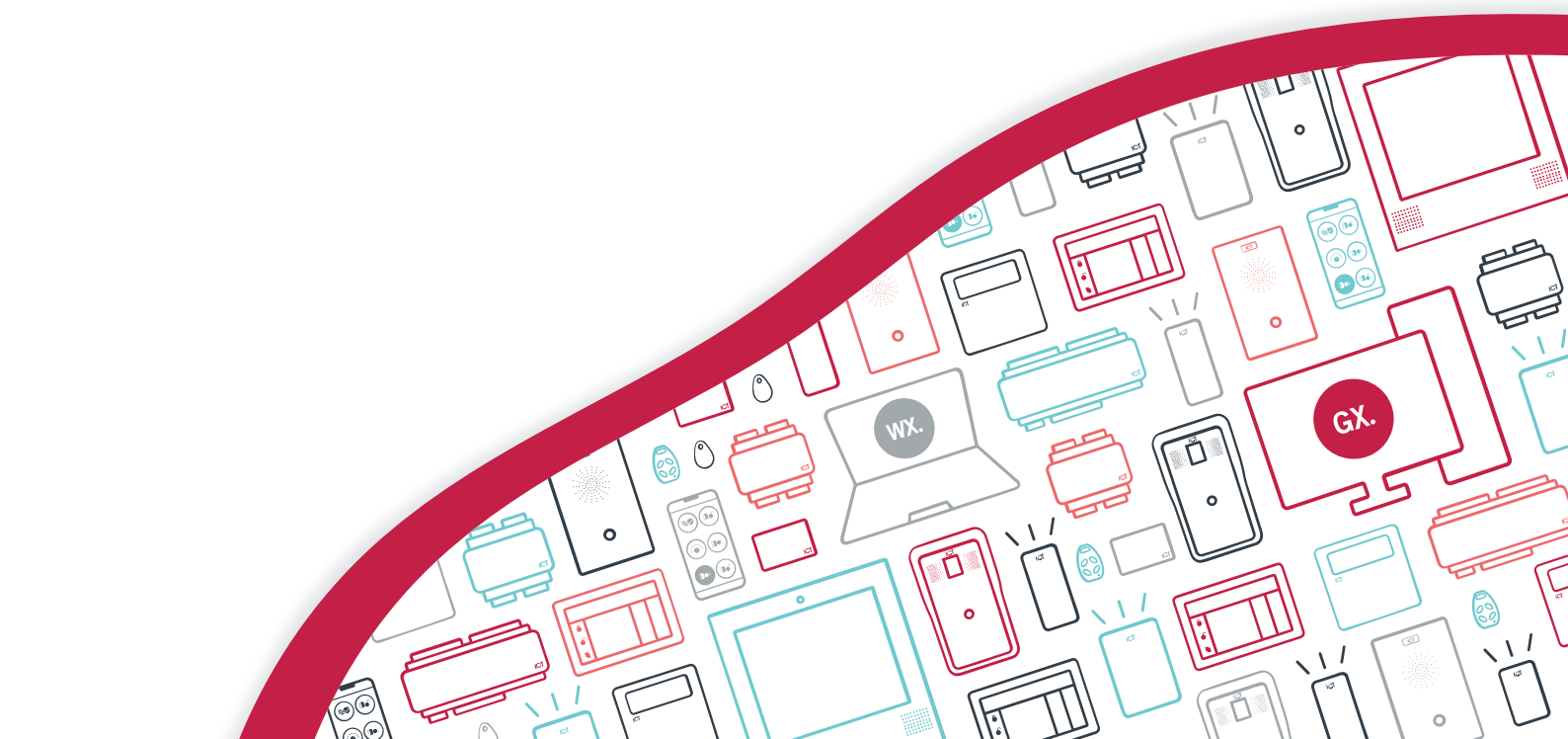
AN-313

Configuring F/2F Modules in Protege GX

Application Note



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Introduction

The PRT-F2F8-DIN is an 8-port F/2F and supervised F/2F reader expander module designed as a replacement for legacy Casi-Rusco Picture Perfect, Secure Perfect and other similar proprietary F/2F systems.

The F/2F expander modules are programmed as reader expanders and require specific configuration, including the use of smart readers to facilitate operation with the third-party Casi-Rusco readers and credentials.

Each Half DIN Rail 8 Port F/2F Reader Expander provides connection to up to eight Casi-Rusco readers.

Prerequisites

Configuring a Protege Half DIN Rail 8 Port F/2F Reader Expander module in Protege GX requires:

- An operational Protege GX system running version 4.2.216.5 or higher.
- A Protege GX controller with firmware version 2.08.809 or higher.
- PRT-F2F8-DIN reader expander modules with firmware version 1.00.13 or higher.
- GE Transition (T) Series Multi-Technology Readers installed and connected to the PRT-F2F8-DIN modules.
- Casi-Rusco 40 Bit type access cards (this format is not supported in Protege GX as standard).
- One Third Party Smart Reader license (ordering code: PRT-GX-TPR-IF), applied to the relevant Protege GX SSN, for each GE Transition (T) Series Multi-Technology Reader connected to a PRT-F2F8-DIN module.

Configuration in Protege GX

Configuring Half DIN Rail 8 Port F/2F Reader Expanders in Protege GX requires the following steps:

1. The F/2F modules must be addressed to register with the controller.
2. Each F/2F module must be programmed as a reader expander (see next page).
3. A numeric credential type is required for the Casi-Rusco 40 Bit type credential format (see next page).
4. Door types are required to allow the credential type to be recognized by the smart readers and used for door access (see next page).
5. Doors must be configured with the required door type (see page 7).
6. A smart reader needs to be created to represent each Casi-Rusco reader (see page 8).
7. Access levels are required to allow door access (see page 8).

Addressing the Module

The factory default address of all DIN Rail modules is 254. If this address is not changed the module will not be able to register with the controller.

Setting Module Network Addresses

1. Ensure the controller is correctly powered and is communicating with the Protege GX software.
2. Connect the module(s) that require addressing to the module network. Make sure the power light on each module is on and that the status indicator begins flashing rapidly.
3. Allow some time for the module(s) to attempt to register with the controller.
   - If the module has the default address of 254 or has the same address as another module the fault indicator will begin flashing an error code.
   - If the module has been previously addressed and is not a duplicate then it will succeed in registering and the status indicator will begin flashing at 1 second intervals.
4. Once all modules have completed the registration process (successful or not), open the Protege GX software and navigate to **Sites | Controllers**.
5. Right click on the controller record and select **Module addressing** to open the module addressing window. This window displays all of the modules that are connected to the controller with the following information:
   - The module type (e.g. controller, keypad, etc.)
   - The serial number
   - Current firmware version and build number
   - The current module address
   - Whether the module address can be changed (for example, the controller's address cannot be changed)
   - Whether the module has successfully registered with the controller
   - Whether the module is currently online

   The controller's onboard reader expander will appear on this list as a reader expander with the same serial number as the controller. The address of this reader expander must be set in the **Register as reader expander** field (**Configuration** tab).
6. Before assigning addresses to modules you may need to identify specific physical modules:
   - For DIN rail modules, click the **Find** button to activate identification mode for the specified length of time. In identification mode the status and fault indicators flash in an alternating pattern, allowing you to identify the specific module.

- For all modules, compare the **Serial** column with the serial number of each module (found on the module label).

7. For each module set the network address in the **Address** column. The new addresses will be displayed in **bold**, indicating that they have not yet been updated in the modules.
8. Push the addresses to the modules either by clicking **Update** for each individual module or by clicking **Update all**. Allow approximately 5 seconds for the module to re-register with the controller at the new address.
9. Click **Refresh**. The new addresses should change from bold to normal font and the newly addressed modules should be online.
   - If the address has not changed, check that the module has finished attempting to register with the controller.
   - If the address has changed but the module is not registered or online, check the address is in the valid address range and that it is not a duplicate of another module address.

Once all modules are online and registered with the desired addresses the addressing process is complete.

Legacy Protege PCB modules cannot be addressed by this process. They must be addressed using DIP switches as described in the relevant installation manual.

Programming the Reader Expander

Each F/2F module needs to be added as a reader expander in Protege GX. To communicate with Casi-Rusco readers, each reader expander must be configured to use the third party generic network type.

1. Navigate to **Expanders | Reader Expanders** and click **Add**.
2. Enter a **Name** for the reader expander. This should identify the door the connected reader will control.
3. Set the **Physical Address** as configured in Module Addressing.
4. Set the **Port 1 Network Type** to Third Party Generic.
5. Click **Save**. The **Configure Module** pop-up should appear.
6. Set the **Type** to PRT-F2F8-DIN.
7. Click **Add Now**.

   If Add Now is not visible, expand the Configure Module window by dragging the bottom corner.
8. Wait for the programming to be downloaded to the controller, then right click on the reader expander record and click **Update Module**.

Configuring the Numeric Credential Type

A numeric credential type is required to enter and recognize Casi-Rusco 40 Bit card numbers in Protege GX.

1. Navigate to **Sites | Credential Types** and click **Add**.
2. Enter the **Name** for the Casi-Rusco 40 Bit credential type.
3. Set the **Format** to Numeric.
4. Click **Save**.

Creating the Door Types

A door type is used to define the credential types that will be recognized as valid credentials for doors connected to the Casi-Rusco readers. For this example, three custom door types will be required:

- Card
- PIN

- Card + PIN

Creating the Card Door Type

1. Navigate to **Programming | Door Types** and click **Add**.
2. Enter a **Name** that identifies the door type for Casi-Rusco Card access.
3. In the **Entry** section, set the **Entry Reading Mode** to Custom.
4. In the **Entry Credential Types** section, **Add** the Numeric credential type created earlier.
5. In the **Exit** section, set the **Exit Reading Mode** to Custom.
6. In the **Exit Credential Types** section, **Add** the Numeric credential type created earlier.
7. Click **Save**.

Remember to set the **Fallback Door Type** to a standard door type (e.g. Card, Card and PIN, etc) if you require users to have access with standard card formats as well as the Casi-Rusco 40 Bit type.

Creating the PIN Door Type

1. Navigate to **Programming | Door Types** and click **Add**.
2. Enter a **Name** that identifies the door type for Casi-Rusco PIN access.
3. In the **Entry** section, set the **Entry Reading Mode** to Custom.
4. In the **Entry Credential Types** section, **Add** the PIN credential type.
5. In the **Exit** section, set the **Exit Reading Mode** to Custom.
6. In the **Exit Credential Types** section, **Add** the PIN credential type.
7. Click **Save**.

Creating the Card + PIN Door Type

1. Navigate to **Programming | Door Types** and click **Add**.
2. Enter a **Name** that identifies the door type for Casi-Rusco Card + PIN access.
3. Set the **Fallback Door Type** to the PIN Door Type created above.
4. In the **Entry** section, set the **Entry Reading Mode** to Custom.
5. In the **Entry Credential Types** section, **Add** the PIN credential type.
6. In the **Exit** section, set the **Exit Reading Mode** to Custom.
7. In the **Exit Credential Types** section, **Add** the PIN credential type.
8. Click **Save**.

Creating Doors

Each of the doors that has a Casi-Rusco reader connected needs to be configured in Protege GX.

Eight door records should have been automatically created when each PRT-F2F8-DIN reader expander was added. The new doors can be identified by the controller name and reader expander address in the **Name**.

1. Navigate to **Programming | Doors** and select a new door record.
2. The **Name** may need to be edited to better identify the door and its location.
3. Select the appropriate **Door Type** (Card, PIN, or Card and PIN) from the custom Casi-Rusco door types created earlier.
4. Configure other settings required for each door. For example, the **Area Inside Door** should generally be set.

5. In the **Outputs** tab, ensure the **Lock Output** is the expander output that corresponds to the selected door.

   The outputs are created automatically when each PRT-F2F8-DIN module is added. Refer to the table below.

   All other outputs should be left as <not set>.

6. Click **Save**.

F/2F Expander Outputs

Output	Description
RD xxx:01	Door DO/ Green LED Control for Port 1
RD xxx:02	Door DO/ Green LED Control for Port 2
RD xxx:03	Door DO/ Green LED Control for Port 3
RD xxx:04	Door DO/ Green LED Control for Port 4
RD xxx:05	Door DO/ Green LED Control for Port 5
RD xxx:06	Door DO/ Green LED Control for Port 6
RD xxx:07	Door DO/ Green LED Control for Port 7
RD xxx:08	Door DO/ Green LED Control for Port 8

Replace 'xxx' with the appropriate address of the module that you are programming.

Creating Smart Reader Records

Each Casi-Rusco reader must be configured as a smart reader in Protege GX and mapped to a PRT-F2F8-DIN reader expander. This provides the configuration required for the controller to recognize each reader.

Eight smart reader records (one for each reader port) should have been created when each PRT-F2F8-DIN reader expander was added. The new smart readers can be identified by the controller name and reader expander address in the **Name**.

1. Navigate to **Expanders | Smart Readers** and select a new smart reader record.
2. The **Name** may need to be edited to better identify the reader that the smart reader represents.
3. Set the **Expander Address** to the Physical Address of the PRT-F2F8-DIN module the reader is connected to.
4. Set the **Expander Port** to Port 1.
5. Set the **Configured Address** to the PRT-F2F8-DIN port number that the reader is connected to.
6. In the **Reader** tab, set the **Reader One Door** to the door that the associated Casi-Rusco reader will control.
7. Scroll down to **Reader Credential Match Types** and **Add** the Numeric custom credential type created earlier.
8. Click **Save**.

Smart reader records cannot be saved unless the appropriate licenses have been applied to the server SSN. One license (product code: PRT-GX-TPR-IF) is required per smart reader.

Creating an Access Level

Access levels need to be configured to specify access to the Casi-Rusco reader controlled doors. This may be a single access level allowing access to all doors controlled by the F/2F module configuration, or a series of access levels providing specific door access. New access levels can be created for this purpose, or existing access levels can be updated accordingly.

1. Navigate to **Users | Access Levels** and click **Add** (or select an existing access level to edit).
2. The **Name** should identify the access level.
3. In the **Doors** or **Door Groups** tab, **Add** the doors that users will have access to.
4. Click **Save**.

The access level(s) will then need to be assigned to the relevant users, in **Users | Users | Access Levels**.

Assigning Credentials to Users

1. Navigate to **Users | Users** and select or add the required user.
2. Scroll down to the **Credentials** section and find the Numeric credential type created earlier.
3. Enter the user's unique Casi-Rusco 40 Bit type Card Number in the **Credential** field.
4. Click **Save**.

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