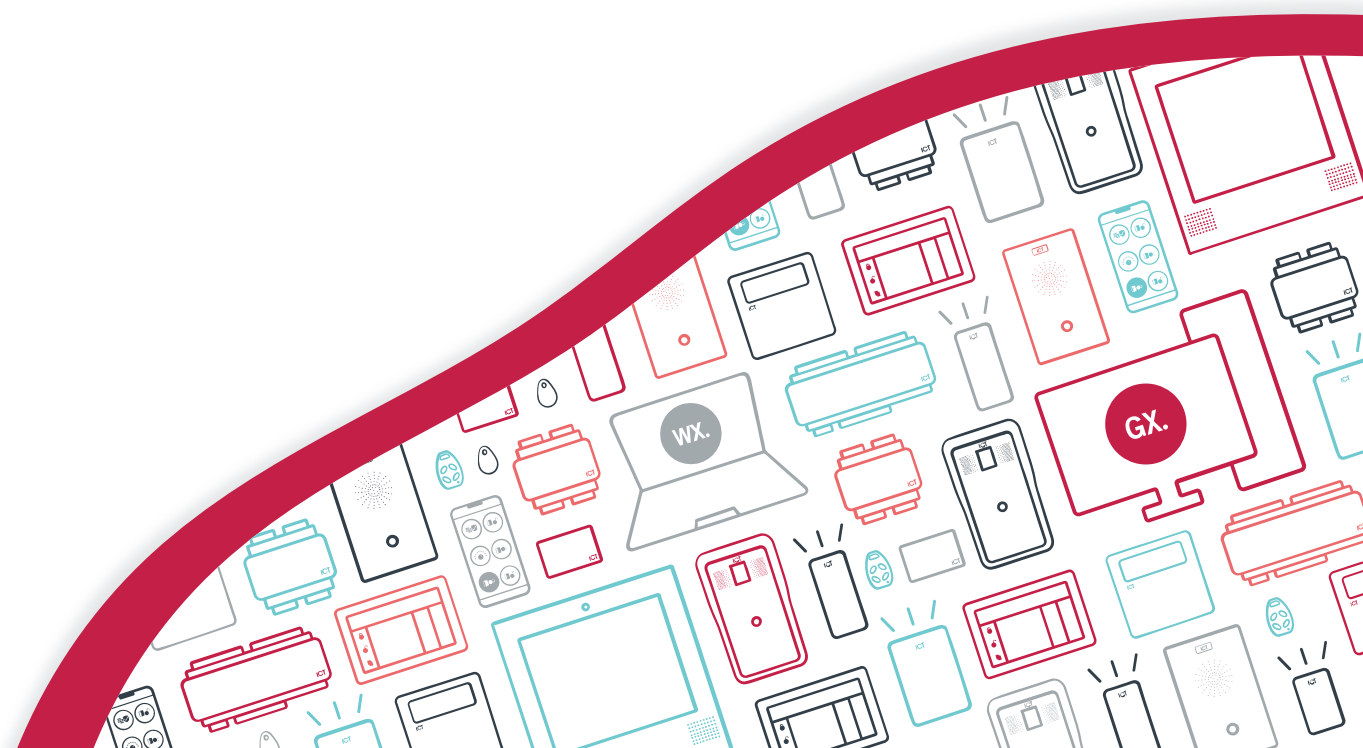
AN-260

Using the tSec Extra Reader Card Holder

Application Note



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Introduction

ICT's tSec Extra Reader card holder enables you to improve health and safety, provide machine management, and maximize energy efficiency by requiring an authorized user to be present at all times.

Proximity cards and readers are typically used for door control. A card is presented at the reader to gain access to a door to enter a building or restricted area. But they can also be used to control things such as lighting, heating, machinery and other functions.

The ICT card holder takes this a step further by requiring the card to remain in place, ensuring that the authorized user is always present. The user simply slides their card into the holder and, once access is granted, the card reader activates the appropriate function. The card reader continues to verify that the card is still present. Once the card is removed, the function is automatically deactivated.

Prerequisites

Before adding hardware and programming for this feature, ensure the necessary requirements have been met:

Protege GX Prerequisites

- An operational Protege GX system running software version 4.2.216.0 or higher.
- A Protege GX controller with firmware version 2.08.799 or higher.

Protege WX Prerequisites

- An operational Protege WX system running version 4.00.331 or higher.

Card Reader Prerequisites

- A tSec Extra Reader with firmware version 1.04.231 or higher.
- ICT Card Holder (Ordering Code: PRX-TSEC-XCDH).

Programming Prerequisites

Each reader that will be fitted with a card holder must be programmed to use the card re-read function. Programming a tSec Extra Reader with this functionality requires:

- The Protege Config App

  OR
- A MIFARE programming card loaded with the **Enable Silent Re-read mode** setting.

Only MIFARE and DESFire card formats are capable of programming the card re-read function. The card holder feature cannot currently be enabled using other card formats.

Programming a Protege Door

A Protege door record is required as the link between the card reader and the machinery, lighting or other output that will be controlled. This is not a physical door but a virtual door used to provide the necessary programming. The card in the reader will trigger the door, which will trigger the door's output.

The following instructions outline the steps required to configure a Protege door record for this functionality.

1. Program a door that will be used for the machinery or lighting control. The door lock output will be used to control another relay or contactor that will switch the power or lighting circuit as required.

   The door should have a door type that requires only a card credential for access.

2. Add the following commands to the **Commands** section of the door programming:

```
RecycleDoorTimeOnAccess = true
NoAccessEventsIfUnlocked = true
```

The first command ensures that the unlock time on the door is extended when an access granted event is detected on the door. The second command suppresses access granted events while the door is unlocked via the card re-read function.

3. Ensure the door is assigned to an access level.
4. Assign the access level to users whose credential will activate the output when in the card holder.

Programming a tSec Reader

Any tSec Extra Reader that will have a card holder attached must be programmed to use the card re-read functionality. This can be achieved using the Protege Config App or a MIFARE programming card.

Protege Config App

To program a tSec Extra Reader with card re-read functionality using the Protege Config App.

1. Create a Reader Config with the **Enable Silent Re-read mode** TLV setting.
2. Program the Reader using the Config App.

Installation and configuration of the Protege Config App is beyond the scope of this document. For further instructions on using the Config App refer to Application Note 283: Programming tSec Reader Functions, available from the ICT website.

Create Silent Re-read Mode Reader Config

1. Navigate to **Reader Configuration** and tap **+** to add a new configuration.
2. Enter a **Config name**, such as Silent Re-read Mode, to identify the new configuration.
3. Tap the **Add TLV** dropdown arrow.
4. Scroll down toward the bottom of the list and select **Reread Mode**, then tap **OK**.
5. Tap the Reread Mode TLV dropdown arrow. At the bottom of the screen select the **Silent Reread** option.
6. Tap **SAVE**.

Once the required reader config is available in the Config App, it can be applied to individual readers via Bluetooth® communication.

tSec Readers can only be programmed within 2 minutes of startup. In order to program the reader you will need to disconnect power and complete programming within 2 minutes of powering up.

To program a tSec Reader using the Protege Config App

1. Activate Bluetooth® on your device.
2. In the Config App, navigate to the **Reader Configuration** page and select the appropriate **Credential Profile**.
3. Tap the required config to apply to the reader. The selected config will be marked as ACTIVE.
4. Power cycle the reader that requires programming. The following steps must be completed in the next 2 minutes.
5. To apply the selected config to the nearest reader, place the device with the app close to the reader and tap **Scan Closest**.
   - The app should display Connecting to reader _R<SERIALNUMBER>. If there is no response, the device may need to be closer to the reader.

- When programming is successful, the app will display the message Configuration of _R<SERIALNUMBER> successful and the reader will beep several times quickly and then restart.
- If a power cycle is required, the app will display the message Failed to configure _R<SERIALNUMBER>. Configuration timeout. Please restart the reader.

6. To view and select from a list of nearby readers, tap **Select Reader**.
   - If the reader is compatible, its **Broadcast Address** (_R<SERIALNUMBER>) will be displayed in the list.
   - If only the reader model is displayed, this reader cannot be configured using the app.
   - The number to the right identifies the decibel response. The smaller the value (i.e. the closer to zero), the nearer the reader is to the device.

     The **Bluetooth Proximity** setting in **Mobile Credential Settings** can be adjusted to exclude readers that are further away.

7. Identify the appropriate reader and tap **Apply**.
   - The app should display Connecting to reader _R<SERIALNUMBER>.
   - When programming is successful, the app will display the message Configuration of _R<SERIALNUMBER> successful and the reader will beep several times quickly and then restart.
   - If a power cycle is required, the app will display the message Failed to configure _R<SERIALNUMBER>. Configuration timeout. Please restart the reader.
   - If the reader is not compatible, the app will display the message Failed to configure <READER>. Reader disconnected.

Programming Card

To program a tSec Extra Reader with card re-read functionality using a programming card, you will first need to obtain the necessary MIFARE programming card loaded with the **Enable Silent Re-read mode** setting.

Once the required Config Card is available, it can be used to easily program readers.

tSec Readers can only be programmed within 2 minutes of startup. In order to program the reader you will need to disconnect power and complete programming within 2 minutes of powering up.

To program a tSec Reader using a Config Card

1. Power cycle the reader to be programmed. The configuration must be completed in the next 2 minutes.
2. To apply the new configuration to the reader, place and hold the config card close to the reader.
3. When programming is successful, the reader will beep 4 times quickly and then restart.

   If the reader beeps 3 times slowly the configuration has failed. Wait for the reader to restart and try again.

Installing the Hardware

The following hardware must be physically installed in order to utilize the card holder and card re-read functionality.

1. Connect the tSec Extra Reader to the reader expander or controller's onboard reader expander using Wiegand or RS-485 wiring.
2. Configure the reader expander as you normally would for access control.
3. Install the card holder on the tSec Extra Reader.
4. If you have not already done so, program the reader. For more information, see Programming a tSec Reader (previous page).

Designers & manufacturers of integrated electronic access control, security and automation products.
Designed & manufactured by Integrated Control Technology Ltd.