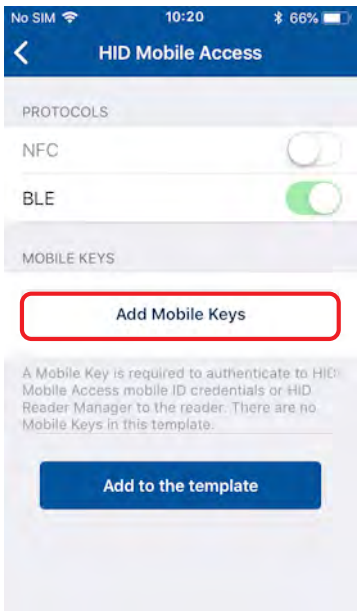
2.3.1.1 Credential settings

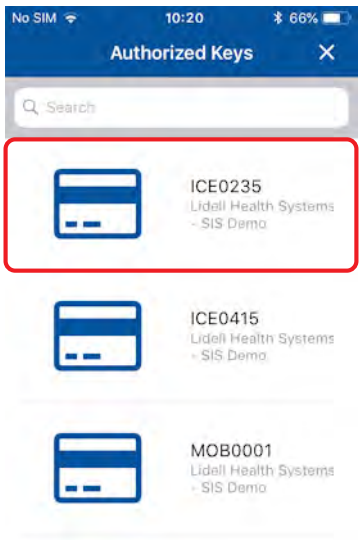
1. Select **Protocols/Mobile Keys**, from the **CREDENTIALS** section.
2. In the **PROTOCOLS** section, enable the required credential protocol option.

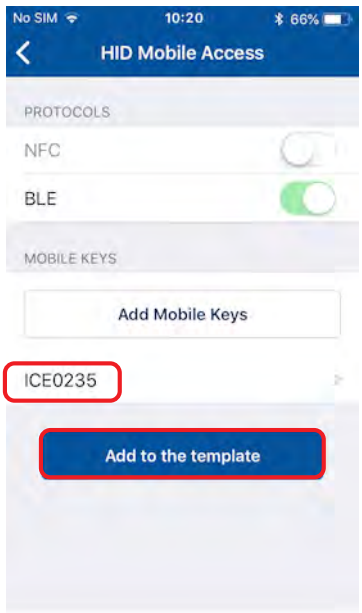




3. Tap **Add Mobile Keys**, in the **MOBILE KEYS** section, and select the required authorization key to be loaded onto the reader. The selected authorization key will be displayed on the screen.
4. Tap **Add to the template** to save.

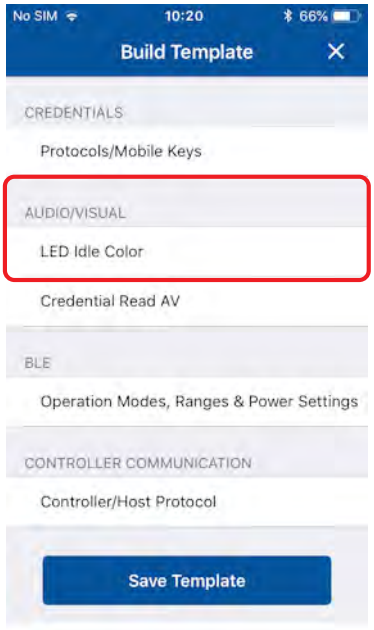


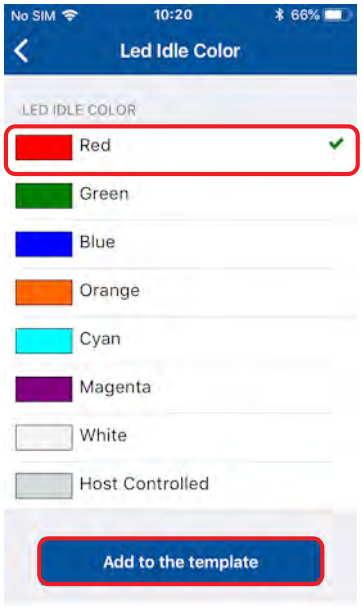




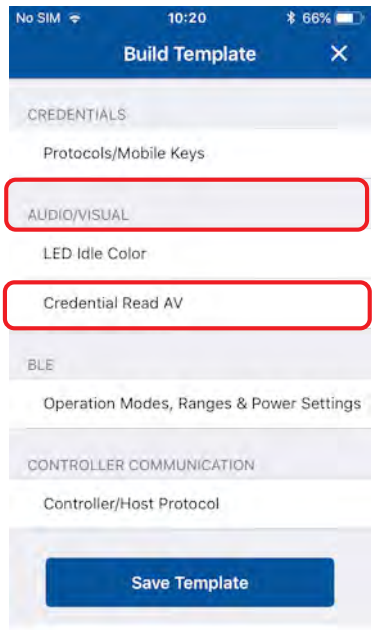
2.3.1.2 Audio/Visual settings

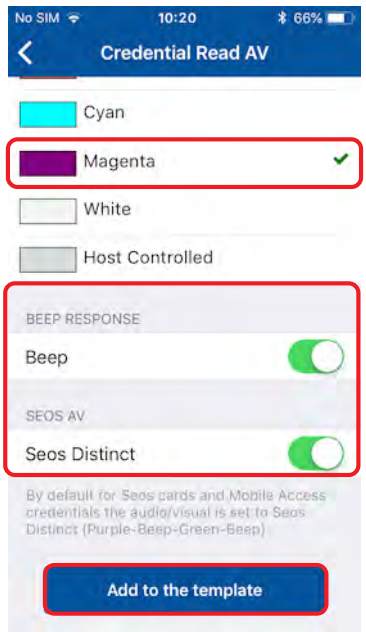
1. Select **LED Idle Color** from the **AUDIO/VISUAL** section. Select a color and tap **Add to the template**.





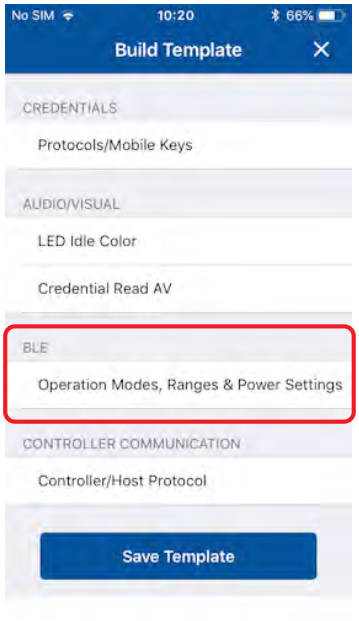
2. Select **Credential Read AV** in the **AUDIO/VISUAL** section.
3. Select a color and enable/disable the **BEEP RESPONSE** and **SEOS AV** settings using the options.
4. Tap **Add to the template** to save.

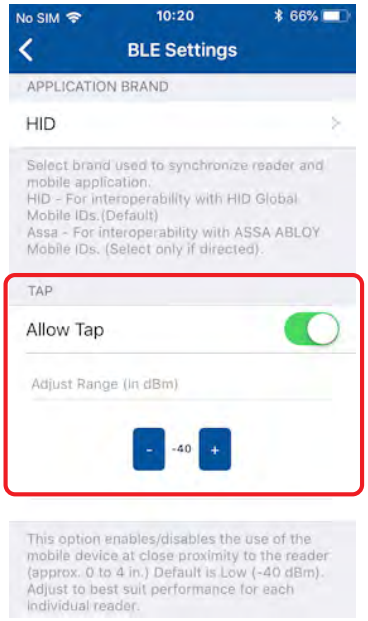


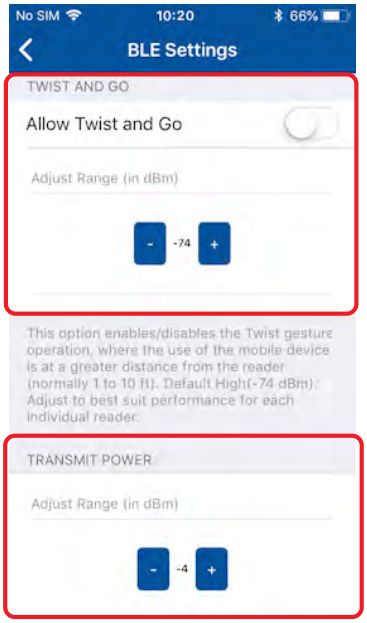


2.3.1.3 BLE settings

1. Select **Operation Modes, Ranges & Power Settings** from the **BLE** section.
2. On the **BLE Settings** screen select the required settings for **TAP**, **TWIST AND GO**, and **TRANSMIT POWER**. Tap **Add to the template** to save.







Recommended Range values

Due to the fact that the range and performance of mobile devices may vary, it is advised that the appropriate settings are selected based on a representative cross-section of mobile device types to be used. For most doors (office environment) the following opening ranges are recommended:

- 15cm to 20cm with **Tap**
- 0.5m to 1m with **Twist and Go**

Note: Usually you will want less opening ranges for elevators and other small areas where multiple readers may exist.

Opening ranges will deviate between different mobile devices, therefore you will still want to test and fine tune the settings for a specific site, however the Read Range settings listed below provide a starting point for some common locations:

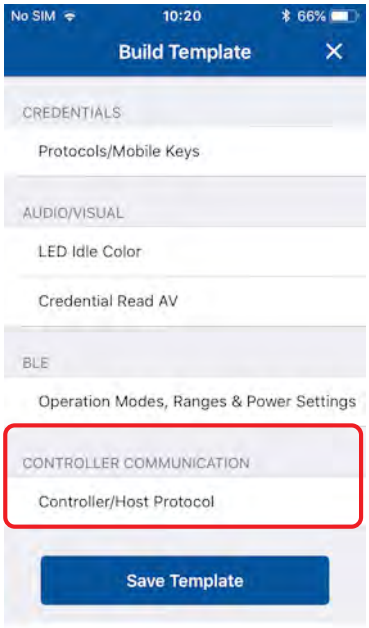
Location	Tap	Twist and Go
Office environment	-48 dBm	-67 dBm
Elevators	-40 dBm	-57 dBm
Outdoor entrances	-48 dBm	-67 dBm
Garage (user inside vehicle)	-53 dBm	-74 dBm

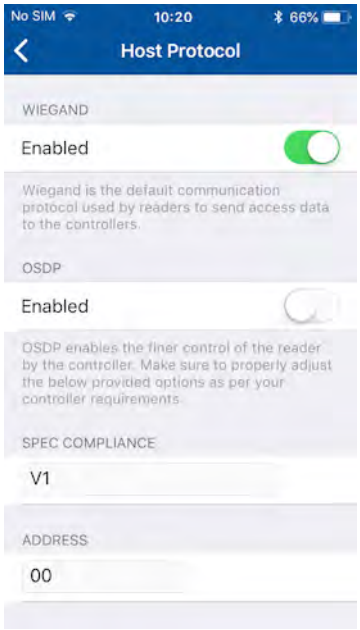
In certain installations a higher or lower **Transmit Power** may be required, however this setting should only be adjusted if the Read Range settings do not result in the desired read range.

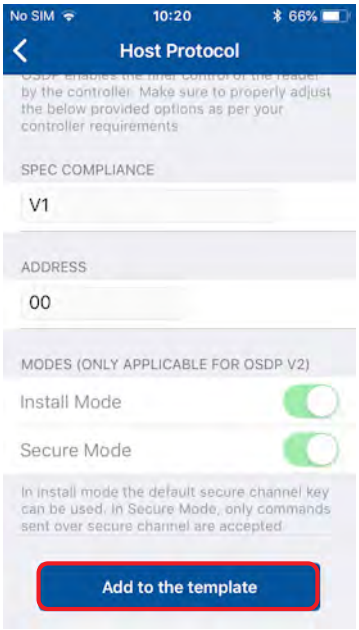
Note: It is recommended that the default **Transmit Power** setting (-4 dBm) is not exceeded unless absolutely necessary.

2.3.1.4 Controller Communication settings

1. Select **Controller/Host Protocol** from the **CONTROLLER COMMUNICATION** section.
2. Enable the required communication protocol. This can be set as **Wiegand** or **OSDP** (not both). Tap **Add to the template** to save.







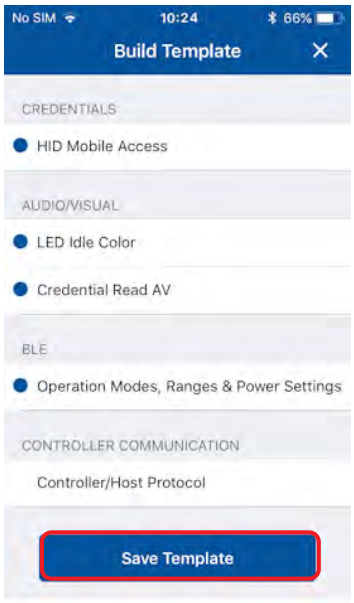
2.3.2 Manage templates

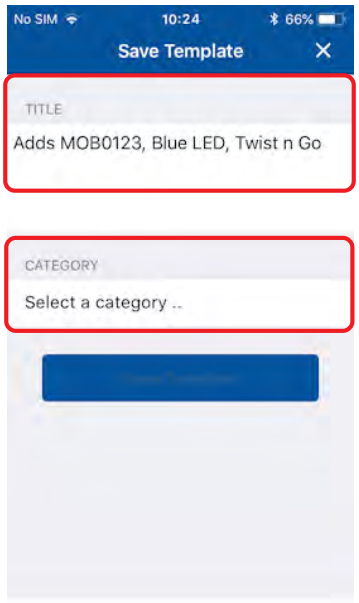
2.3.2.1 Save a new template

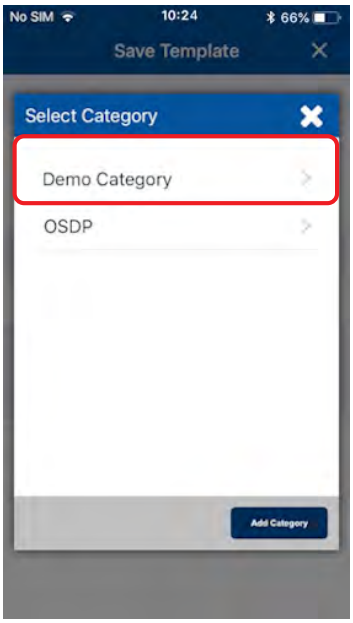
1. When configuration settings have been selected and added to the template, tap **Save Template**.
2. Tap in the **TITLE** area and enter a title for the template.
3. Tap in the **CATEGORY** area and tap **Select a category**. Select an existing category from the displayed list or add a new category and select this newly created category. Tap **Save Template**.

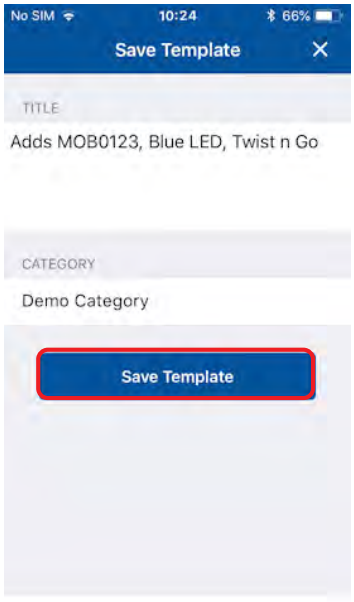
   Note: A category must be selected before the template can be saved.

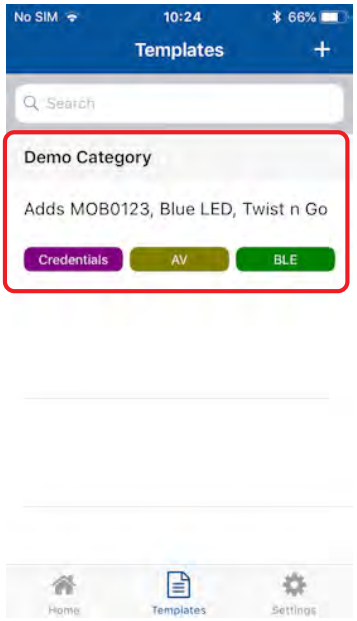
   The new template is displayed on the **Templates** screen with indicators for the configuration types within the template.







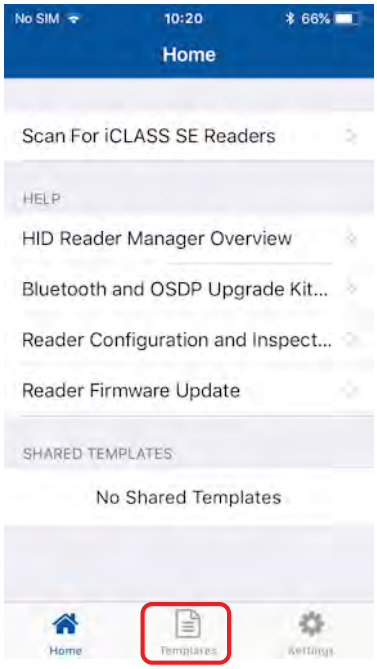


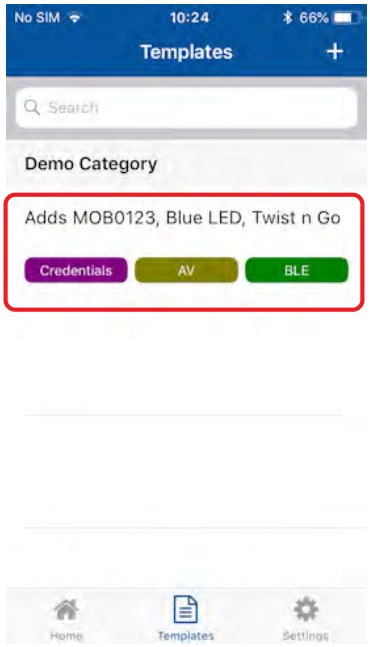


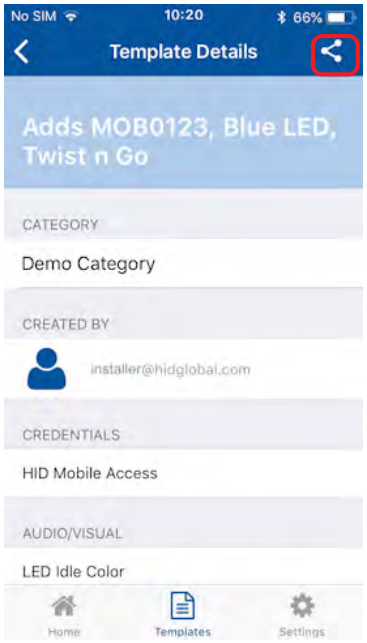
2.3.2.2 Share a template

Templates can be shared with other Reader Technicians to speed up the configuration of multiple readers.

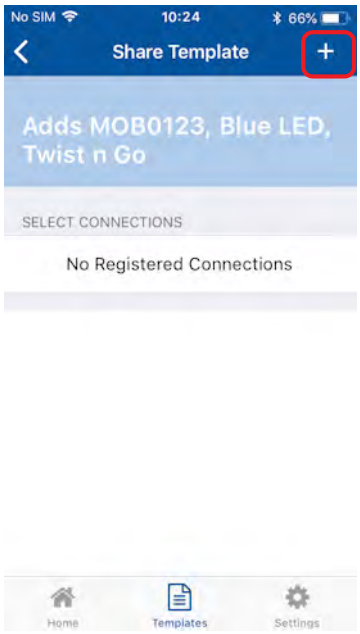
1. Tap the **Templates** icon on the **Home** screen and select a displayed template to be shared. On the **Template Details** screen tap the share icon [ ].

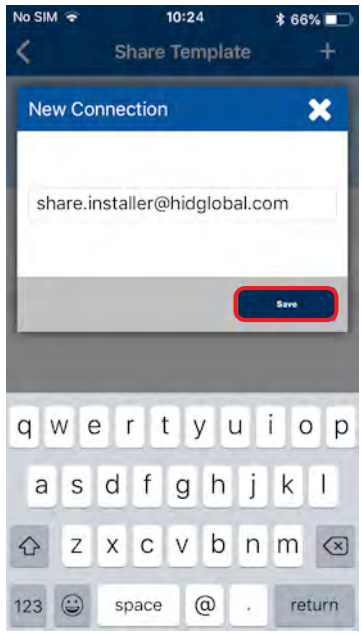


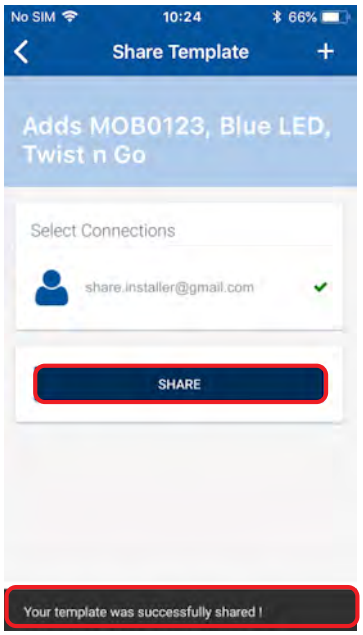




2. Tap the plus icon [ ] and in the **New Connection** box, enter the email address of another Technician (this can be any Technician that is already registered). Tap **Save**.
3. When the connection has been made, tap **SHARE**. A message will appear at the bottom of the screen to indicate success.

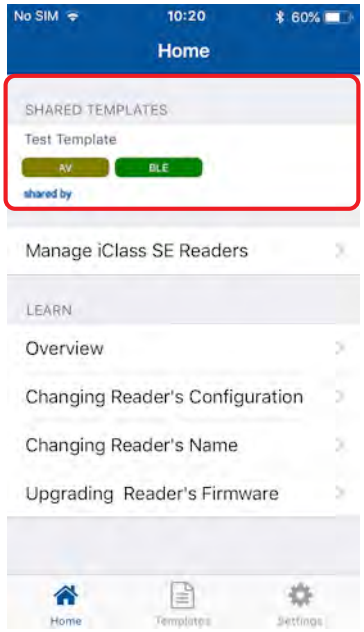


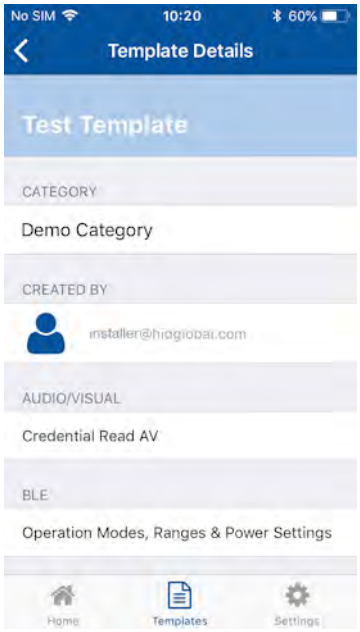




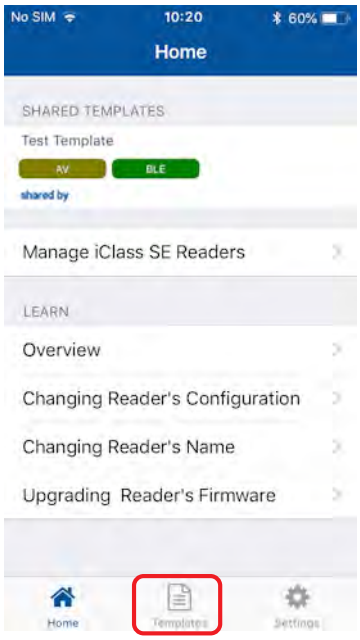
2.3.2.3 Display template details

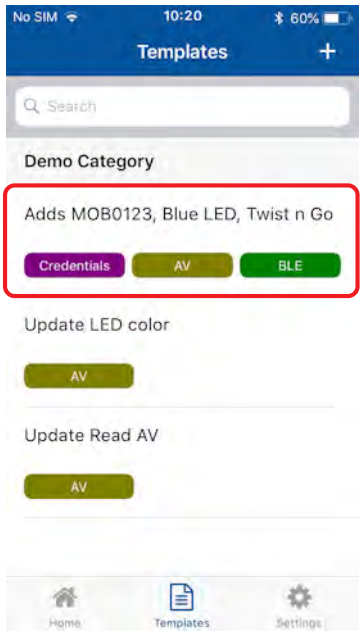
Configuration templates that have been shared with the Reader Technician logged into HID Reader Manager app are displayed in the **SHARED TEMPLATES** area on the **Home** screen. Tap on a displayed shared template to view the template details.

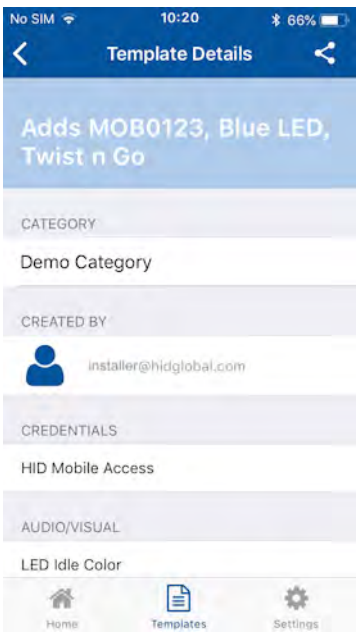




To view the list of created templates tap the **Templates** icon on the HID Reader Manager **Home** screen. Existing templates are listed on the **Templates** screen. Tap on a displayed template to view the template details.



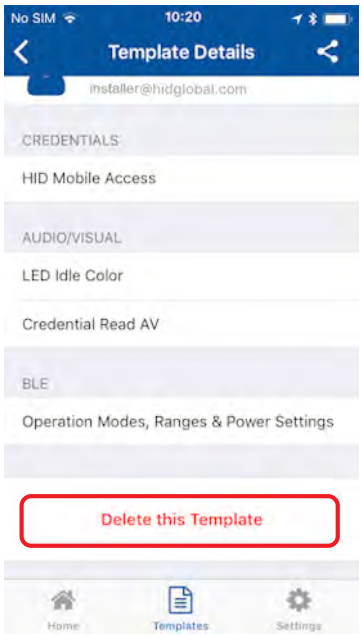


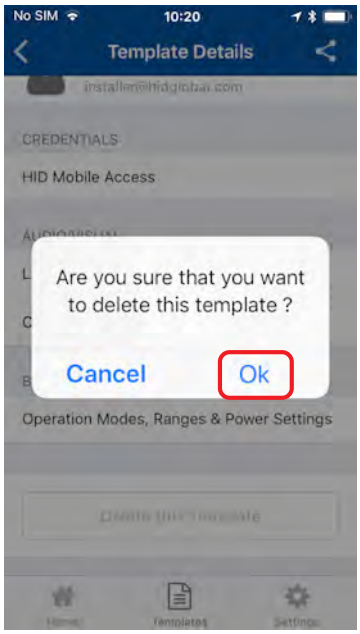


2.3.2.4 Delete a template

When template details are displayed, the template can be deleted:

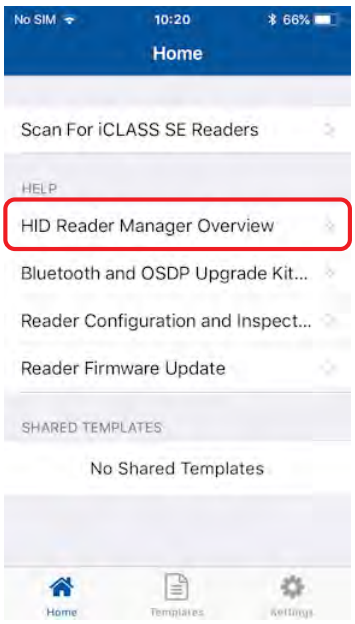
1. Swipe down to the bottom of the **Template Details** screen and tap **Delete this Template**.
2. Tap **OK** to delete the template.

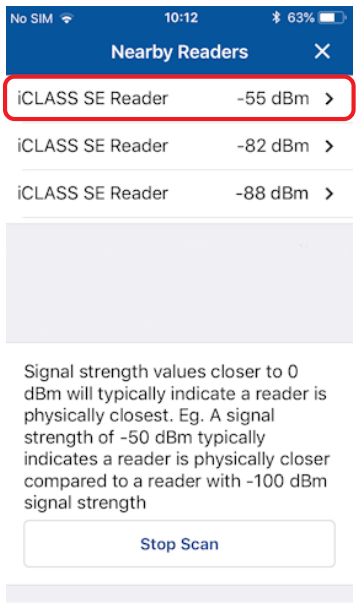


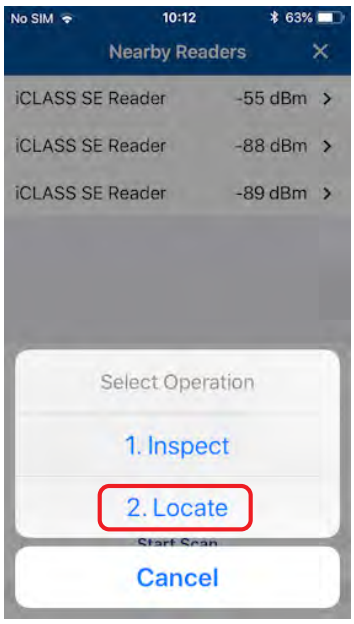


2.3.3 Connect to a reader

1. Tap **Scan for iCLASS SE Readers** on the HID Reader Manager **Home** screen, This will scan for nearby Mobile Access® readers (i.e. readers with the BLE Communication module installed).
2. Select a displayed reader from the **Nearby Readers** screen and tap **Locate** from the **Select Operation** menu to ensure the correct reader is selected. The reader will beep for about eight seconds.

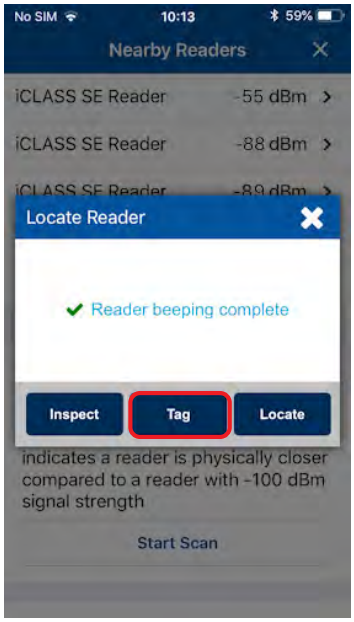


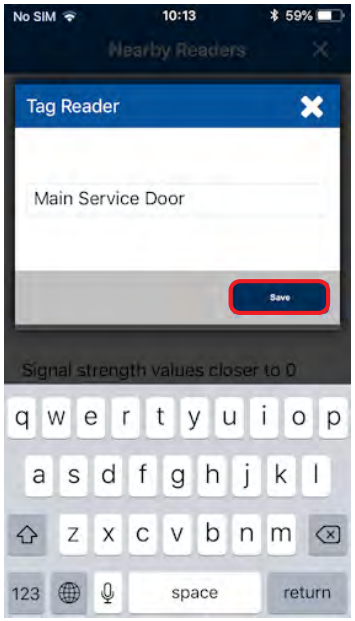


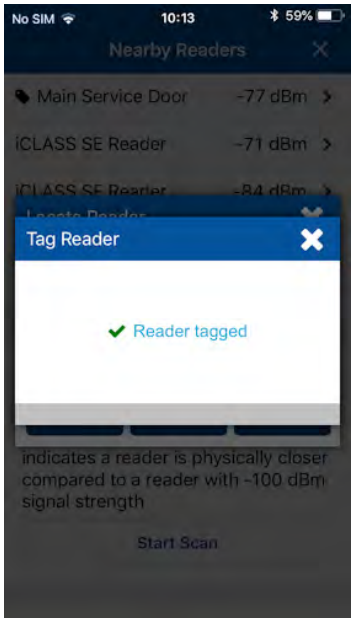


3. If you wish to name the reader for easier identification you can “Tag” it. Tap **TAG**, enter a name (for example, the reader location), and tap **SAVE**.

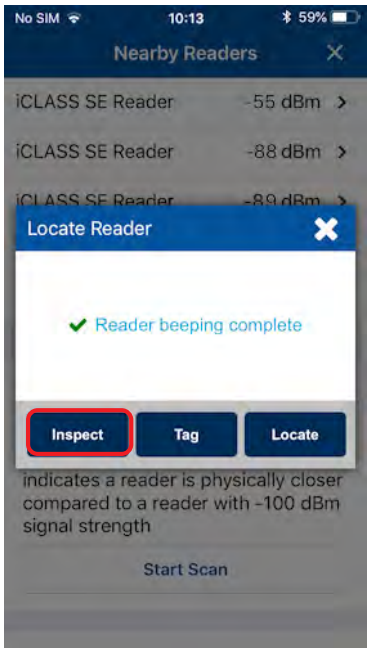
   Note: The tagged reader name is only visible on your mobile device.

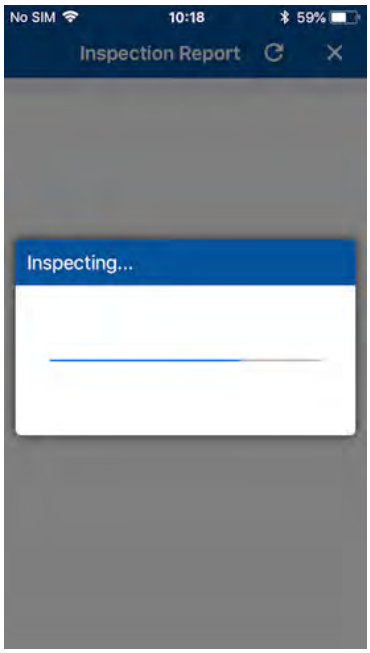


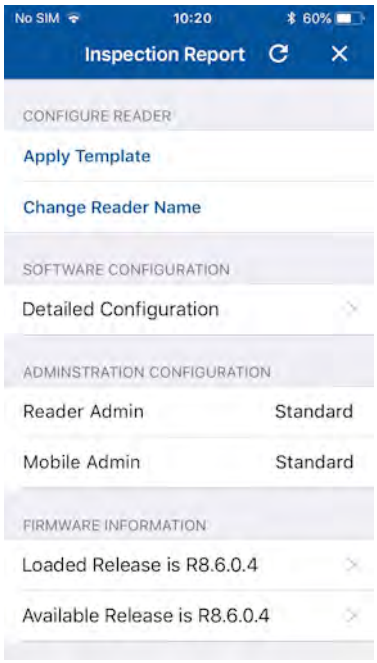




4. Tap **Inspect**. The reader is now connected and reader information is displayed on the **Inspection Report** screen, see *Section 2.3.4 Reader inspection report*.



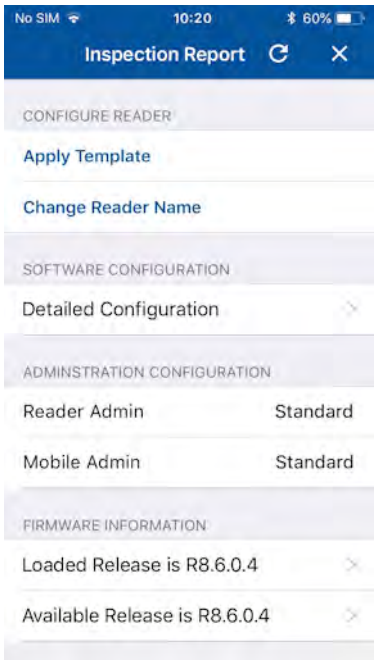


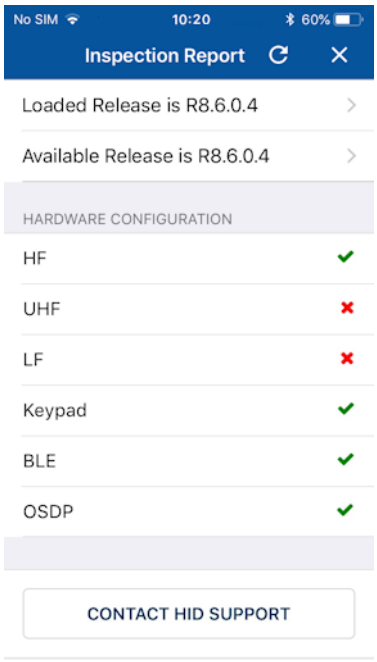


2.3.4 Reader inspection report

The **Inspection Report** screen displays configuration details for a connected reader and allows you to carry out the following:

- View reader **Firmware Information** and, if necessary, perform a reader **Firmware Upgrade**. See *Section 2.3.5 Update reader firmware*.
- Tap **Detailed Configuration** to access detailed reader settings, modify settings and directly apply them to the reader. See *Section 2.3.6 View detailed reader configuration*.
- Configure the reader:
  - Tap **Apply Template** to select and apply template configuration settings to the reader. See *Section 2.3.7 Apply configuration changes*.
  - Tap **Change Reader Name** to change the name of the reader. See *Section 2.3.8 Change reader name*.
- Tap **CONTACT HID SUPPORT** if you experience an issue while using the application. You will be provided with contact details for HID Support and an incident number for HID Support to be able to look up limited information regarding the affected reader. For additional information, see *Section 4.2 Contact HID Technical Support*.

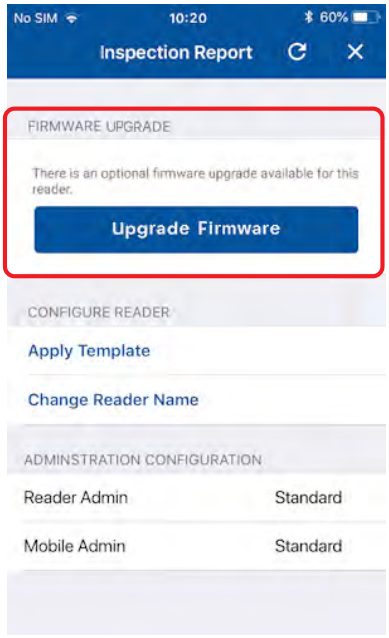


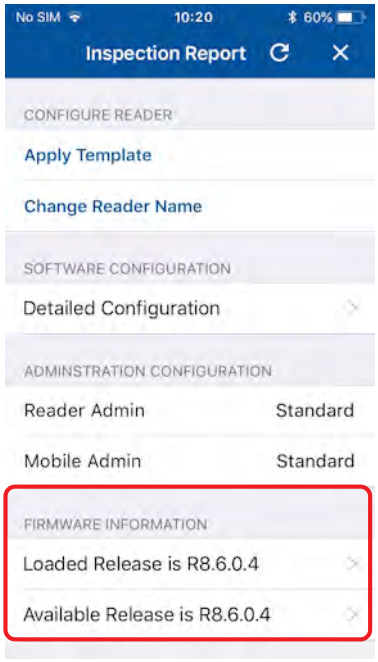


2.3.5 Update reader firmware

When connected to a reader, on the **Inspection Report** screen, if a newer version of firmware is available, you will be notified about the update in the **FIRMWARE UPGRADE** section.

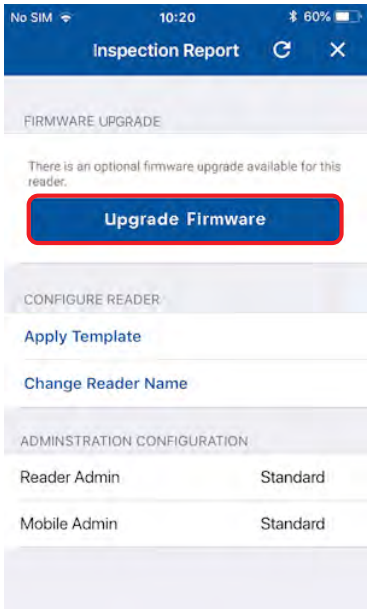
Note: If the firmware is already at the latest release or the currently loaded firmware is not supported then the **UPGRADE FIRMWARE** option will not be available.

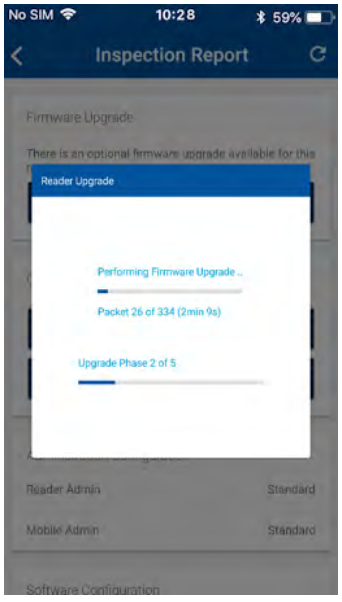


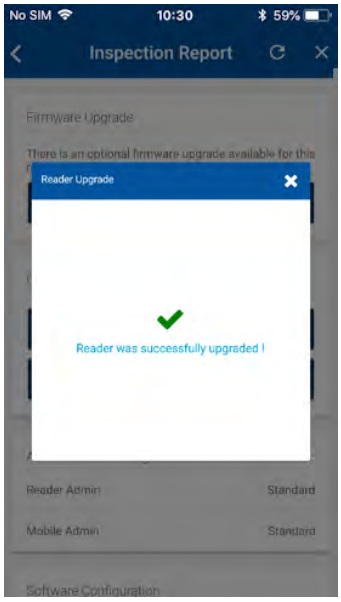


If a firmware upgrade is available, tap **Upgrade Firmware** to begin the firmware update process. This will take several minutes.

Note: If connection between the HID Reader Manager app and reader is lost during the firmware update process then reconnect the app to the reader and the upgrade process will resume.





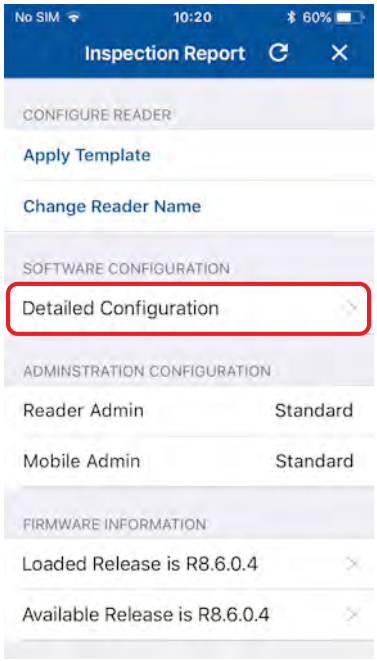


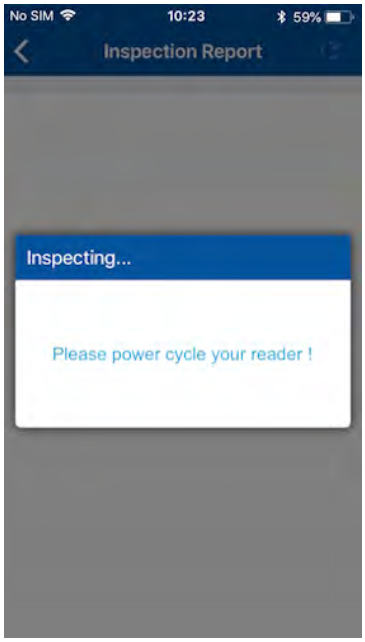
2.3.6 View detailed reader configuration

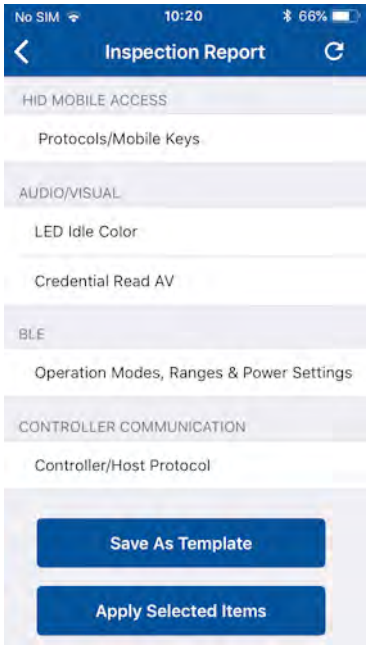
1. When connected to a reader, tap **Detailed Configuration** on the **Inspection Report** screen to access detailed reader configuration settings.

   Note: If the reader is a Standard enabled reader you will be prompted to power cycle the reader. For ICE/MOB enabled readers no reader power cycle is required.

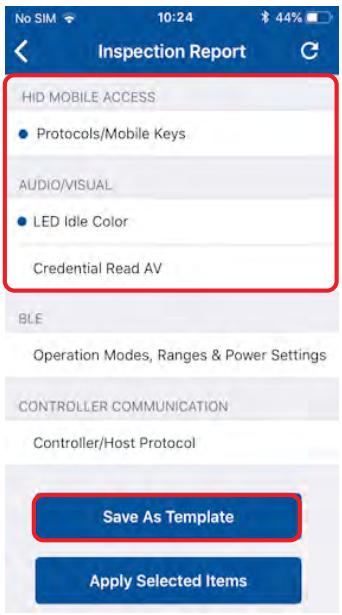
2. From the detailed **Inspection Report** screen you can directly configure reader settings:
   - **HID MOBILE ACCESS** settings. See *Section 2.3.1.1 Credential settings*
   - **AUDIO/VISUAL** settings. See *Section 2.3.1.2 Audio/Visual settings*.
   - **BLE** settings. See *Section 2.3.1.3 BLE settings*.
   - **CONTROLLER COMMUNICATION** settings. See *Section 2.3.1.4 Controller Communication settings*.

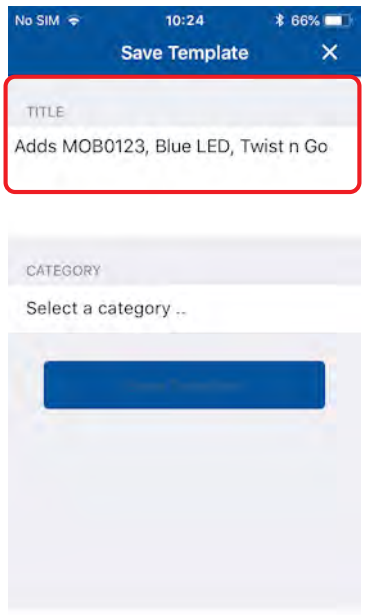


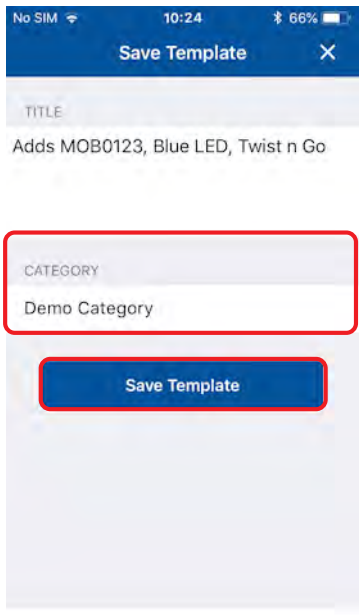




3. Any changed configuration settings are indicated with a blue circle. Changed configuration settings can be:
   - Saved as a template: tap **Save as Template**, enter a template title and category and tap **Save Template**.

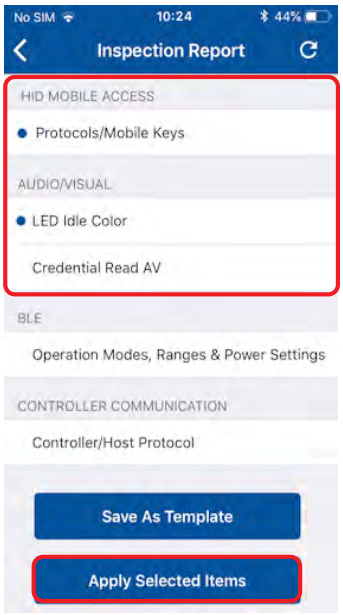


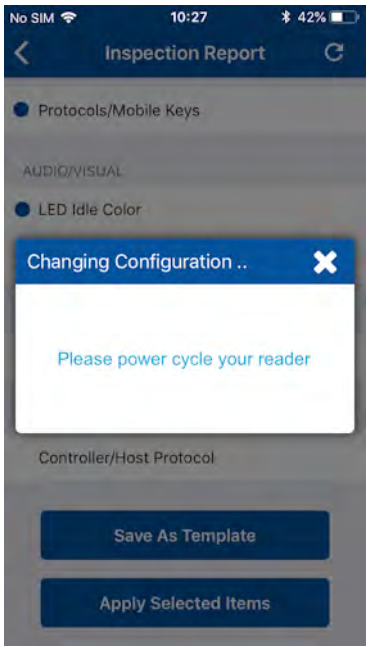


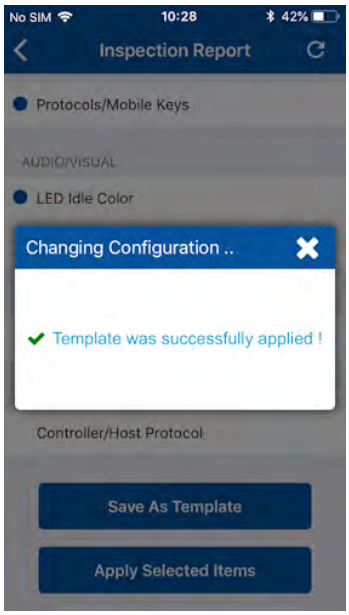


   - Tap **Apply Selected Items** to directly apply settings to the connected reader.

     Note: If the reader is a Standard enabled reader you will be prompted to power cycle the reader. For ICE/MOB enabled readers no reader power cycle is required.





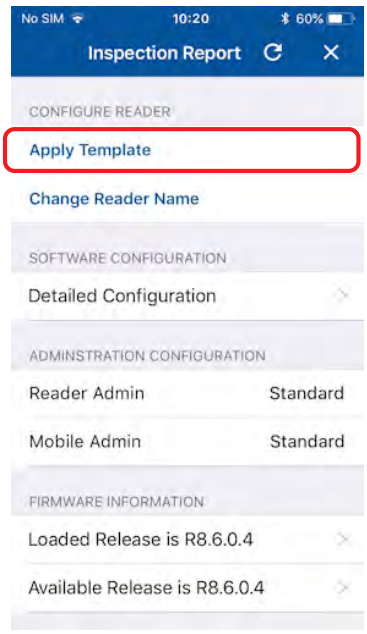


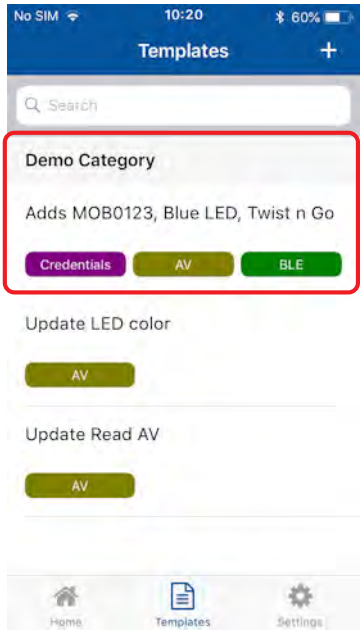
2.3.7 Apply configuration changes

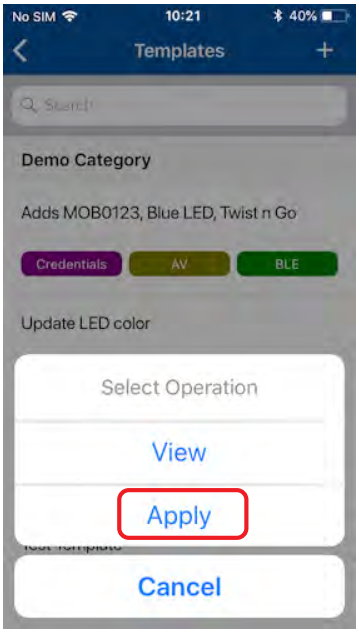
When viewing a reader **Inspection Report**:

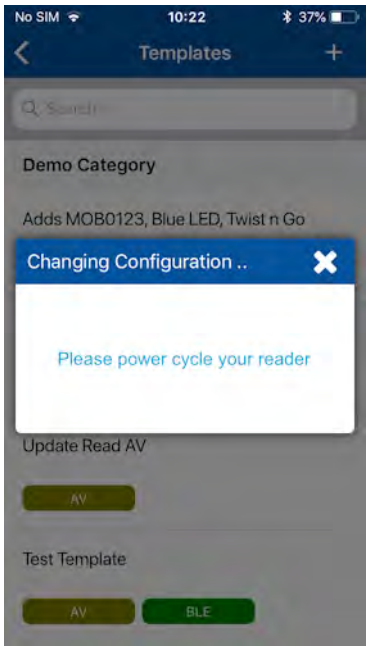
1. Tap **Apply Template**.
2. Select a displayed template from the **Templates** screen. Tap **Apply** from the **Select Operation** menu.

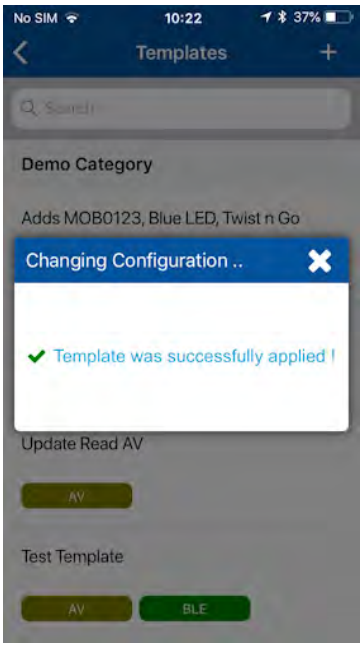
   Note: If the reader is a Standard enabled reader you will be prompted to power cycle the reader. For ICE/MOB enabled readers no reader power cycle is required.









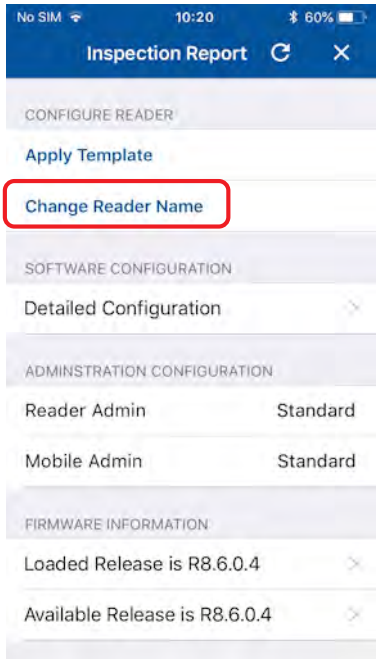


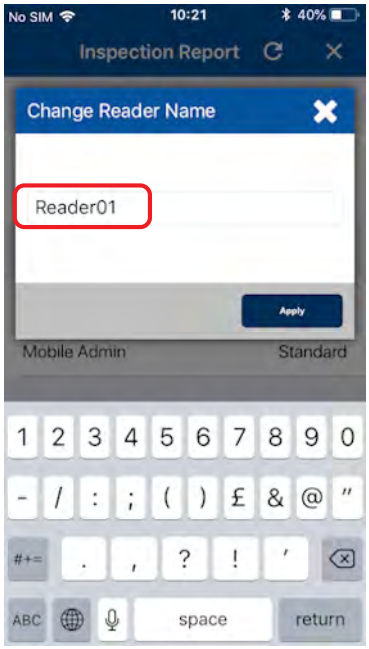
2.3.8 Change reader name

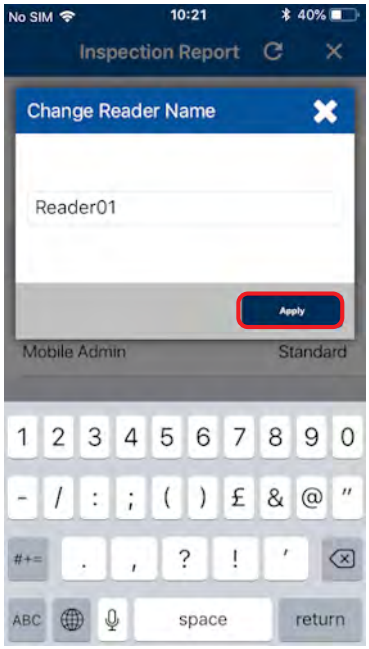
When viewing a reader **Inspection Report** the reader name can be changed.

Note: When changing a reader name with **Change Reader Name**, the reader's name, for example, "iCLASS SE Reader" is changed to a custom name. This custom reader name is visible from within any other Technician's Reader Manager app.

1. Tap **Change Reader Name**.
2. Enter a new reader name.
3. Tap **Apply**.







3 HID Reader Manager Portal

This section provides the required steps and procedures to be performed by the HID® Reader Manager™ Administrator in order to enroll a Reader Technician in the Reader Manager solution and perform authorization key management.

3.1 Portal setup overview

The HID Mobile Access® Portal provides iCLASS Elite™ and Mobile Key end users with the option to enable/disable the HID Reader Manager Portal. Adding or removing the HID Reader Manager Portal for an organization must be completed by HID.

To setup the HID Reader Manager Portal, refer to the *HID Mobile Access Portal – HID Reader Manager Portal Change Form* located at:

https://www.hidglobal.com/documents

A HID Mobile Access Portal is required to enable/disable HID Reader Manager. If this has not been setup for a organization, please follow this process:

- **Mobile (MOB) Key Users:** Follow the steps provided at:

  https://managedservices.hidglobal.com/faces/maUserOnBoardingStart

  Then complete and return the *HID Mobile Access® Portal – HID Reader Manager Portal Change Form*.

- **iCLASS Elite Key Users:** Complete and return the *iCLASS Elite Program™ - New HID Mobile Access® Portal Request Form*. The HID Reader Manager Portal is enabled/disabled with this form.

Note:

- A HID Mobile Access Portal is required to enable the HID Reader Manager Portal.

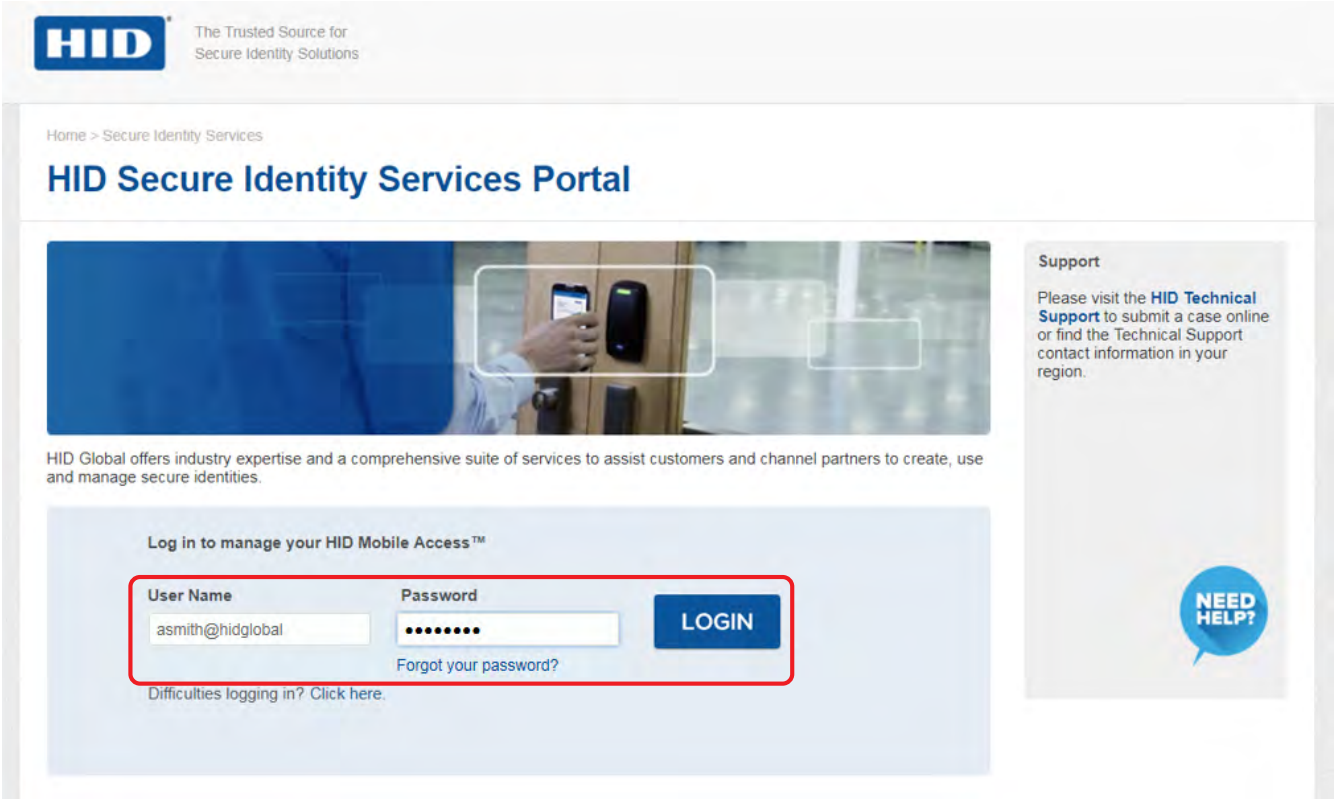
When the HID Reader Manager Portal is enabled/disabled, the HID Reader Manager Portal Admin role will be granted/revoked from all active HID Mobile Access Org Admins.

3.2 Access the HID Reader Manager Portal

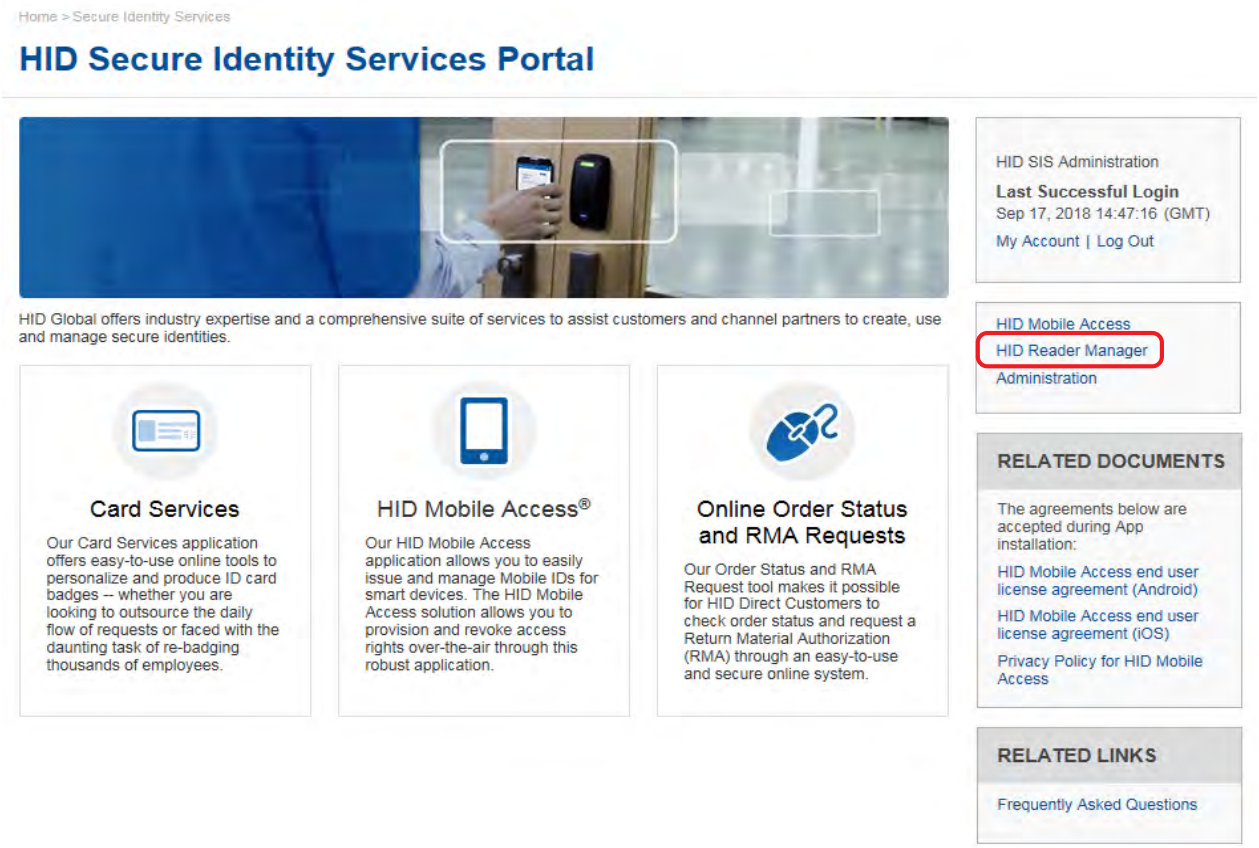
The HID Reader Manager Portal is a hosted service available to registered Reader Manager Administrators. To access the portal:

1. Log into the HID Secure Identity Services (SIS) Portal.

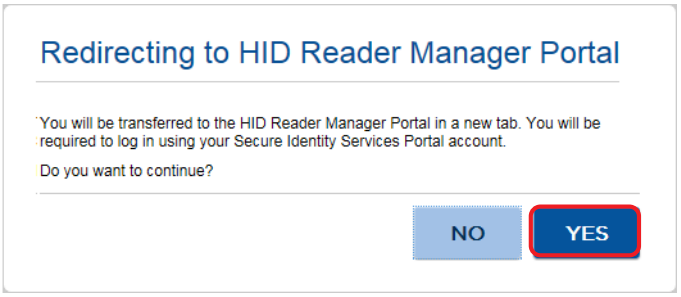
   Note: This is the same login page and login credentials used for the Mobile Access Portal.



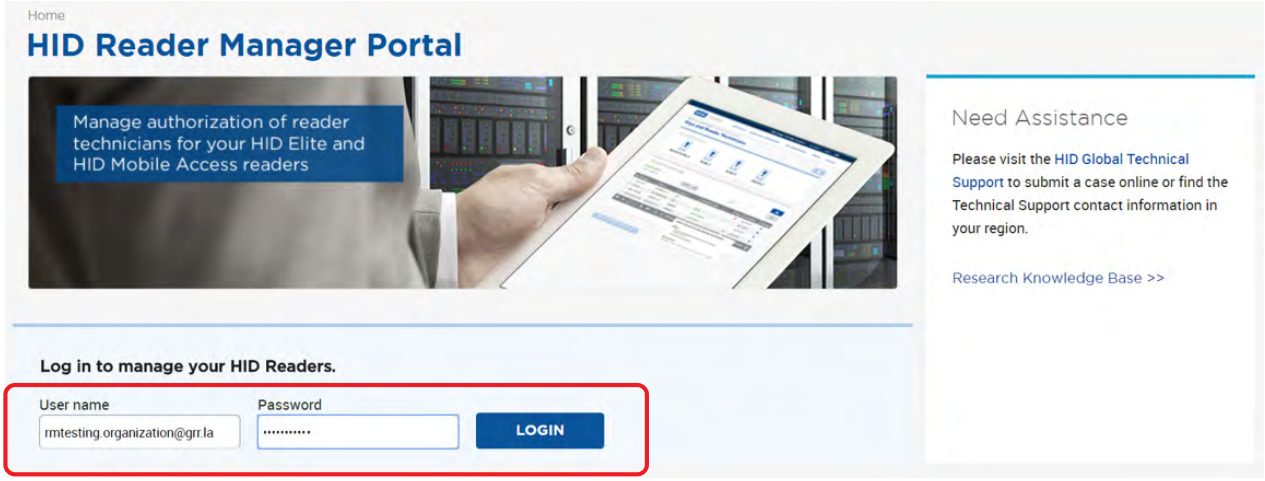
2. Select the **HID Reader Manager** link on the main **HID Secure Identity Services Portal** page.



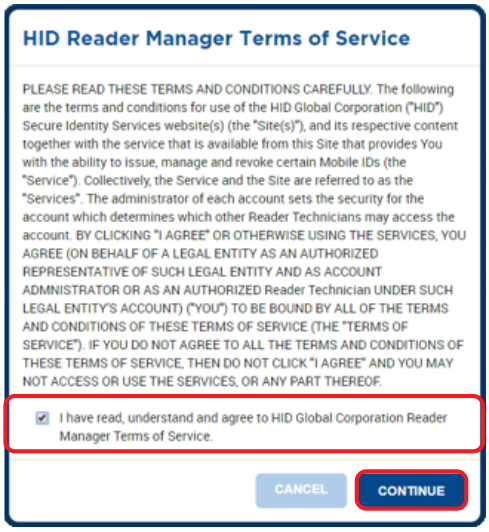
3. Click **YES** to be redirected to your organizations instance of the HID Reader Manager Portal.



4. Login as Reader Manager Administrator using the User name and Password setup in the HID Secure Identity Services Portal.



Note: If this is the initial login as Reader Manager Administrator you will be asked to read and accept the **HID Reader Manager Terms of Service**. Click **Continue**.

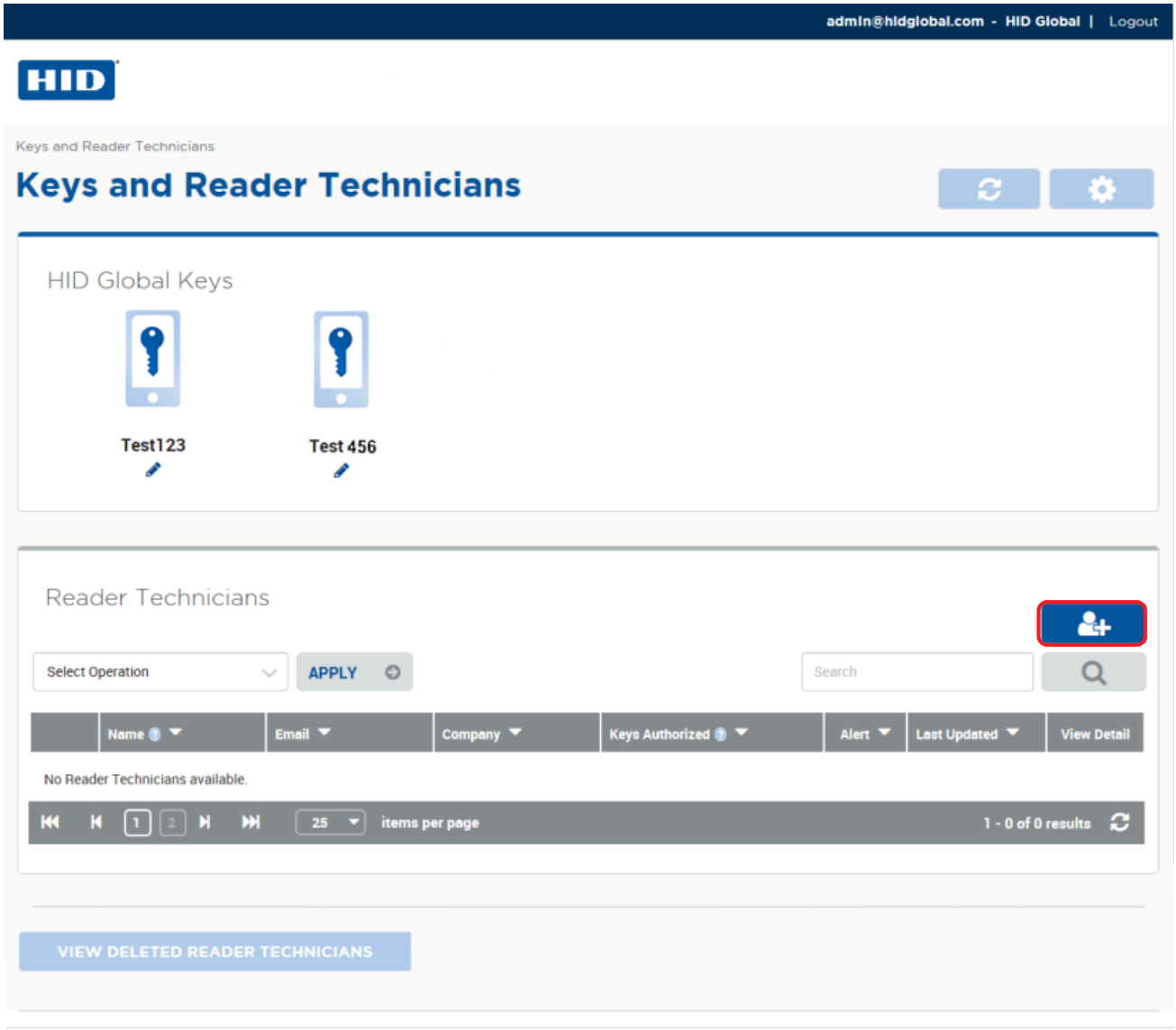


The Reader Manager Administrator can now perform Reader Technician enrollment and authorization key issuance tasks in the HID Reader Manager Portal.

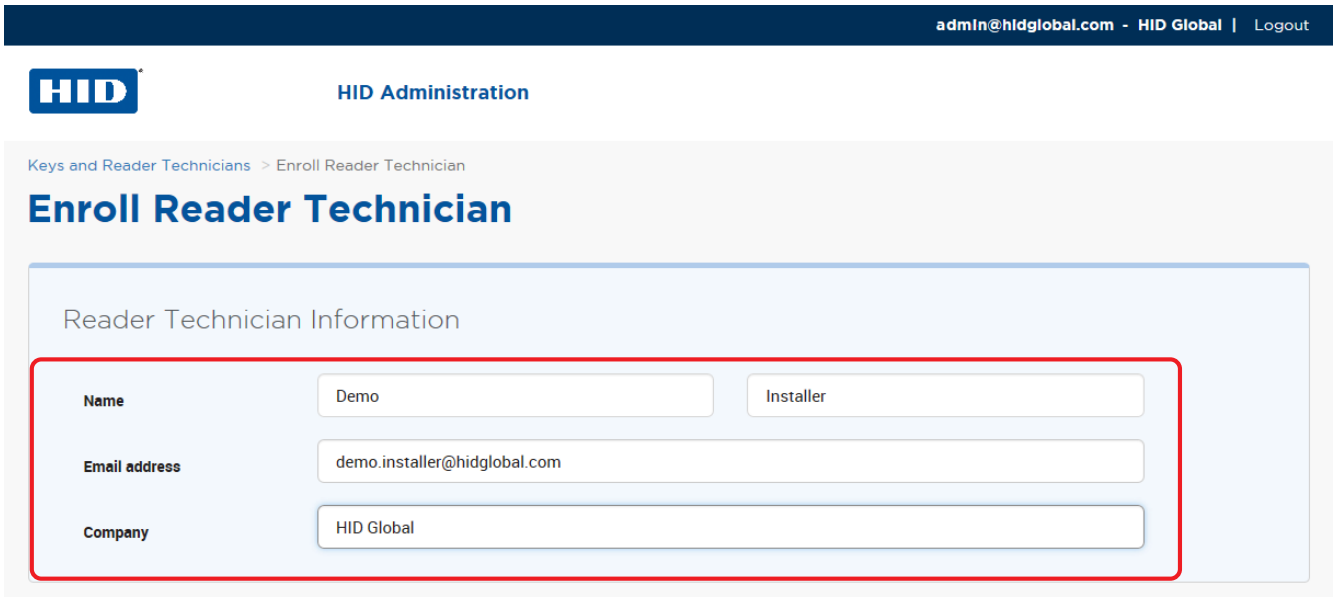
3.3 Enroll a Reader Technician

To enroll a Reader Technician in the HID Reader Manager Portal:

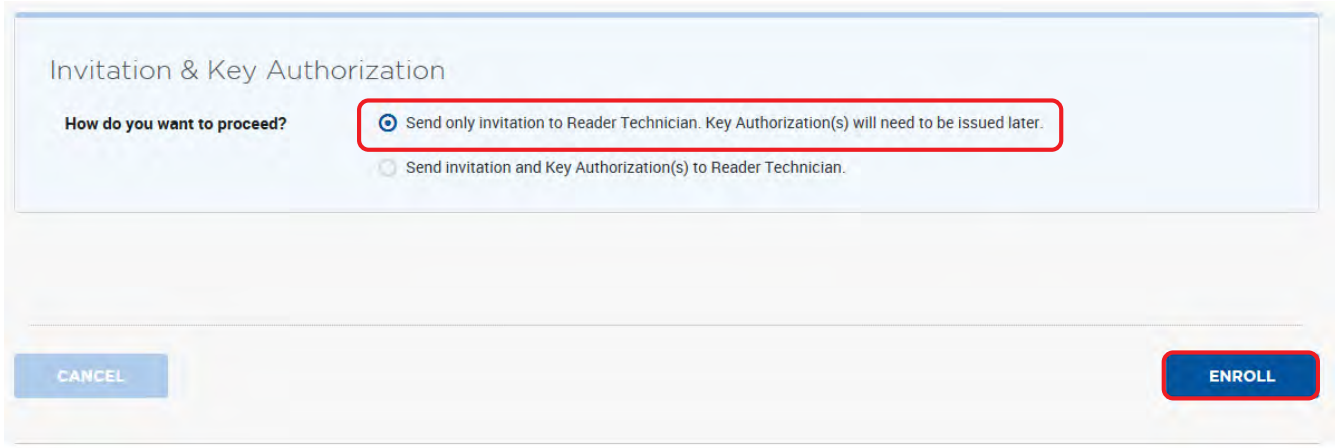
1. Scroll to the **Reader Technicians** section on the **Keys and Reader Technicians** page.
2. Select the enroll technician icon [ ].



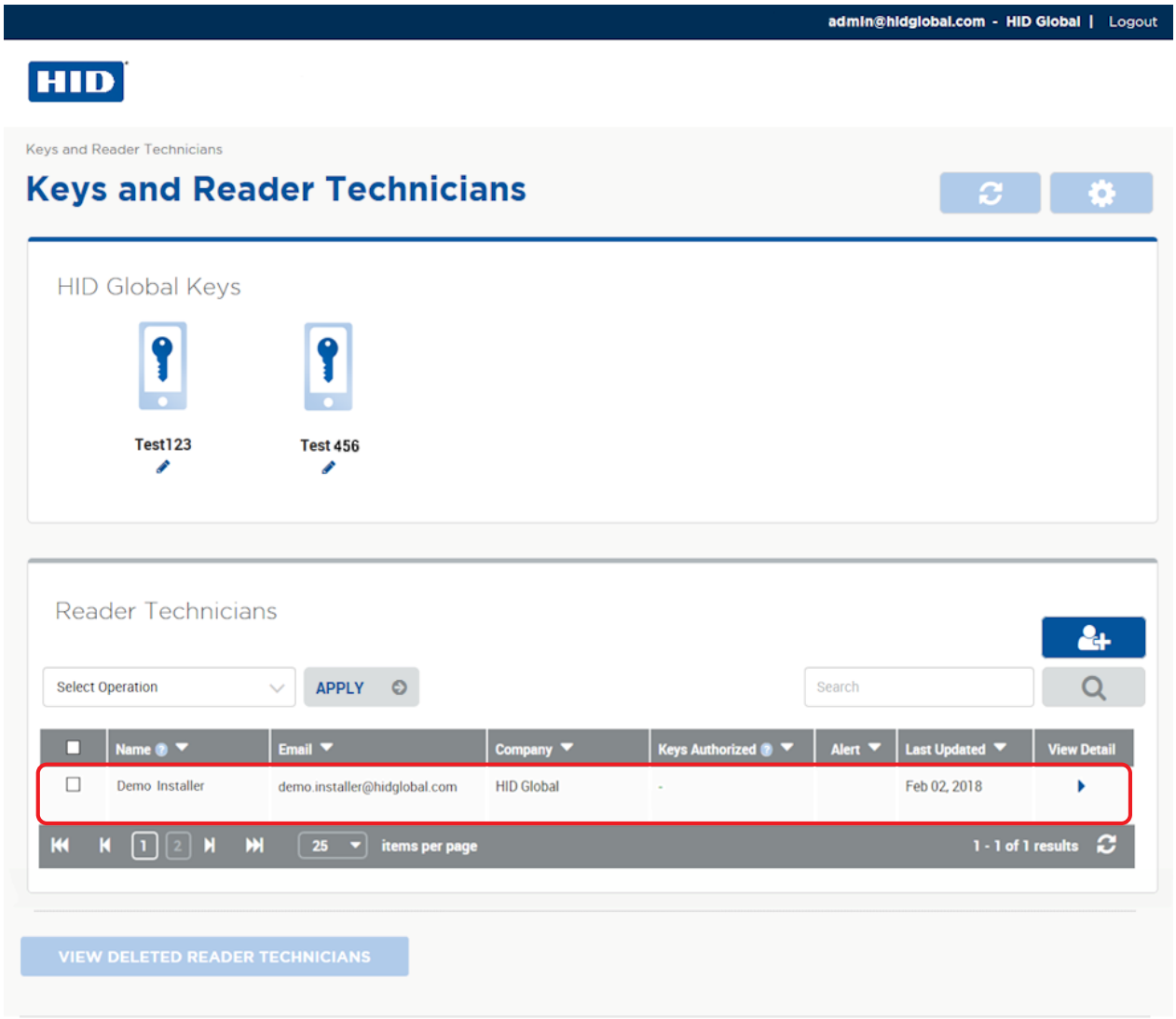
3. Enter the **Name**, **Email address**, and **Company** of the new Reader Technician on the **Enroll Reader Technician** page.



4. In the **Invitation & Key Authorization** section keep the default option:
   - **Send only invitation to the Reader Technician. Key(s) will be authorized later separately**
5. Click **Enroll**.



The newly enrolled Reader Technician is listed in the **Reader Technicians** section on the **Keys and Reader Technicians** page.



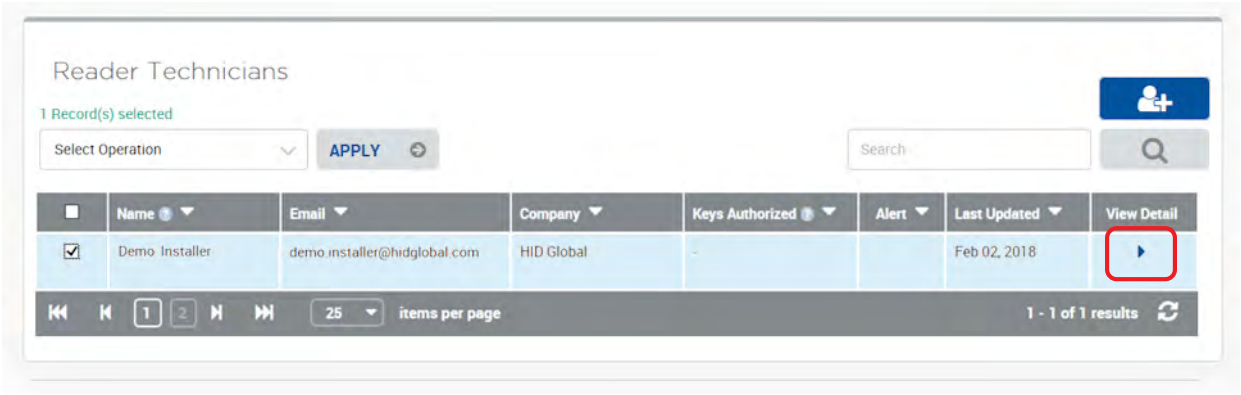
The enrolled Reader Technician will receive a Reader Manager invitation email in their registered email inbox containing an invitation code for activating the HID Reader Manager app. See *Section 2.1.6 Activate the HID Reader Manager app*.

When the Reader Manager app is activated the administrator can issue key authorization. See *Section 3.4 Issue authorization keys*.

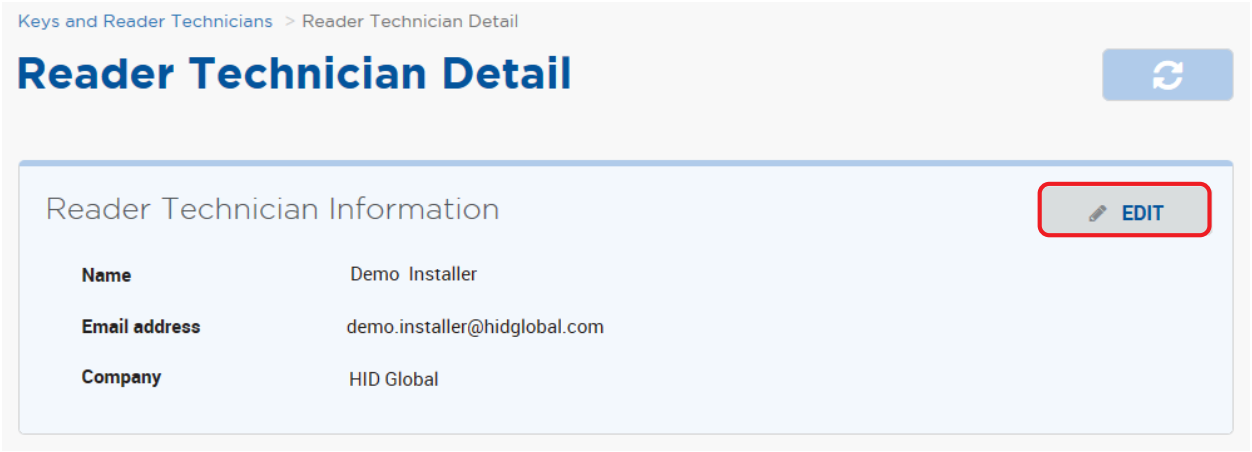
3.3.1 Edit Reader Technician information

To edit enrolled Reader Technician information:

1. Scroll to the **Reader Technicians** section on the **Keys and Reader Technicians** page.
2. Select a displayed Reader Technician entry and click on the associated **View Detail** icon [▸] to access the **Reader Technician Detail** page.



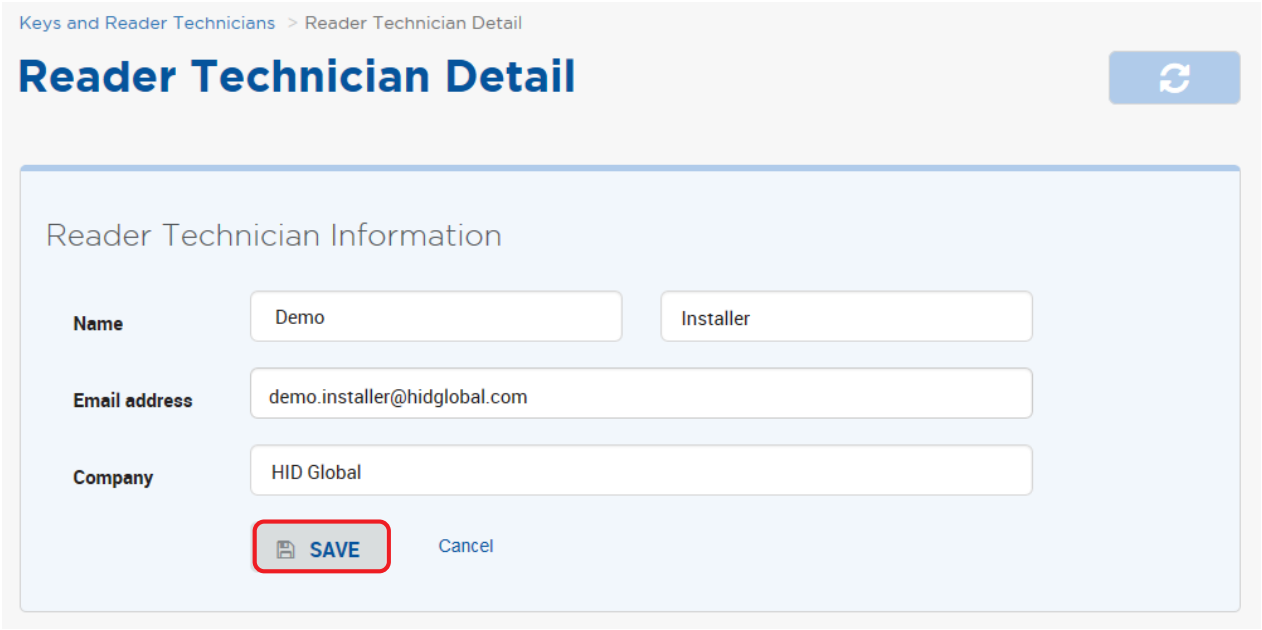
3. Click **EDIT** in the **Reader Technician Information** section.



4. Edit **Reader Technician Information** and click **SAVE**.

   On the **Keys and Reader Technicians** page the updated Reader Technician information appears in the **Reader Technicians** list.

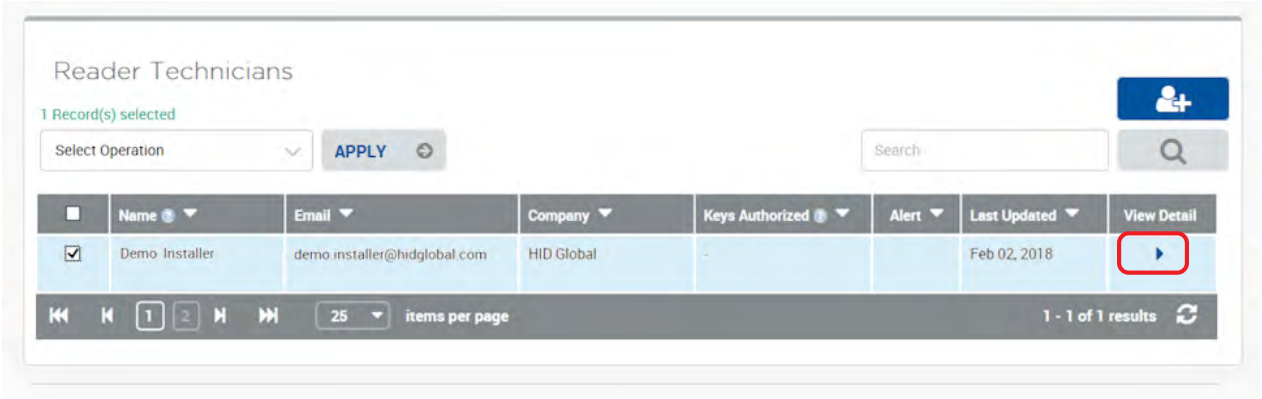
   Note: If the Reader Technician uses the edited email address to log into the Reader Manager app then the mobile device must be registered again and all the authorization keys must be re-issued.



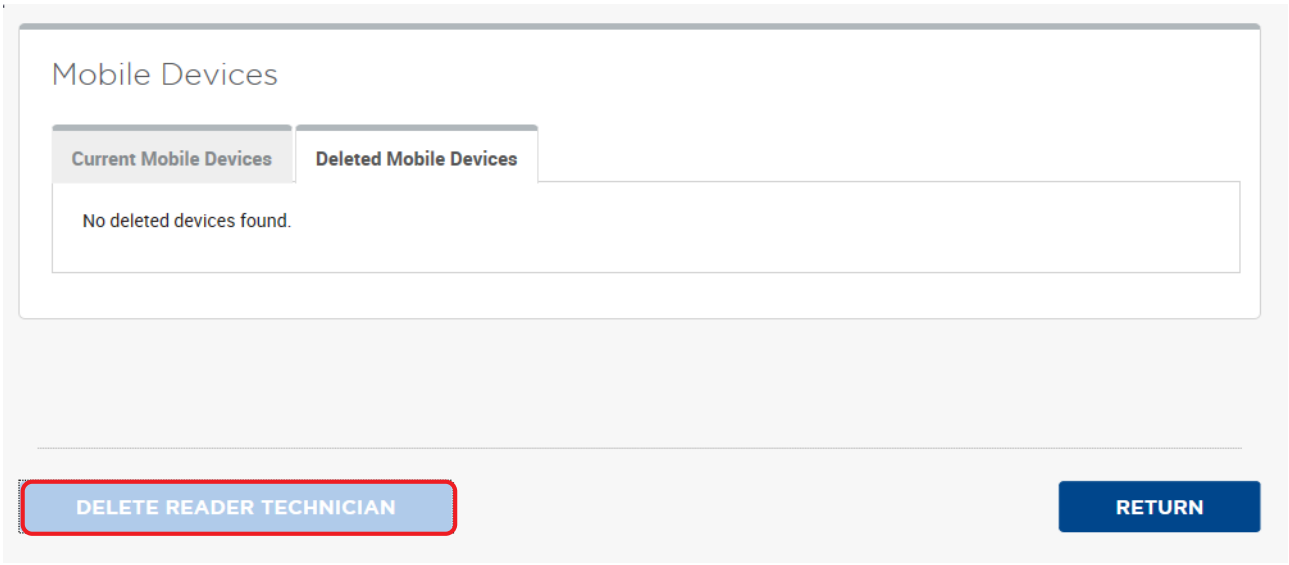
3.3.2 Delete an enrolled Reader Technician

To delete an enrolled Reader Technician:

1. Scroll to the **Reader Technicians** section on the **Keys and Reader Technicians** page.
2. Select a displayed Reader Technician entry and click on the associated **View Detail** icon [▸] to access the **Reader Technician Detail** page.



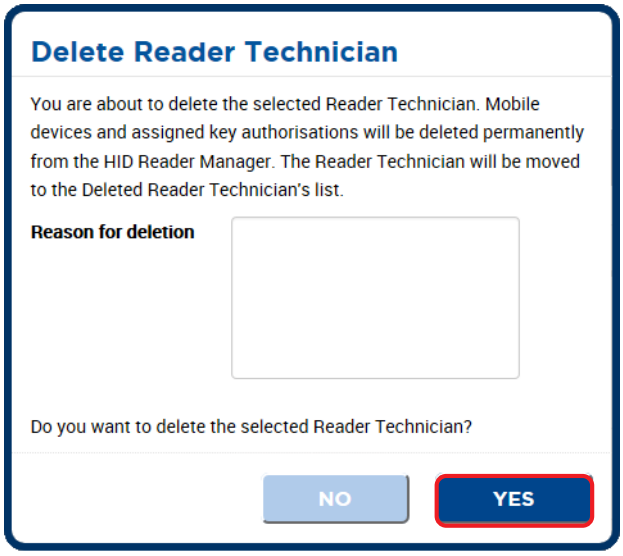
3. Scroll to the bottom of the **Reader Technician Detail** page and click **DELETE READER TECHNICIAN**.



4. Enter a **Reason for deletion** (optional) and click **YES** to delete the selected Reader Technician.

   Note: Any key authorizations issued to the Reader technician will immediately have revocation attempted. If the mobile device is not reachable (for example, turned off or out of range), the system will periodically retry the delete operation.

   When the Delete Threshold time (see *Section 3.4.5 Configure Delete Threshold*), has elapsed the system automatically completes the delete operation and places the key authorization in a revoked state.



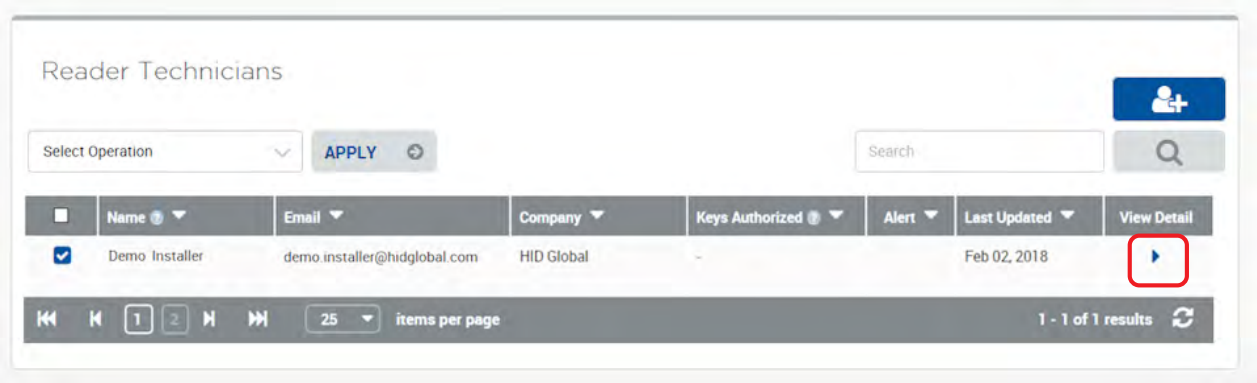
The deleted Reader Technician appears in the list of **Deleted Reader Technicians**.

3.4 Issue authorization keys

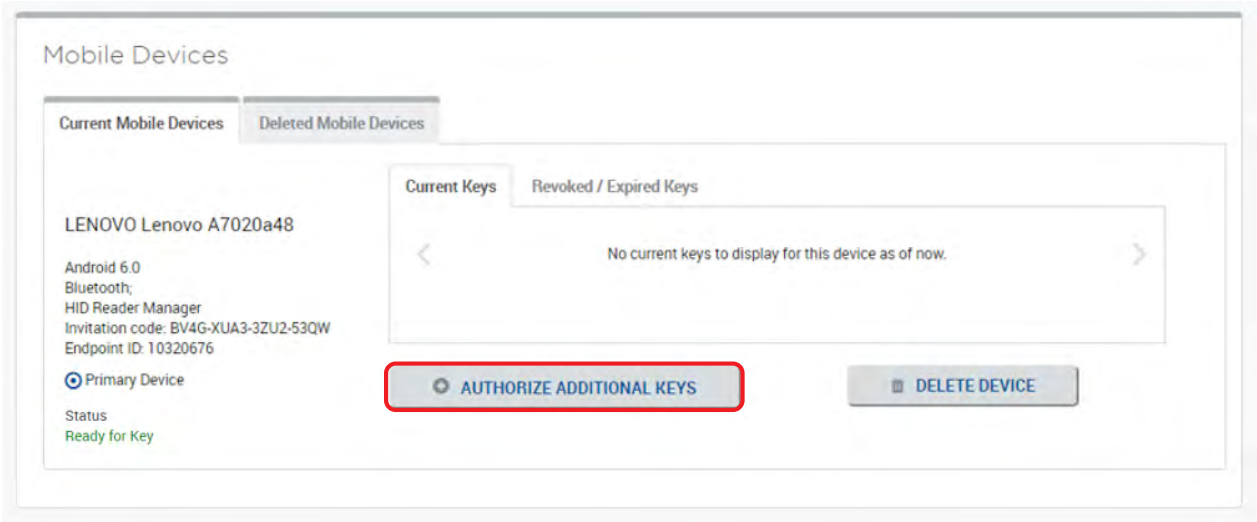
HID Reader Manager uses authorization keys to securely connect and control access by the mobile app.

To issue authorization keys in the HID Reader Manager Portal:

1. Scroll to the **Reader Technicians** section on the **Keys and Reader Technicians** page.
2. Select a displayed Reader Technician entry and click on the associated **View Detail** icon [▸] to access the **Reader Technician Detail** page.

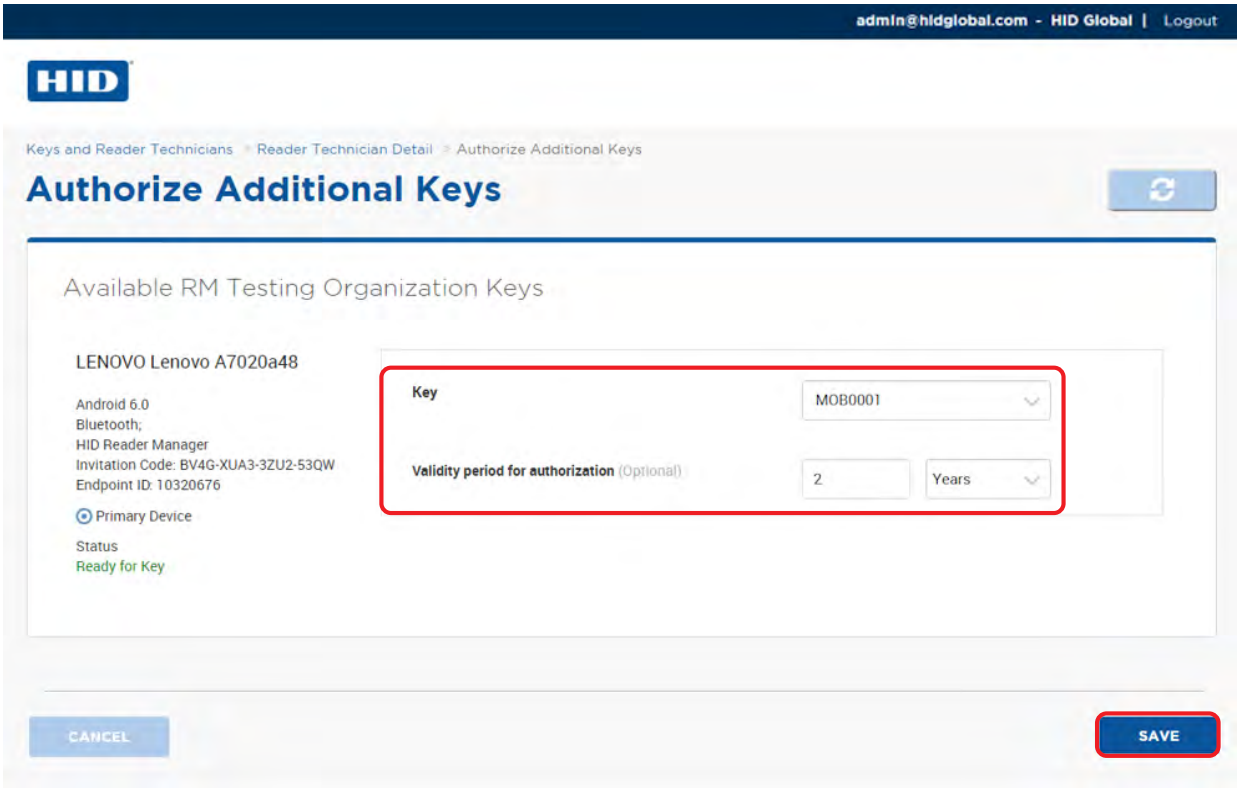


3. Scroll to the **Mobile Devices** section and click **AUTHORIZE ADDITIONAL KEYS**.

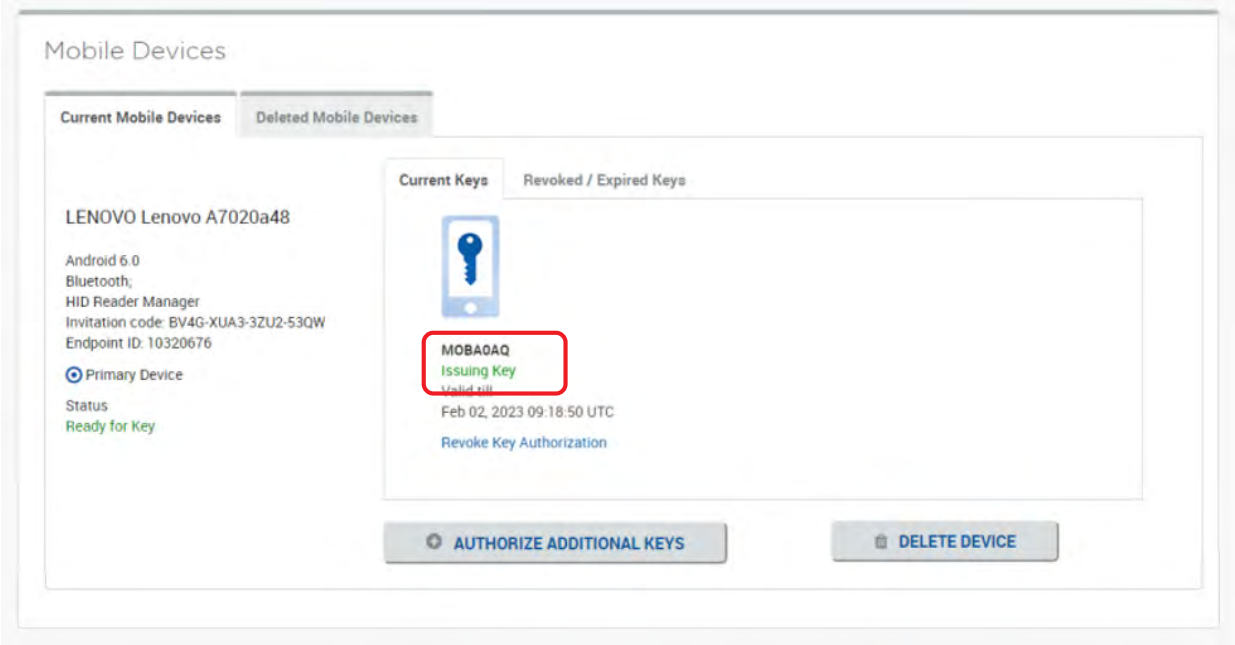


4. On the **Authorize Additional Keys** page select a key reference from the **Key** drop-down menu.
5. As an option set a authorization validity period.

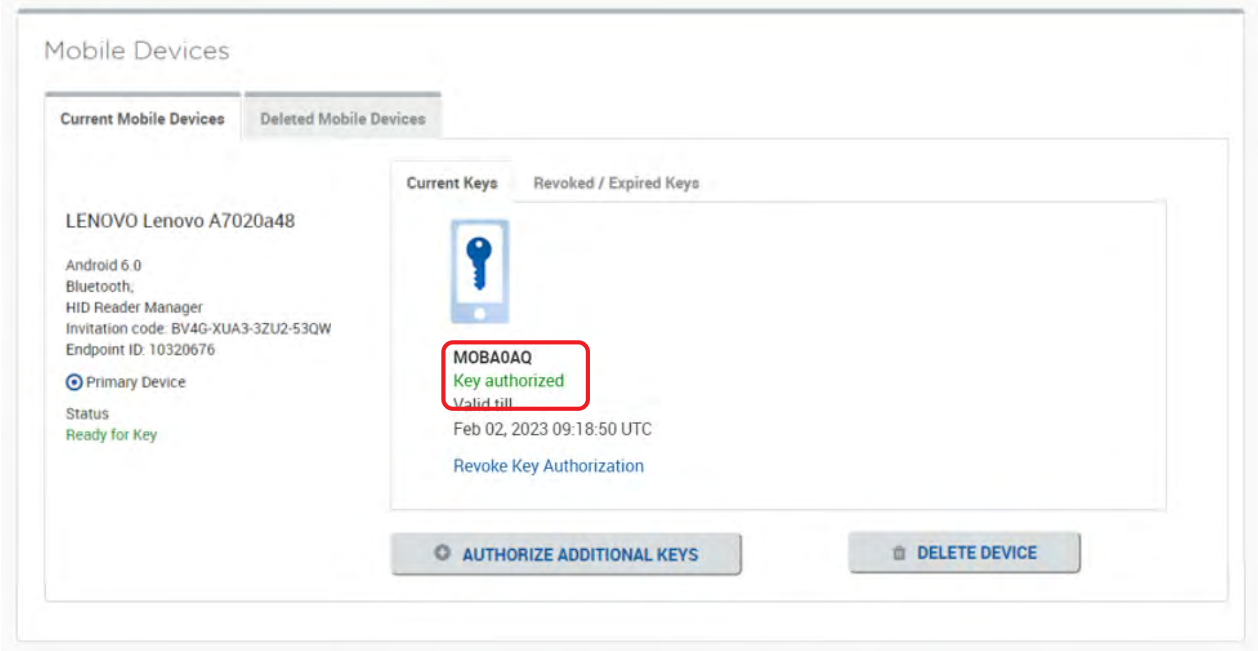
   Note: If the validity period for authorization is not set the default period is five years.
6. Click **SAVE**.



The status of the authorization key will change to **Issuing Key**.



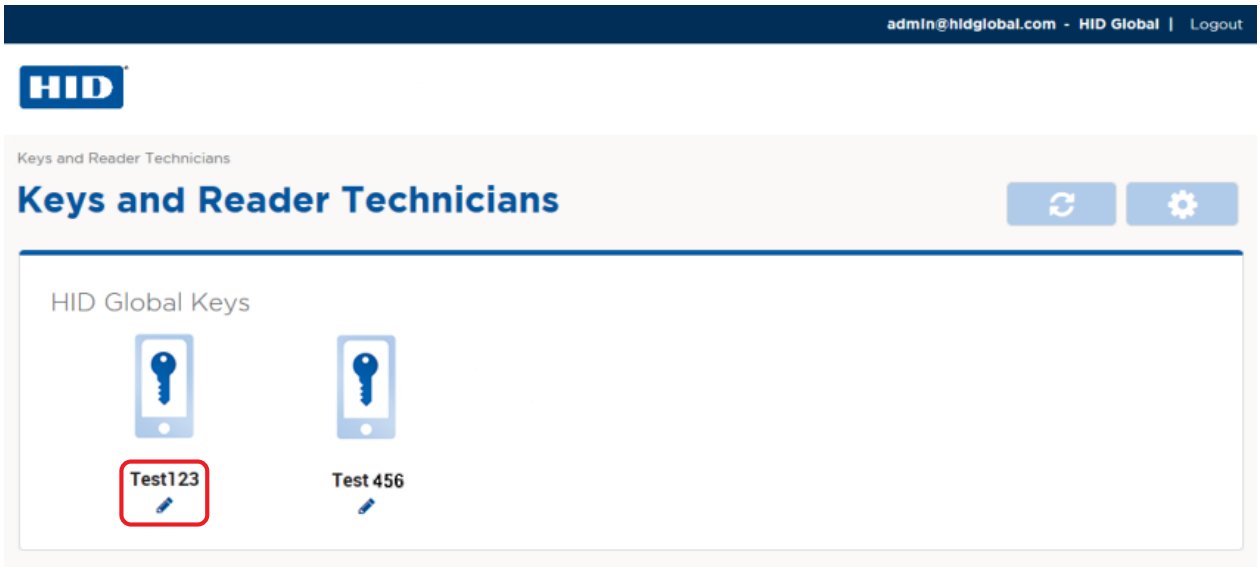
7. Check with the Reader Technician that the authorization key has been issued to the Reader Manager app. See *Section 2.1.6.1 Display authorized keys*.
8. Refresh the **Reader Technician Detail** page and verify that the key status is changed to **Key authorized**.



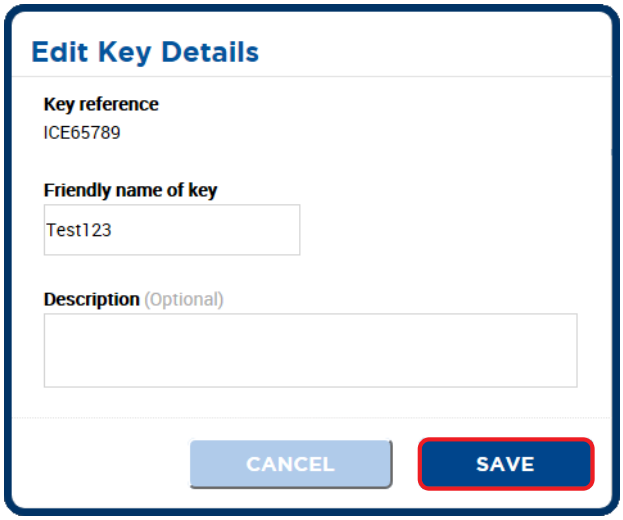
3.4.1 Edit authorization key information

To edit authorization key information:

1. Click the edit icon [ ] associated with a displayed HID Global Key on the **Keys and Reader Technicians** page.

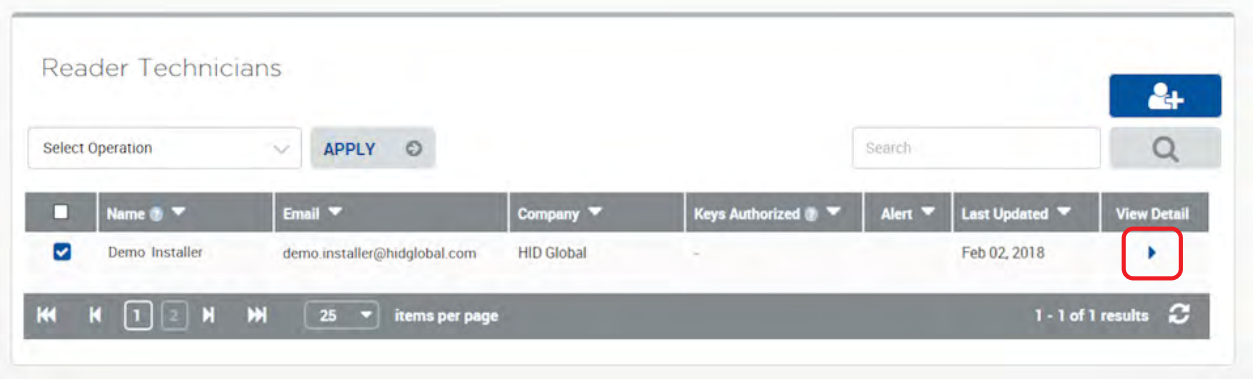


2. Edit the authorization key information as required and click **SAVE**.

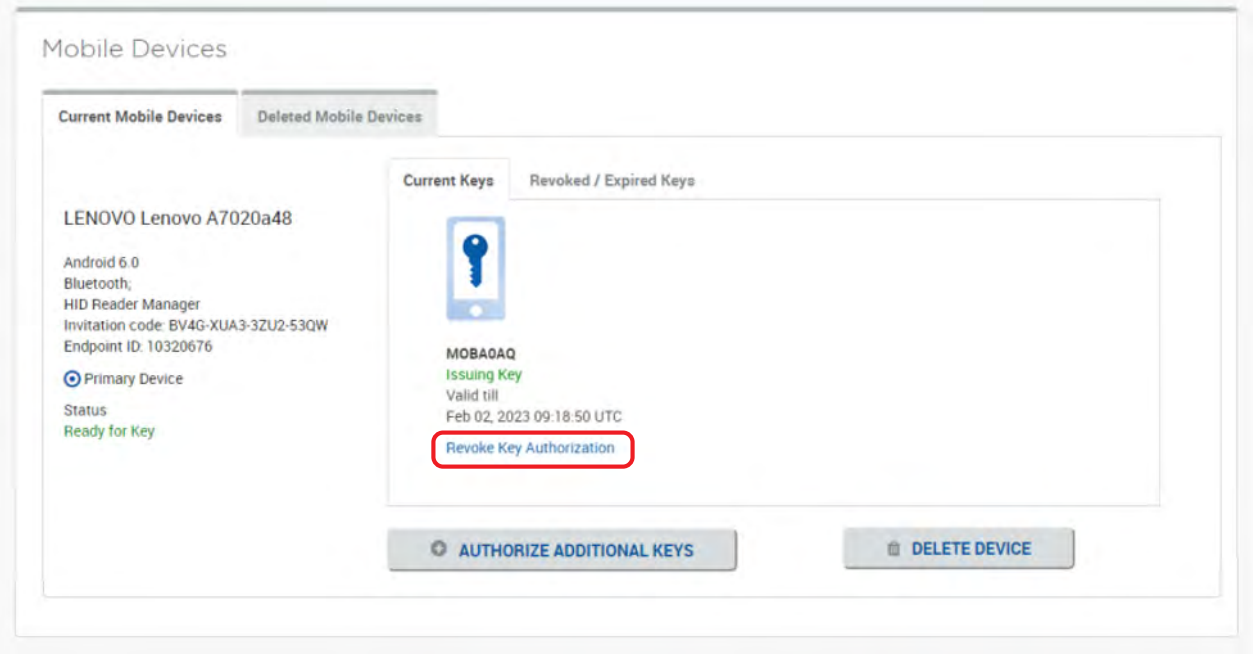


3.4.2 Revoke (delete) an authorization key

1. Scroll to the **Reader Technicians** section on the **Keys and Reader Technicians** page.
2. Select a displayed Reader Technician entry and click on the associated **View Detail** icon [▶] to access the **Reader Technician Detail** page.



3. Scroll to the **Mobile Devices** section. For the authorization key to revoke, click **Revoke Key Authorization**.

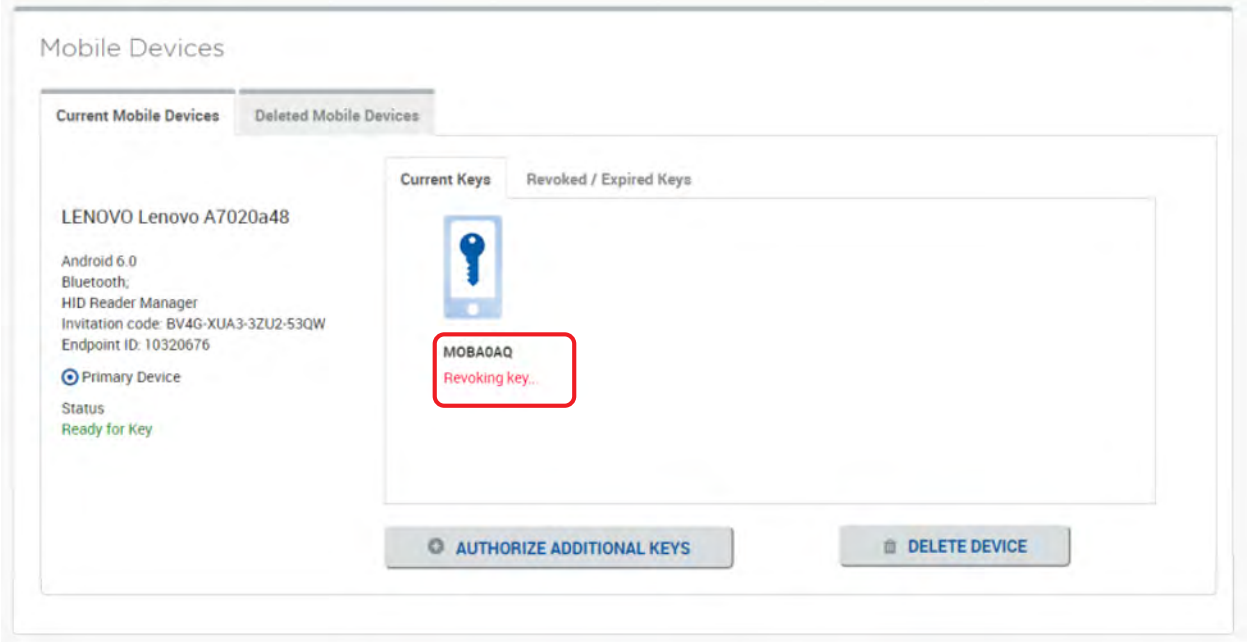


4. Click **YES** to revoke the selected key authorization from the HID Reader Manager.

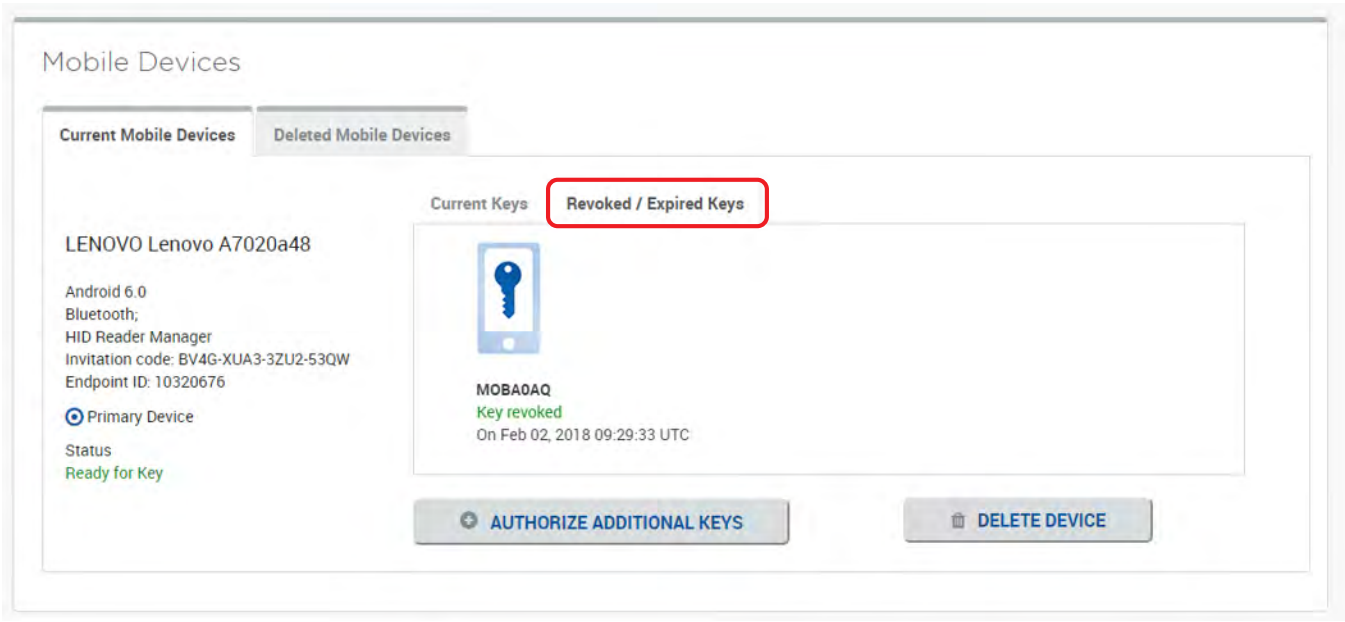
   Note: The key authorization issued to the Reader technician will immediately have revocation attempted. If the mobile device is not reachable (for example, turned off or out of range), the system will periodically retry the delete operation.

   When the Delete Threshold time (see *Section 3.4.5 Configure Delete Threshold*), has elapsed the system automatically completes the delete operation and places the key authorization in a revoked state.

The authorization key status will change to **Revoking Key**.

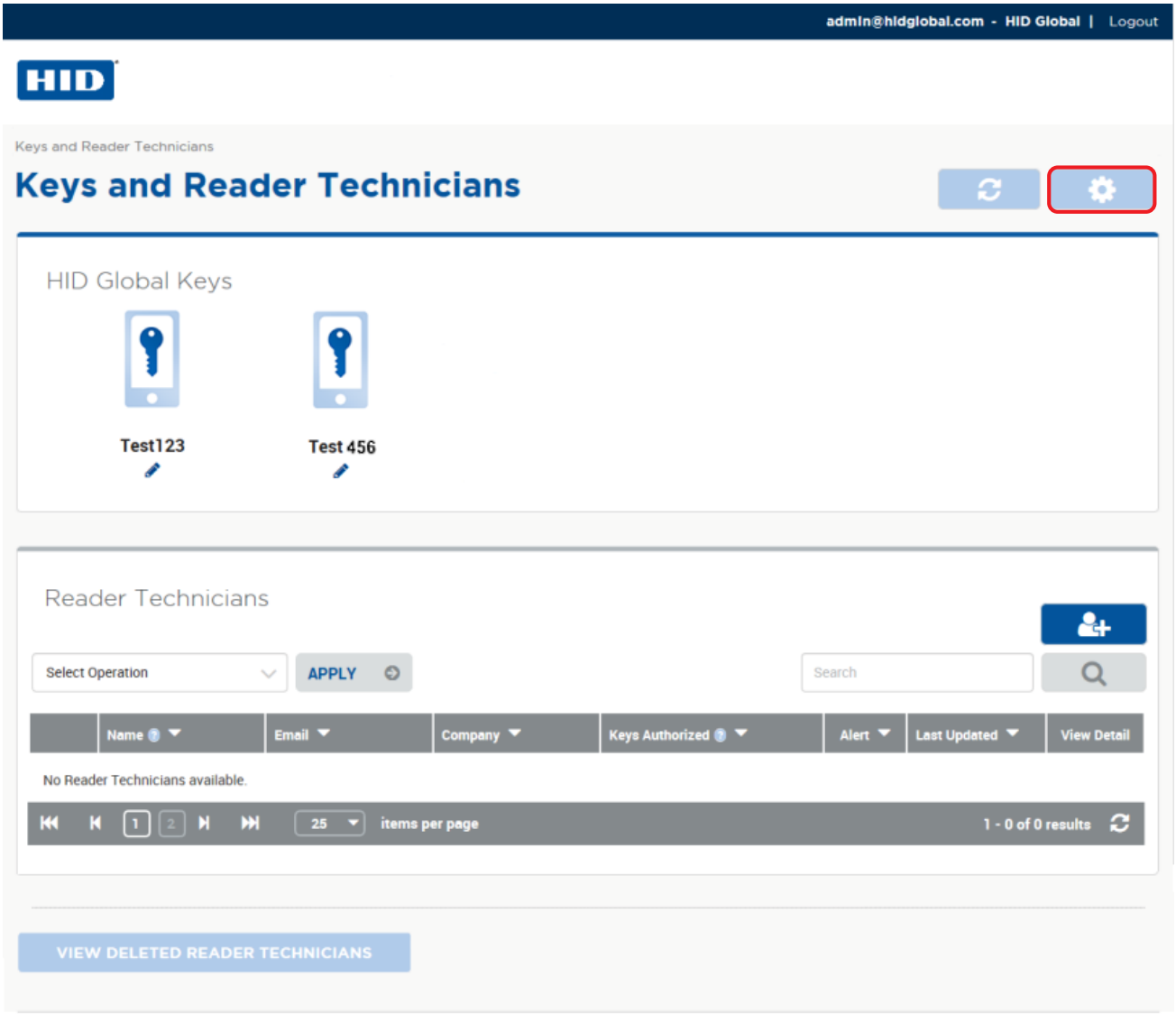


5. Check with the Technician that the authorization key has been revoked in the HID Reader Manager app.
6. Refresh the **Reader Technician Detail** page and verify that the revoked key has been moved to the **Revoked / Expired Keys** tab.



3.3 Configure HID Reader Manager Portal settings

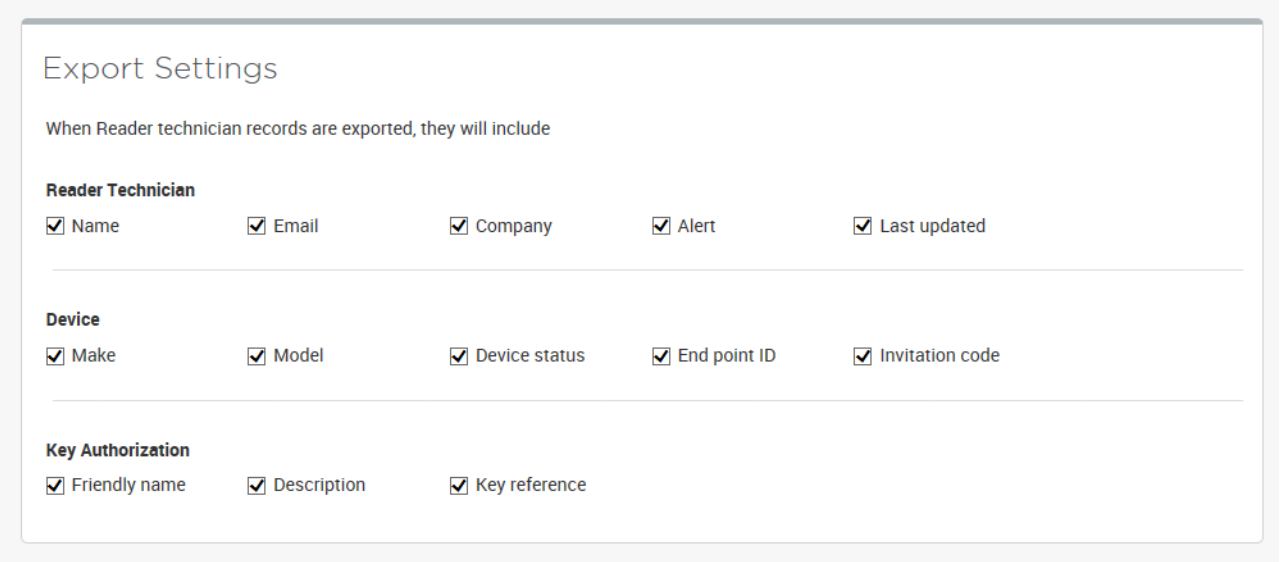
To access HID Reader Manager Portal settings click the **Settings** icon [ ] on the **Keys and Reader Technicians** page.



3.4.3 Export Reader Technician Record settings

In the **Export Settings** section the options selected will determine the information fields included when Reader Technician records are exported.

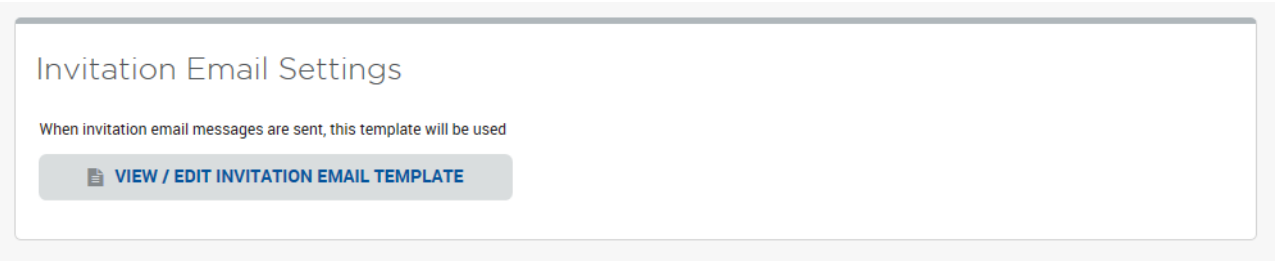
Once the selections have been made, click **SAVE** to implement.



3.4.4 Invitation Email settings

Select **VIEW / EDIT INVITATION EMAIL TEMPLATE** in the **Invitation Email Settings** section to access settings that allow you to edit the invitation email template.

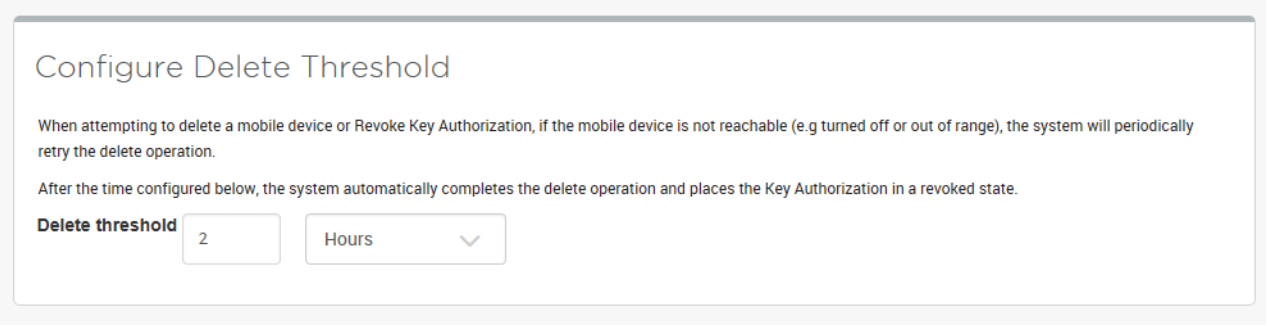
Once template edits have been made, click **SAVE** to implement.



3.4.5 Configure Delete Threshold

In the **Configure Delete Threshold** section set the delete threshold period to determine when the system automatically completes a delete operation on an Authorization Key.

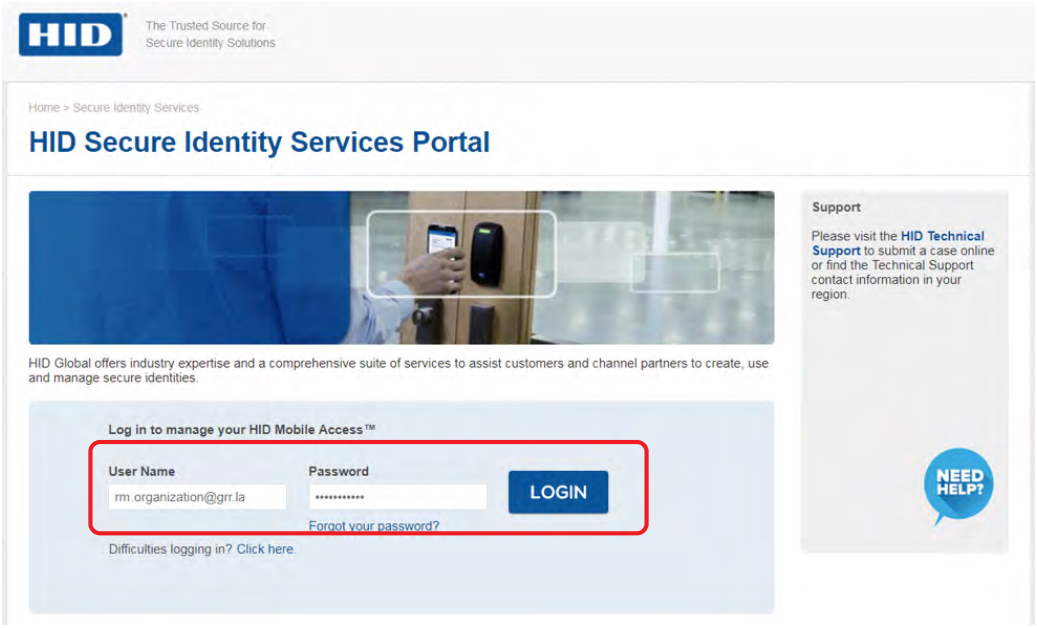
Once the delete threshold period has been set, click **SAVE** to implement.



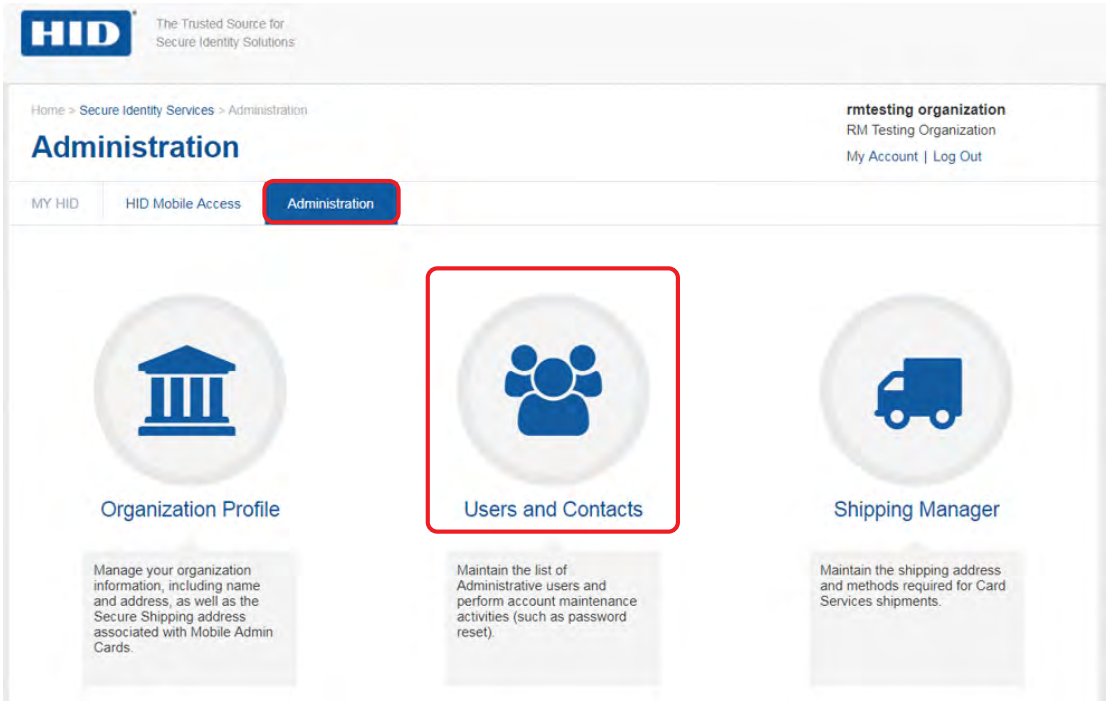
3.5 Enroll additional Reader Manager Admin

When adding a Reader Manager Admin for an Organization, the Organization Administrator must login to the SIS Portal and add the Administrators under the Administration tab.

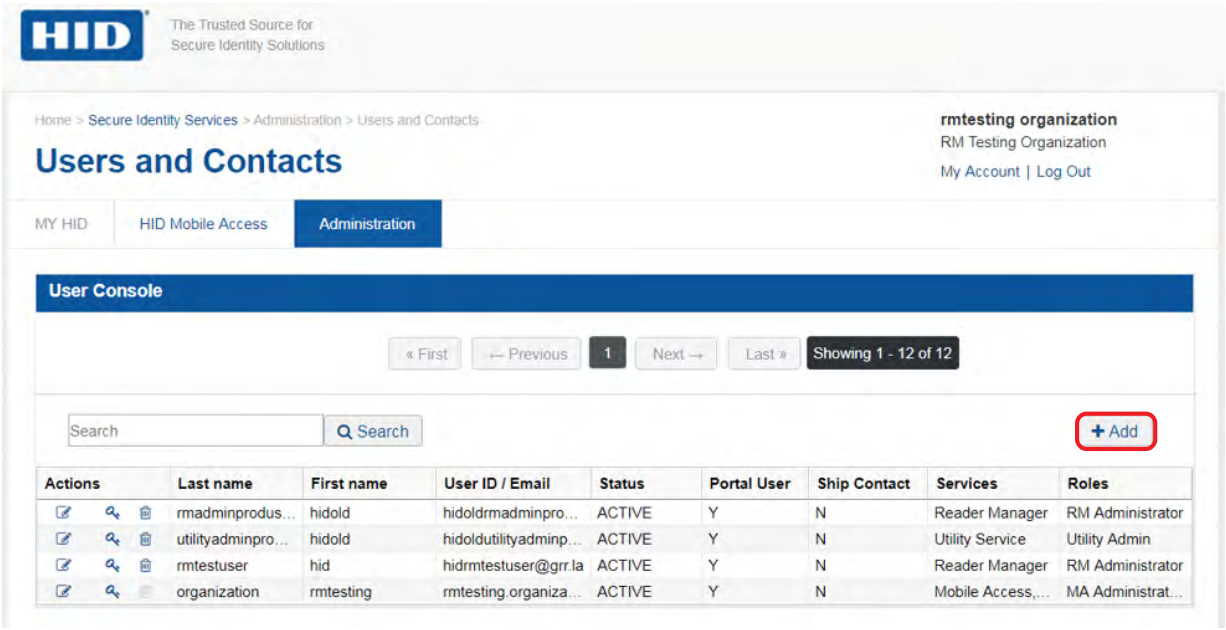
1. Log into the SIS Portal as Organization Admin.



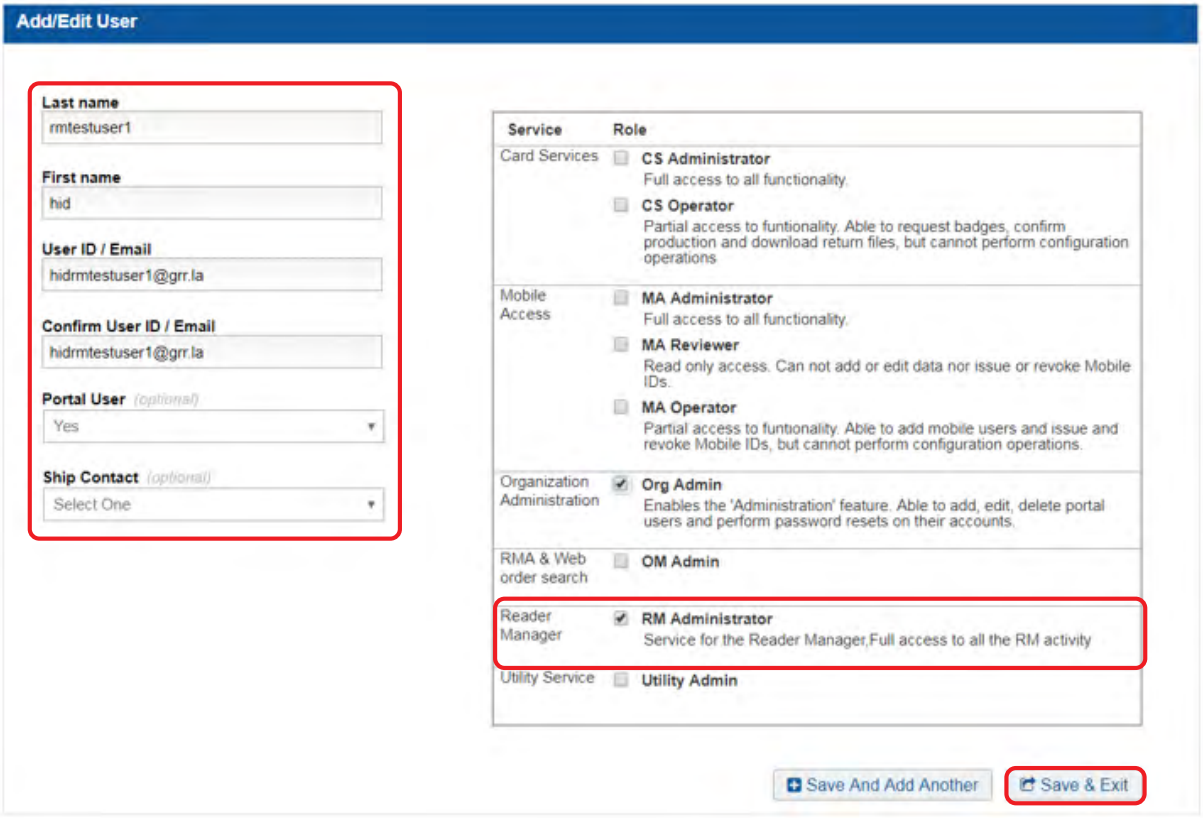
2. Select the **Administration** tab.
3. Select **Users and Contacts**.



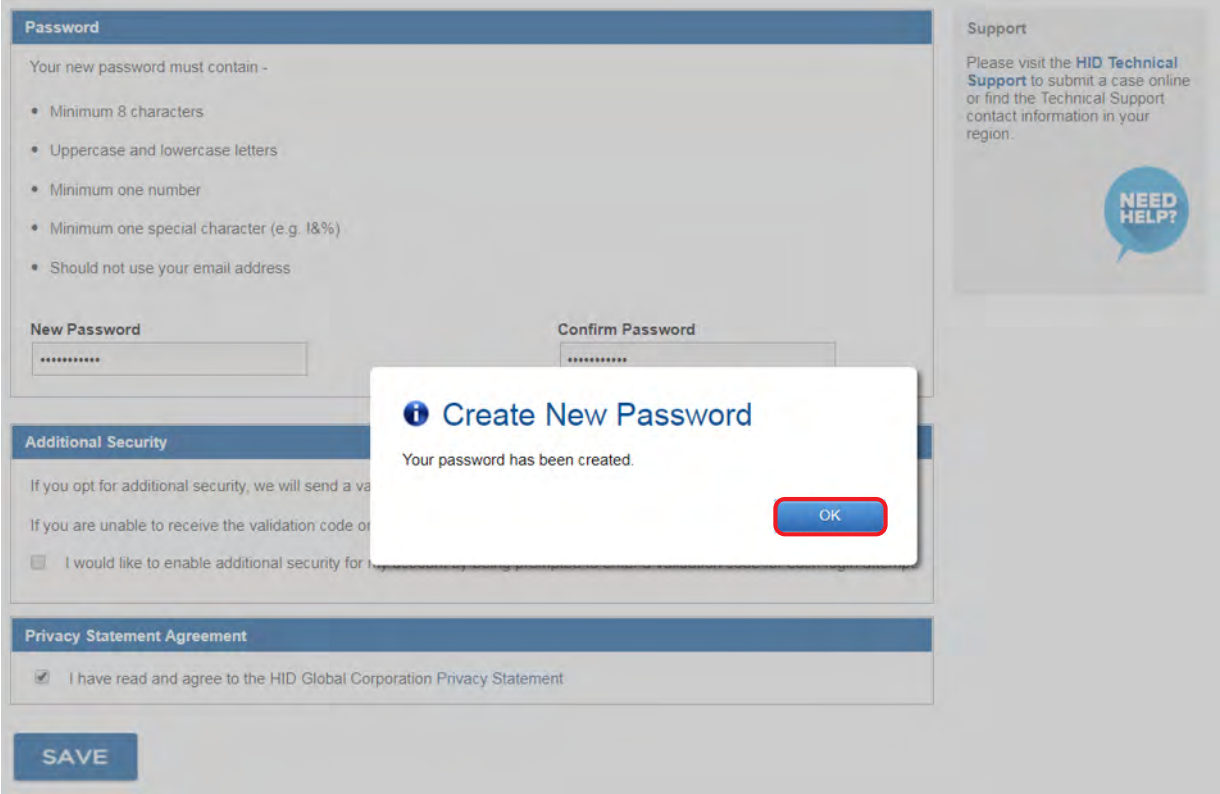
4. In the **User Console** section click **Add**.



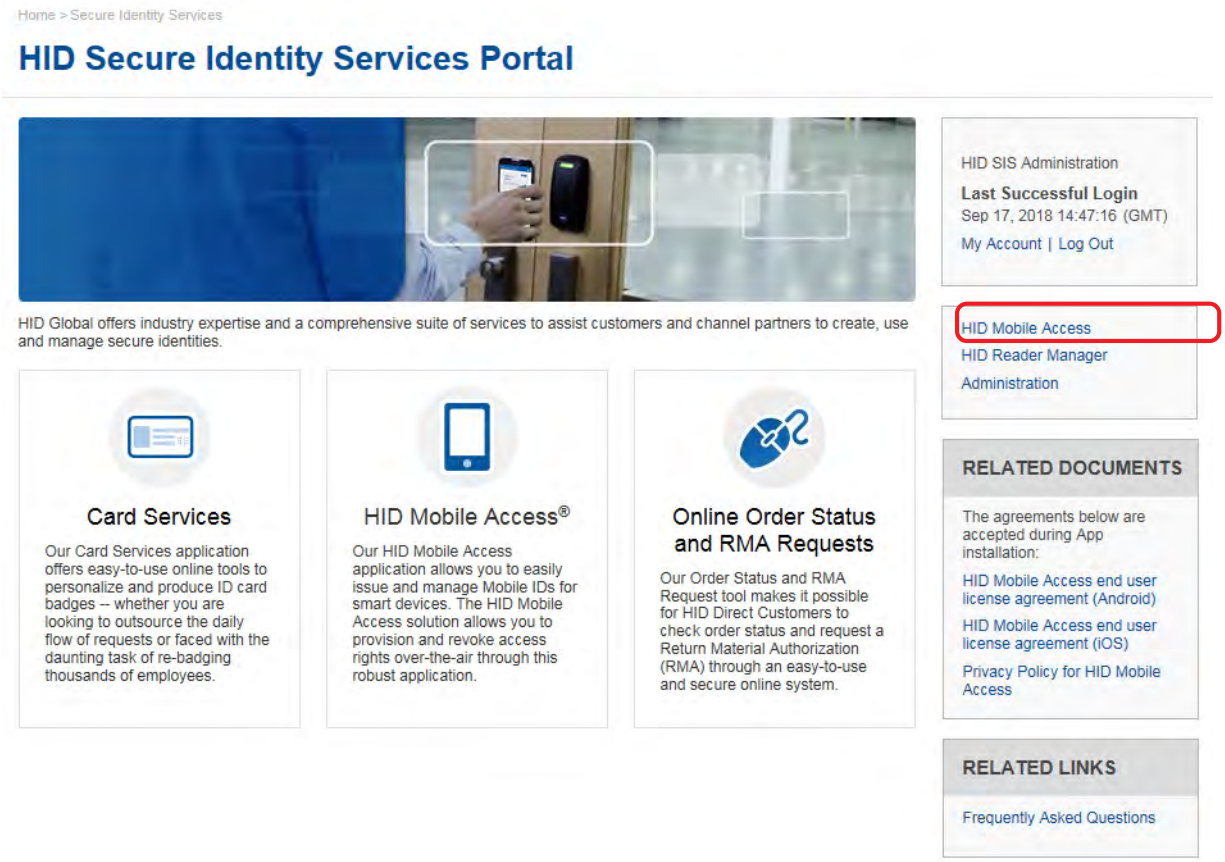
5. In the **Add/Edit User** section, enter the administrator details and select the **RM Administrator** option.
6. Click **Save & Exit** and log out of the SIS Portal.



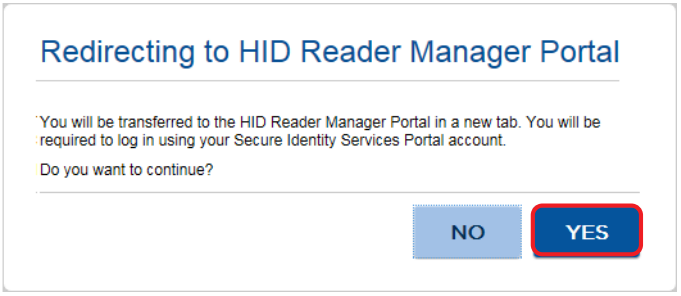
7. The newly created RM Administrator should check their email inbox for a mail containing a username, a temporary password, and a SIS Portal landing page link. Click the **Here** link in the email to be directed to the SIS Portal landing page.
8. Log into the SIS Portal using the login details contained in the email. You are re-directed to the **Create New Password** page.
9. On the **Create New Password** page, create a new password (refer to the on screen password requirements). If required, opt for additional login security. Accept the Privacy Statement Agreement and click **OK** to log out of the SIS Portal.



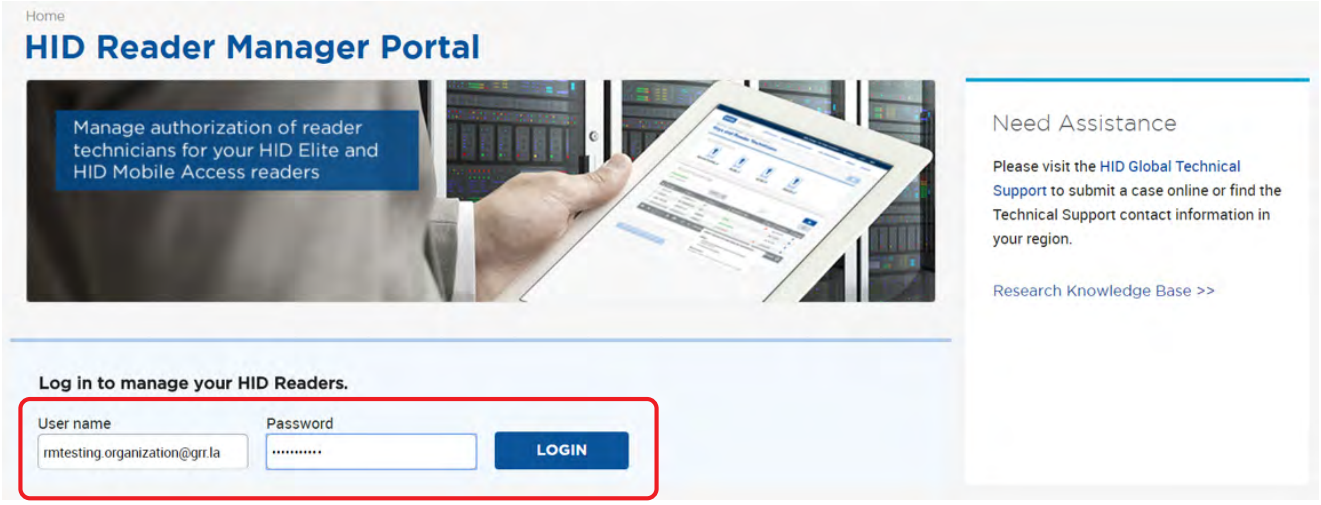
10. The RM Administrator can now log back into the SIS Portal using their new password. In the SIS Portal select the **HID Reader Manager** link.



11. Click **YES** to be redirected to your organizations instance of the HID Reader Manager Portal.



12. Login as Reader Manager Administrator using the User name and new Password setup in the HID Secure Identity Services Portal.



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Section 6

4 Troubleshooting

4.1 Reader Manager app messages

4.1.1 Error messages

Message	Description and next step to attempt resolution
"There does not seem to be an internet connection."	Internet connectivity is not available for the mobile device. Check the mobile device Settings > Connections.
"Problem connecting to HID Servers."	The Reader Manager app could not reach HID Reader Manager service. Please check mobile device Internet connection.
"Issues at HID Servers, please try again."	HID Reader Manager services are down. Please periodically try again and check your email for any service distribution notification.
"Invalid Email or Password."	The entered username or password or both are incorrect. Passwords cannot contain the following characters & % + ' = Please enter a valid email or password.
"Invalid Email."	The entered email address is incorrect. Please enter a valid email.
"This user already exists."	During registration the entered user is already registered. Login using existing email or reset password for this email.
"Failed to register the user."	The user tries to register when HID Reader Manager service is down. Please periodically try again and check your email for any service distribution notification.
"This category already exists."	The user tries to add a template category that already exists. Please use a new category or select the existing category.
"You are not authorized to apply this template."	The user is not authorized to apply the template. Please request key authorization for this reader from the Reader Manager Portal Administrator.
"Invalid Invitation Code, Please Try again."	The user has entered an incorrect or invalid invitation code. Please ensure the code was entered correctly. If the issue persists contact the Reader Manager Portal Administrator to check if the code has already been redeemed and to request a new invite code.
"Failed to connect to reader."	Lost BLE connection. The reader does not respond to the Reader Manager app. Please try again with the mobile device closer to the reader.

Message	Description and next step to attempt resolution
"There was an error during the name change."	During a Change Reader Name transaction the BLE/Internet connection is disrupted. Please try again.
"You are not authorized to configure this reader."	The user does not have authorization keys/credentials to access the reader. Please request key authorization for this reader from the Reader Manager Portal Administrator.
"An unknown error has occurred."	A general non-specific error has occurred. Please try again.

4.1.2 Warning messages

Message	Description and next step to attempt resolution
"Please close all other applications on this device and ensure it remains unlocked during upgrade."	Before upgrade close all open applications on the mobile device to avoid BLE collision.
"Required permission to access Readers."	The user has disabled device Location Services for the Reader Manager app. Please enable location services for the reader manager app in the mobile device settings.
"To reenable, please go to Settings and turn on Location Service for this app."	The user should ensure mobile device Location Services is enabled for the Reader Manager app.
"Please power cycle your reader."	Power cycle the reader to authenticate the user and proceed with transactions such as Upgrade firmware, Updating config items.
"The version of firmware currently loaded is not supported with the HID Reader Manger application. Please refer to the user guide located on home screen for supported firmware versions."	The firmware version is unsupported by the Reader Manager app.
"This module can not be used to upgrade the Reader. Use the module with the latest firmware."	The BLE smart module firmware/hardware version is unsupported by the Reader Manager app. Please ensure the module used for the upgrade is from an OSDP and Bluetooth upgrade kit. See *Appendix A - iCLASS SE and multiCLASS SE Upgrade Kits*
"This reader is protected using Custom Admin keys and can not be configured or upgraded."	The reader is configured with custom keys. The reader technician cannot proceed with configuration changes or upgrade as this reader is not supported.

4.1.3 Information messages

Message	Description and next step to attempt resolution
"You will receive an email at {registered_email} to activate your Account."	Information message to the user to activate the account with the mail sent to registered email address. Please activate account to use the application.
"Invitation Code was successfully accepted"	The entered invitation code is valid and the invitation is successfully redeemed by the user.
"No reader found"	No readers nearby reader found during Scan for iCLASS SE® Readers. Please move the mobile device closer to the reader and scan for readers again.
"Reader beeping complete"	Locating the reader is completed. Reader is identified and can now be inspected.
"Reader was successfully upgraded"	Reader firmware upgrade has successfully completed.
"A new category was saved"	A new template category added has been successfully added and saved.
"Your template has been saved"	A new template has been successfully added and saved.

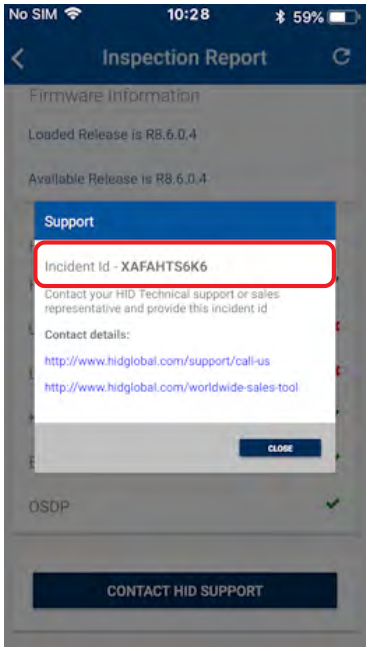
4.1.4 Validation messages

Message	Description and next step to attempt resolution
"New Password is not compliant to requirements"	The new Password entered has not met the password requirement rules. Please use a password which meets the requirements detailed on the screen.
"New Password & Confirm New Password are not same"	The entered Password and Confirm password do not match. Please re-enter passwords.
"Invalid old Password"	A previously used password has attempted to be used. Please use a different password.
"No Configuration item has been selected"	User tries to save reader configuration options without selecting any configuration values. Please select a configuration option before saving.

4.2 Contact HID Technical Support

When using the Reader Manager app, if any issues are experienced with a reader, for example, Locate reader, Inspect reader, View Detailed Inspection Report, Configure reader, Upgrade firmware, an **Incident Id** can be generated.

1. The **Inspection Report** screen, tap **CONTACT HID SUPPORT**.
2. Take a note of the displayed **Incident Id** number and contact your HID Technical Support or Sales Representative.



Appendix A

A Reader upgrade

A.1 iCLASS SE and multiCLASS SE Bluetooth and OSDP Upgrade Kit

The iCLASS SE® and multiCLASS SE® Bluetooth and OSDP Upgrade Kit allows for readers which do not currently support Bluetooth or OSDP to be upgraded to support these technologies.

A.1.1 Verify reader compatibility

The HID Reader Manager solution is only compatible with iCLASS SE and multiCLASS SE, Rev E readers. While most firmware versions of iCLASS SE and multiCLASS SE Rev E readers are compatible you will need to verify this, even if the reader is already "Mobile Ready" and "Enabled", with the list of compatible readers at:

https://www.hidglobal.com/reader-manager-system-requirements

A.1.2 iCLASS SE and multiCLASS SE Upgrade Kits

If your reader does not already have bluetooth capability you will need to upgrade the reader using the iCLASS SE and multiCLASS SE Bluetooth and OSDP upgrade kit. Depending on the reader model the following upgrade kits are available.

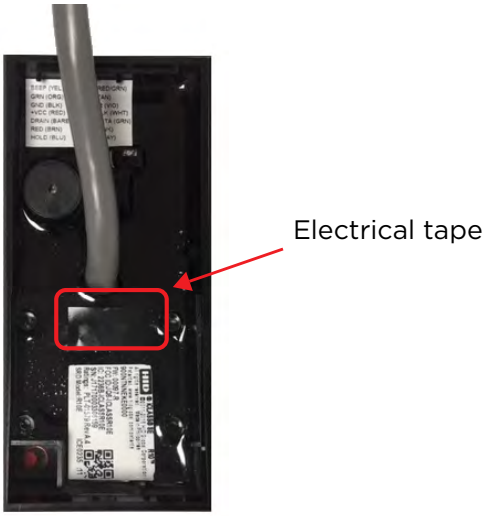
Note: These cannot be used on pivCLASS or Rev. A iCLASS SE/multiCLASS SE readers.

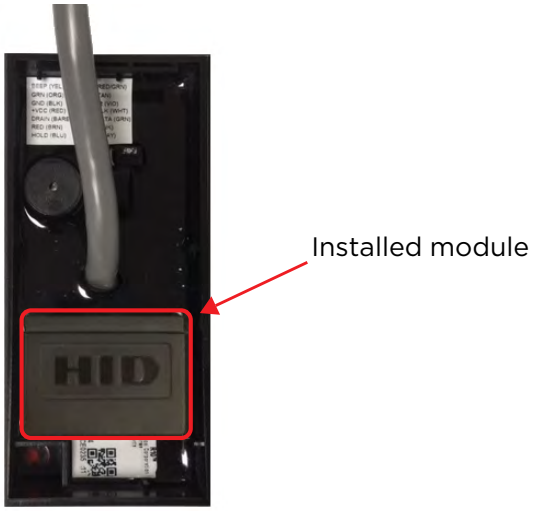
Upgrade kit part number	Description	Reader model
BLEOSDP-UPG-A-900	iCLASS SE Bluetooth and OSDP upgrade kit	R10/RP10
BLEOSDP-UPG-A-910	iCLASS SE Bluetooth and OSDP upgrade kit	R15/RP15
BLEOSDP-UPG-A-920	iCLASS SE Bluetooth and OSDP upgrade kit	R40/RP40
BLEOSDP-UPG-A-921	iCLASS SE Bluetooth and OSDP upgrade kit	RK40/RPK40

A.1.3 iCLASS SE and multiCLASS SE Bluetooth and OSDP Upgrade Kit instructions

1. Disconnect power to the reader.
2. Remove the reader from the reader backplate.
3. On the back of the reader remove the electrical tape covering the module expansion slot.

   Note: If the reader has a module already installed, remove this module as it will be replaced.

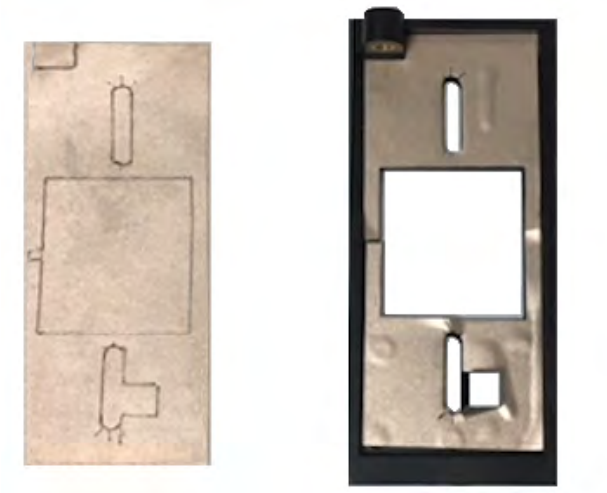




4. Insert the upgrade module into the expansion slot. Take care not to touch the expansion slot with anything apart from the module as this could remove the colorless anti-corrosive compound.

5. Remove the reader backplate from the wall.
6. With paper backing still intact, align the metallic sticker from the upgrade kit with the reader backplate to ensure correct orientation.
7. Remove paper backing from metallic sticker and carefully adhere the sticker to the inside of the reader backplane.

   Note: The metallic sticker has cutouts to allow reader wiring to remain intact during installation.



8. Re-install the reader backplate to the wall.
9. Re-install the reader onto the reader backplate. Ensure the reader wiring is correct, refer to the reader installation guide.

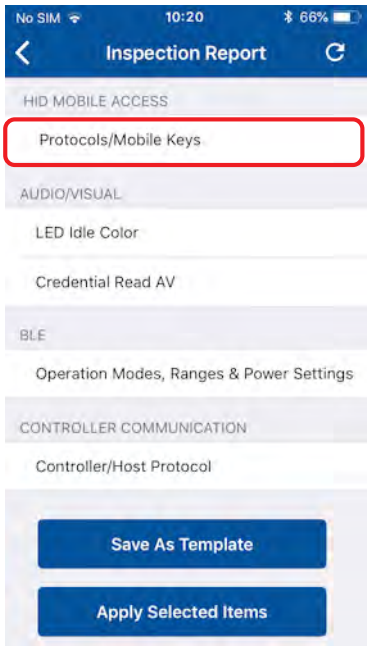
   Note: Different conductors are used for wiegand vs OSDP communication.

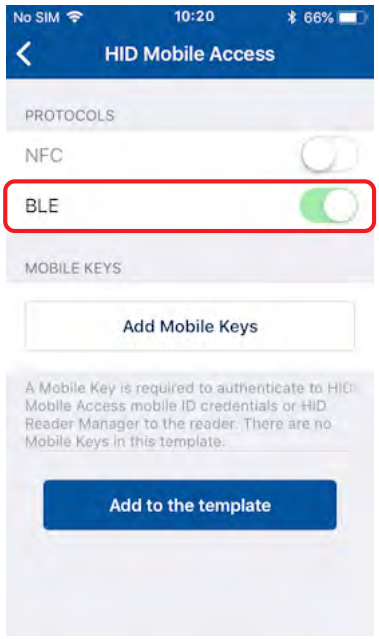
A.1.3.1 Configure reader in HID Reader Manager

If the reader is ready to be configured use the following procedure to configure the reader to support Bluetooth for HID Mobile Access and/or OSDP controller communication.

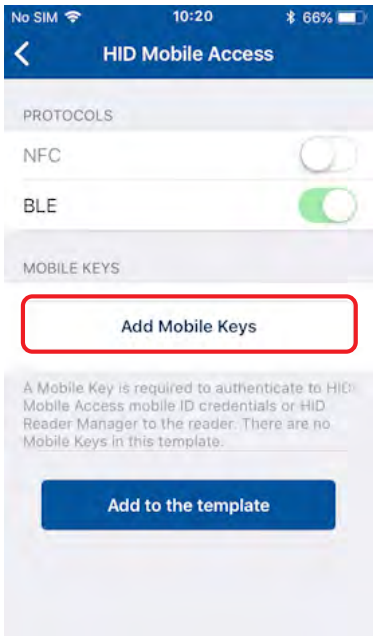
Note: This procedure assumes the Reader Technician has setup the HID Reader Manager app on a mobile device and the Reader Manager Administrator has enrolled the Reader Technician and issued key authorization in the HID Reader Manager Portal. See *Section 2 HID Reader Manager mobile application*.

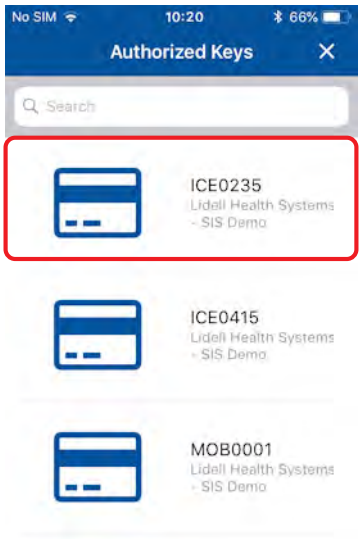
1. Log into the HID Reader Manager app.
2. Connect the HID Reader Manager app to the reader. See *Section 2.3.3 Connect to a reader*.
3. In the HID Reader Manager app inspect the reader configuration and, if indicated, upgrade the reader firmware. See *Section 2.3.4 Reader inspection report*.
4. To configure the reader to support Bluetooth for HID Mobile Access and/or OSDP controller communication, on the **Inspection Report** screen tap **Inspect Detailed Configuration**.
5. Tap **Protocols/Mobile Keys** in the **HID MOBILE ACCESS** section.
6. Enable the **BLE** option in the **PROTOCOLS** section.

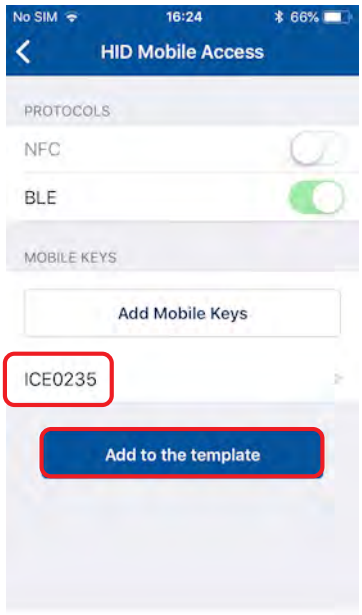




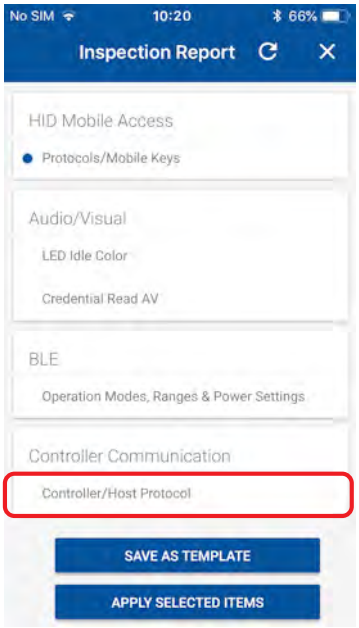
7. Tap **Add Mobile Keys** and select the required authorization key to be loaded onto the reader. The selected authorization key will be displayed on the screen.
8. Tap **Add to the template** to save.

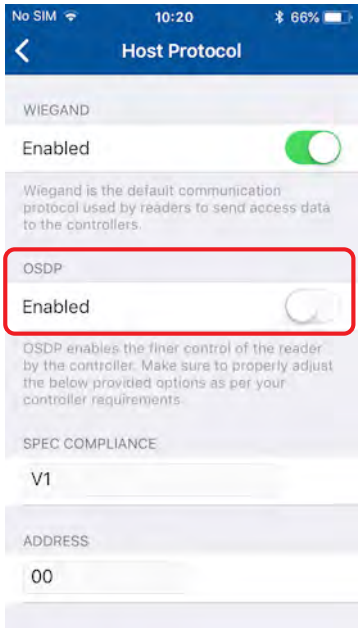


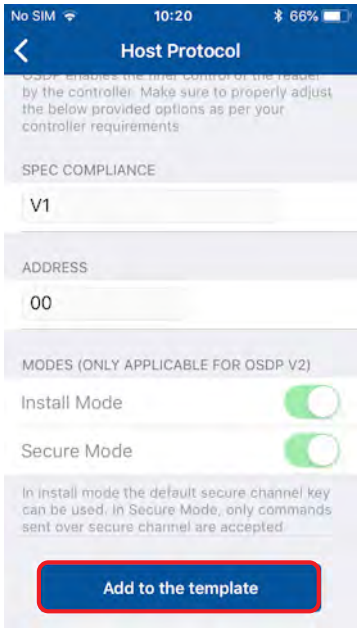




9. To configure the reader for OSDP controller communication (optional) tap **Controller/Host Protocol**, in the **CONTROLLER COMMUNICATION** section.
10. Enable the **OSDP** option and tap **Add to the template** to save.

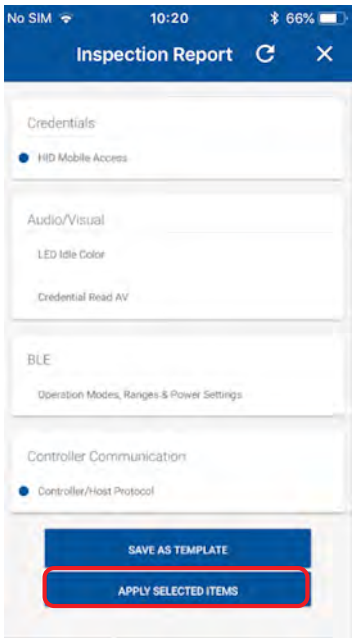


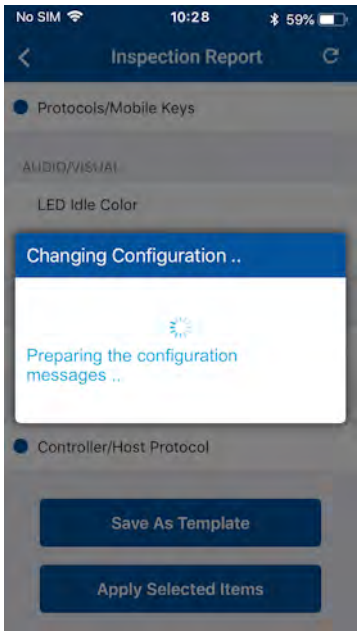


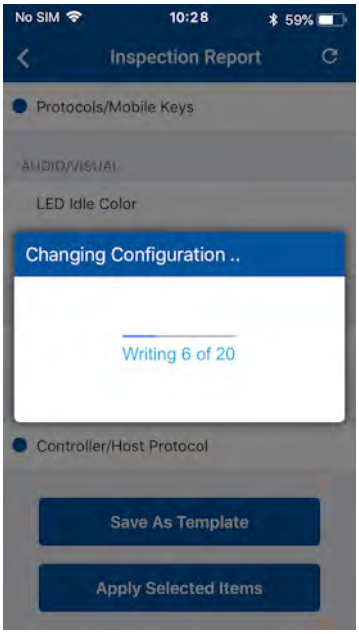


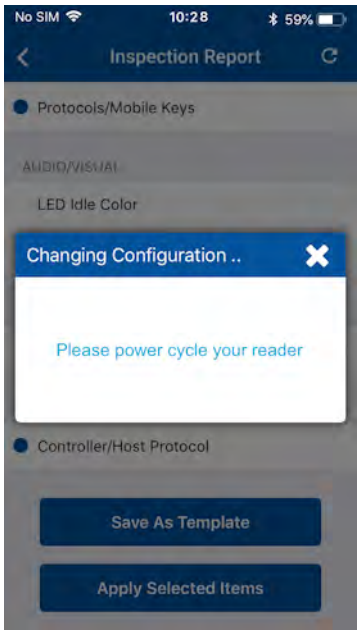
11. Tap **APPLY SELECTED ITEMS** on the **Inspection Report** screen. The selected configuration settings are applied to the reader.

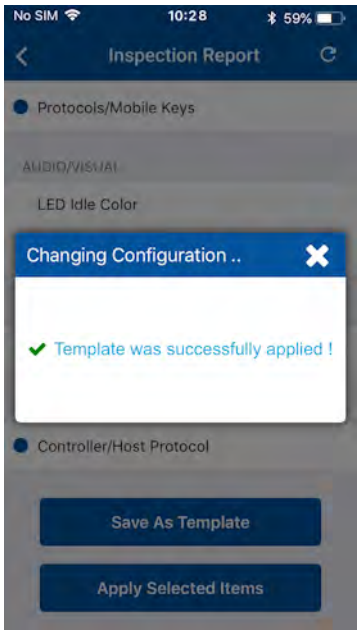
    Note: If the reader is a Standard enabled reader you will be prompted to power cycle the reader. For ICE/MOB enabled readers no reader power cycle is required.











12. Test configuration changes, see *Section 2.2.1 Test configuration changes*.

Appendix B

B Release notes

B.1 HID Reader Manager release feature summary

The HID Reader Manager application intends to deliver a solution that will enable select iCLASS SE® and multiCLASS SE® readers to be upgraded in the field via BLE communication with a mobile device. This solution aims to deliver an enhanced user experience to the current method of using multiple configuration cards with only Reader LED status providing feedback on the status. Additionally, the solution will provide inspection, configuration and BLE tuning functionality. The following sections provide details on features included in this release.

B.1.1 HID Reader Manager app 1.0 release items

HID Reader Manager app supports the following functionality:

- Locating - able to scan and locate reader for communication
- Inspection - able to inspect reader hardware, firmware, and configuration details
- Configuration changes - able to apply reader configuration changes
- Firmware Upgrade - able to upgrade reader firmware

B.1.2 HID Reader Manager Portal release items

HID Reader Manager Portal supports the following functionality:

- Enroll a Reader Technician in the Portal for an organization
- Send only Invitation to the registered Reader Technician
- Send Invitation and Key at once to the Reader Technician
- Revoke key authorization from a mobile device
- Delete a Reader Technician mobile device
- View the list of deleted Reader Technicians
- Select and export the Reader Technicians associated with an organization
- Enable authorization for additional keys with validity period
- View the list of current and deleted mobile devices

B.2 HID Reader Manager release limitations summary

B.2.1 HID Reader Manager app 1.0

HID Reader Manager app known release limitations:

- Readers upgraded from Standard to Elite or custom reader admin keys (SNMP) using configuration cards are not supported.
- Supported Firmware Releases:

Reader Firmware	Admin Configuration	Supported?
R8.2.2	ICE	No
R8.3.0	Standard	No
R8.3.0	ICE/MOB	No
R8.3.1.6	Standard	No
R8.3.1.6	ICE/MOB	No
R8.3.2.1	Standard	No
R8.3.2.1	ICE/MOB	No
R8.4.0.6	Standard	Yes
R8.4.0.6	ICE/MOB	Yes
R8.4.1.0	Standard	Yes
R8.4.1.0	ICE/MOB	Yes
R8.4.2.0	Standard	Yes
R8.4.2.1	ICE/MOB	Yes
R8.5.0.9	Standard	Yes
R8.5.0.9	ICE/MOB	Yes
R8.6.0.4	Standard	Yes
R8.6.0.4	ICE/MOB	Yes

For full details of compatibility with the current version of the app, visit:

https://www.hidglobal.com/reader-manager-system-requirements

B.2.2 HID Reader Manager Portal 5.1.0

HID Reader Manager Portal known release limitations:

- HID Reader Manager Portal 5.1.0 has not been tested with the Safari browser (Windows and MacOS). For full details of compatibility with the current version, visit:

  https://www.hidglobal.com/reader-manager-system-requirements

- A user who has enrolled as a Reader Technician in the mobile application cannot be enrolled as an Administrator in the Reader Manager or Mobile Access Portal with the same email ID.

  If access is required for the Reader Manager mobile applications, enroll first in either the Mobile Access or Reader Manager portal and then the Reader Manager Mobile Application.

  Note: If a user is already enrolled in the reader manager mobile application as portal access is required, please contact HID Global technical support.

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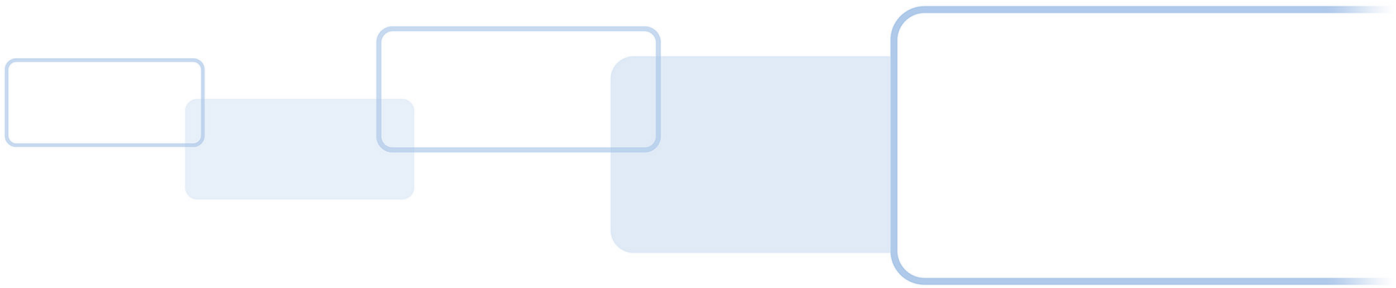
Glossary

Term	Description
BLE	Bluetooth Low Energy (formerly marketed as Bluetooth Smart) is a wireless personal area network technology.
Credential Container	A mobile device which holds a credential.
End customer	The Organization that uses HID products and services.
Invitation code	Invitation codes are issued to users as the first step in registering a new device. Invitation codes consist of a 16-character alphanumerical sequence and are used to authenticate devices and associate them with the relevant user.
MA	HID Mobile Access®. Mobile access is the use of a mobile device, such as a smartphone, tablet or wearable, to gain access to secured doors, gates, networks, services and more.
MFA	Multi-Factor Authentication. A security system that requires more than one method of authentication from independent categories of credentials to verify the user's identity for a login or other transaction.
Mobile credential/Mobile ID	Virtual credentials that are stored on a mobile device. Mobile IDs are issued and/or revoked via the HID Mobile Access portal. Mobile IDs are unique to each device and cannot be copied. If a user switches devices, a new Mobile ID must be issued.
Mobile-enabled readers	Mobile-enabled readers are fully activated and personalized to support an organization's specific Mobile ID's. These readers can only be ordered after the organization has completed registration for HID Mobile Access or HID Elite program. MOB or ICE Mobile Keyset will be required at time of order.
Mobile-ready readers	Mobile-ready readers are prepared to support HID Mobile Access but lack the personalized configuration (Mobile Keyset) to read an organization's specific Mobile ID's. These readers can be ordered at any time but will require field activation after the organization has completed registration for HID Mobile Access. To support a specific organization's Mobile IDs, these readers need to be personalized (Mobile Keyset loaded) using a Mobile Key Card.
Mobile Keyset (MOB or ICE)	Mobile Keyset is a reference number for a set of cryptographic keys loaded into a reader. Mobile IDs, Mobile Key cards, and Mobile Admin cards will securely authenticate only with readers programmed with a matching keyset. An organization is assigned a Mobile Keyset upon registration into either the HID Elite™ (ICE) or HID Mobile Access (MOB) programs. The correct Mobile Keyset must be supplied when ordering mobile-enabled readers, Mobile IDs, Mobile Key cards, and Mobile Admin cards.
Organization Administrator	User with sufficient privileges to add new Reader Manager Administrator users.
Organization ID	Organization ID is a reference number for a unique account within the Secure Identity Services portal. It is assigned at the conclusion of account registration. The correct Organization ID must be supplied when ordering Mobile IDs and Mobile Admin cards.

Term	Description
OSDP	Open Supervised Device Protocol (OSDP) is an access control communications standard developed by the Security Industry Association (SIA) to improve interoperability among access control and security products.
Reader Manager Administrator	User with full access to all HID Reader Manager Portal functionality, including enrolling Reader Technicians, issuing invitation codes and authorization keys.
Reader Technician	The person that performs reader upgrades and reader configuration changes using the HID® Reader Manager™ app.

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