

SIFER Card Programmer

Introduction

This guide describes the process of programming SIFER cards using the SIFER Card Programming station step-by-step. The guide assumes that:

- You have a SIFER Card Programming station connected to a PC
- You have downloaded and installed the SIFER Card Programmer software
- You have SIFER-U cards (SIFER-P and SIFER-C are not programmable)

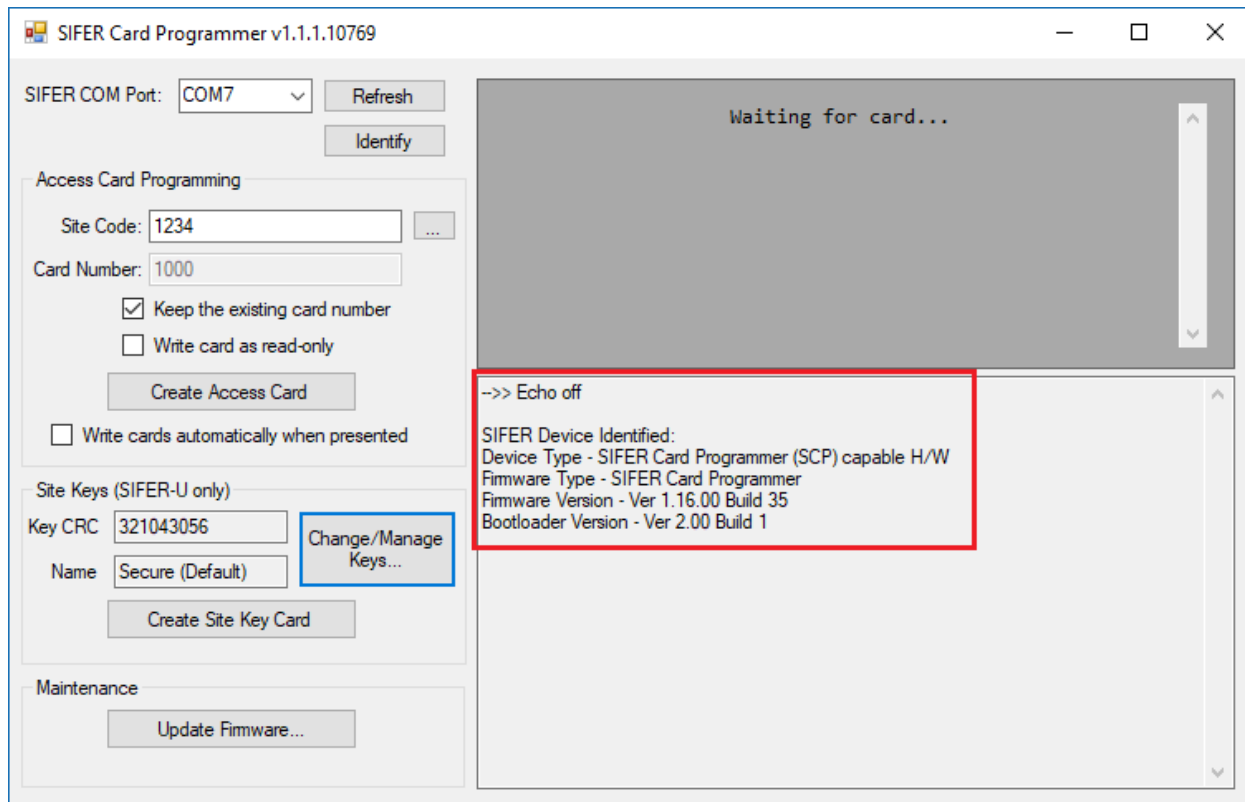
Guide based on SIFER Card Programmer software v1.1.1.10769

Software Interface

Connecting the SIFER Card Programmer

With a SIFER Card Programmer connected, and the software open, the log panel should show that a device has been identified, along with firmware version information.

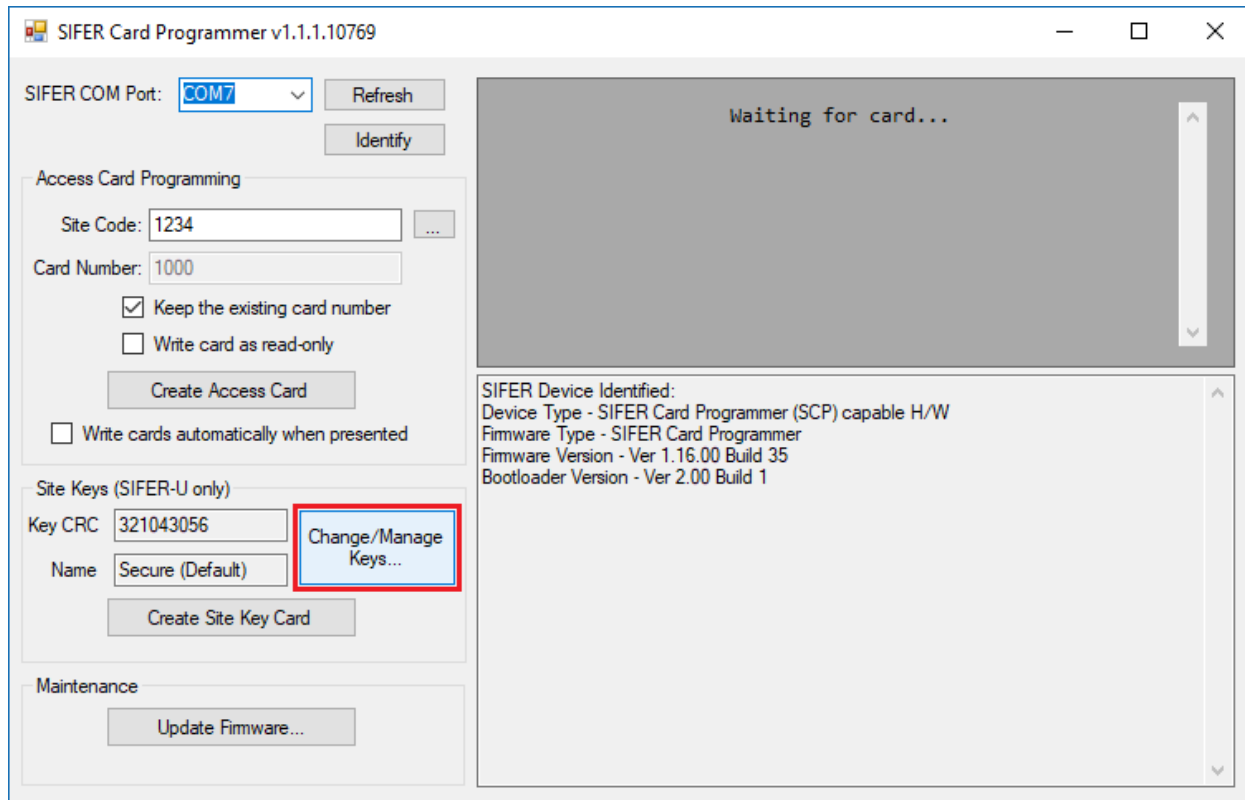
The software should be able to auto-discover the SIFER Card Programmer. If the device is not discovered, ensure the USB cable is inserted and the device is visible within Windows Device Manager, and the selected COM port is correct.



Step 1: Create a Site Key

Before programming any cards, ensure you create a new Site Key that will be specific to the site you are programming cards for. If you are programming cards for a site which has an existing Site Key, simply select the existing key.

Select **Change/Manage Keys...**



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SIFER COM Port: COM7 Refresh Identify

Access Card Programming

Site Code: 1234 ...

Card Number: 1000

☒ Keep the existing card number
☐ Write card as read-only

Create Access Card

☐ Write cards automatically when presented

Site Keys (SIFER-U only)

Key CRC: 321043056 Change/Manage Keys...

Name: Secure (Default) Create Site Key Card

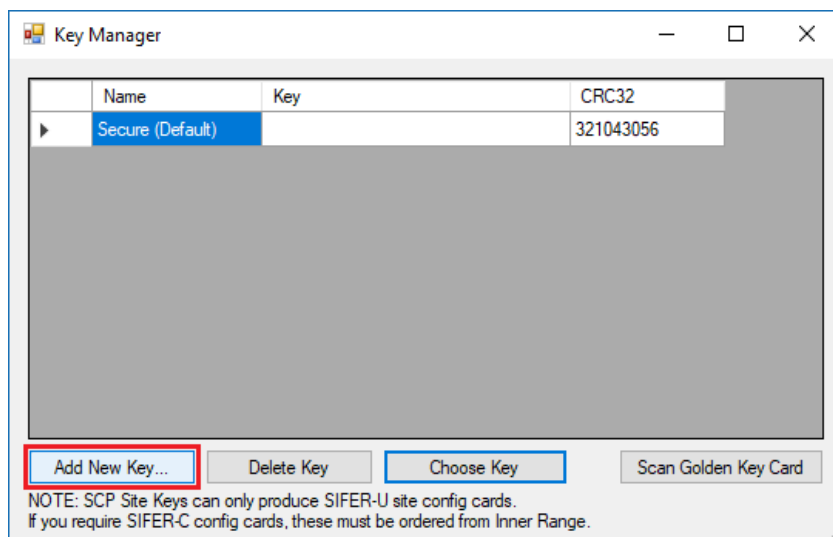
Maintenance

Update Firmware...

Waiting for card...

SIFER Device Identified:
Device Type - SIFER Card Programmer (SCP) capable H/W
Firmware Type - SIFER Card Programmer
Firmware Version - Ver 1.16.00 Build 35
Bootloader Version - Ver 2.00 Build 1

Select **Add New Key...**



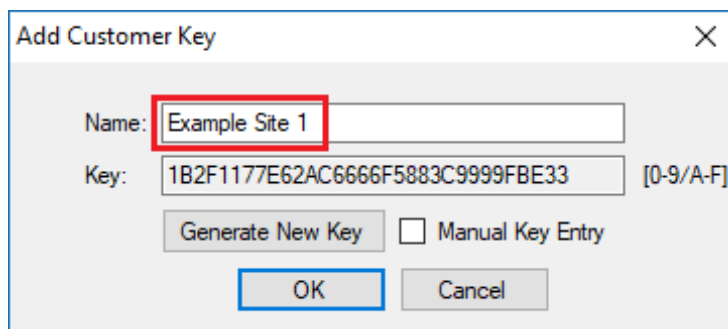
Key Manager

Name	Key	CRC32
Secure (Default)		321043056

Add New Key... Delete Key Choose Key Scan Golden Key Card

NOTE: SCP Site Keys can only produce SIFER-U site config cards.
If you require SIFER-C config cards, these must be ordered from Inner Range.

Enter a suitable Name for the site that this key will be related to.



Add Customer Key

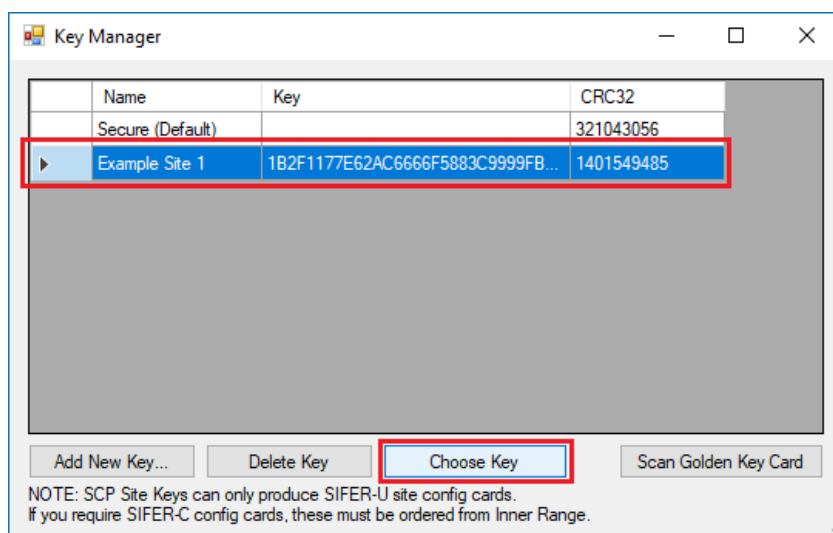
Name:

Key: [0-9/A-F]

☐ Manual Key Entry

The Encryption Key is randomly generated when the window opens, so there is no need to make any other changes. Click **OK**.

This will add the new key to your Key Manager list. Highlight the new key and click **Choose Key**.

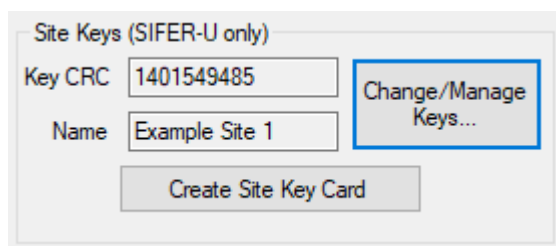


Key Manager

	Name	Key	CRC32
	Secure (Default)		321043056
▶	Example Site 1	1B2F1177E62AC6666F5883C9999FB...	1401549485

NOTE: SCP Site Keys can only produce SIFER-U site config cards.
If you require SIFER-C config cards, these must be ordered from Inner Range.

You should now see the new key information displayed in the Site Keys section of the main window.



Site Keys (SIFER-U only)

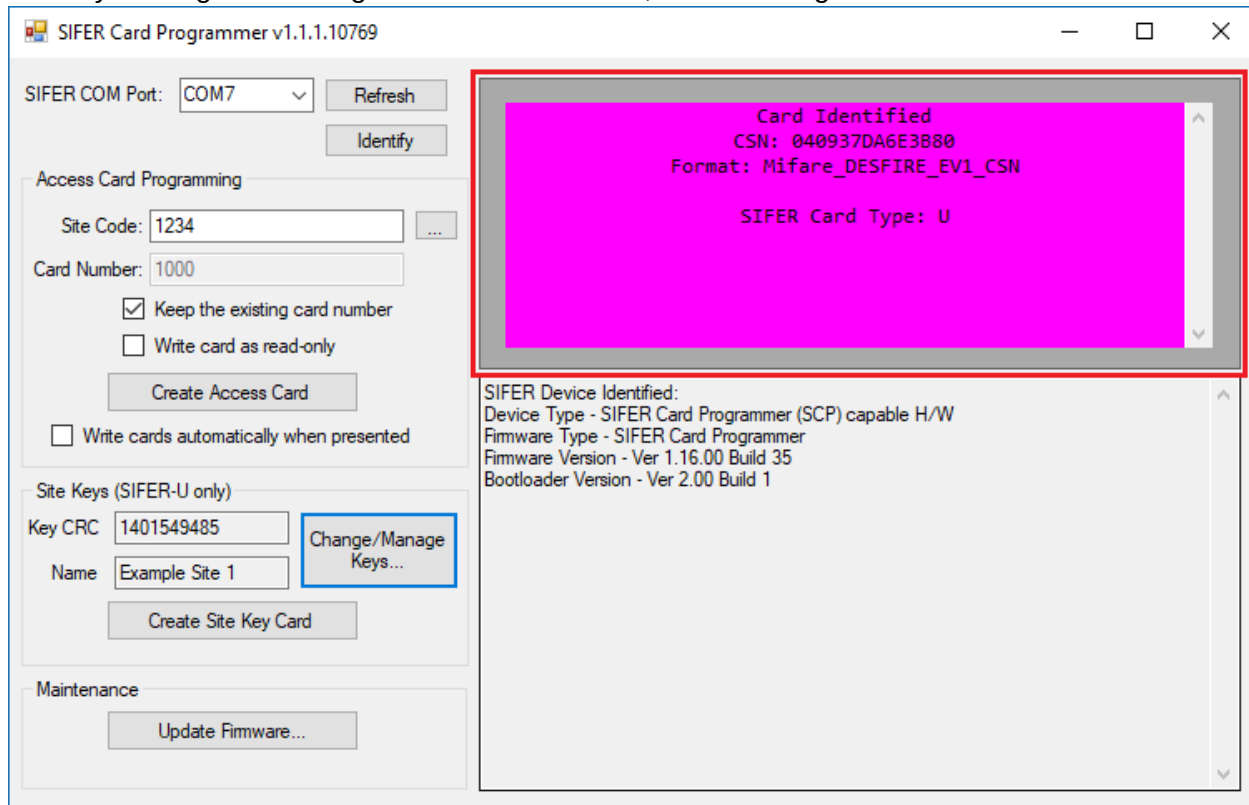
Key CRC:

Name:

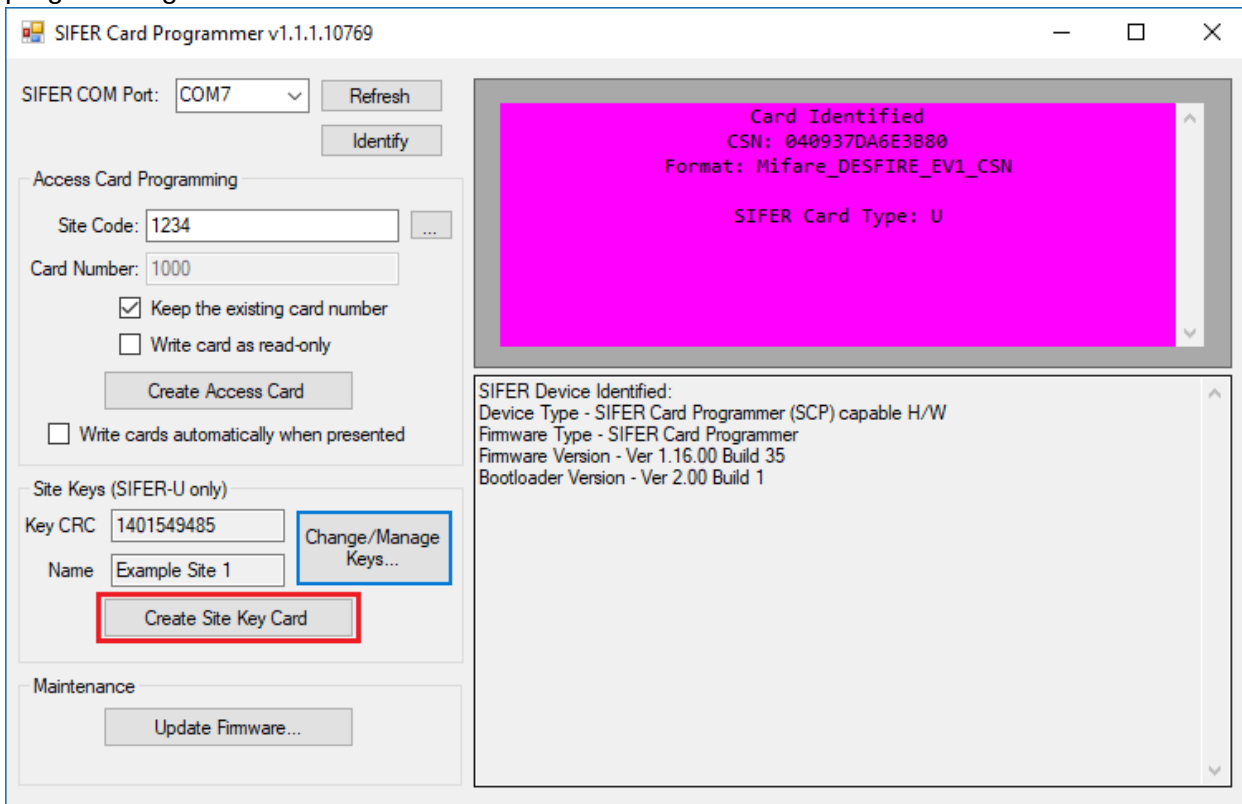
Step 2: Create a Site Key Card (Configuration Card)

An unused card must be programmed as a Configuration Card for applying the new encryption key to the SIFER readers on site. This card will no longer be usable as a credential.

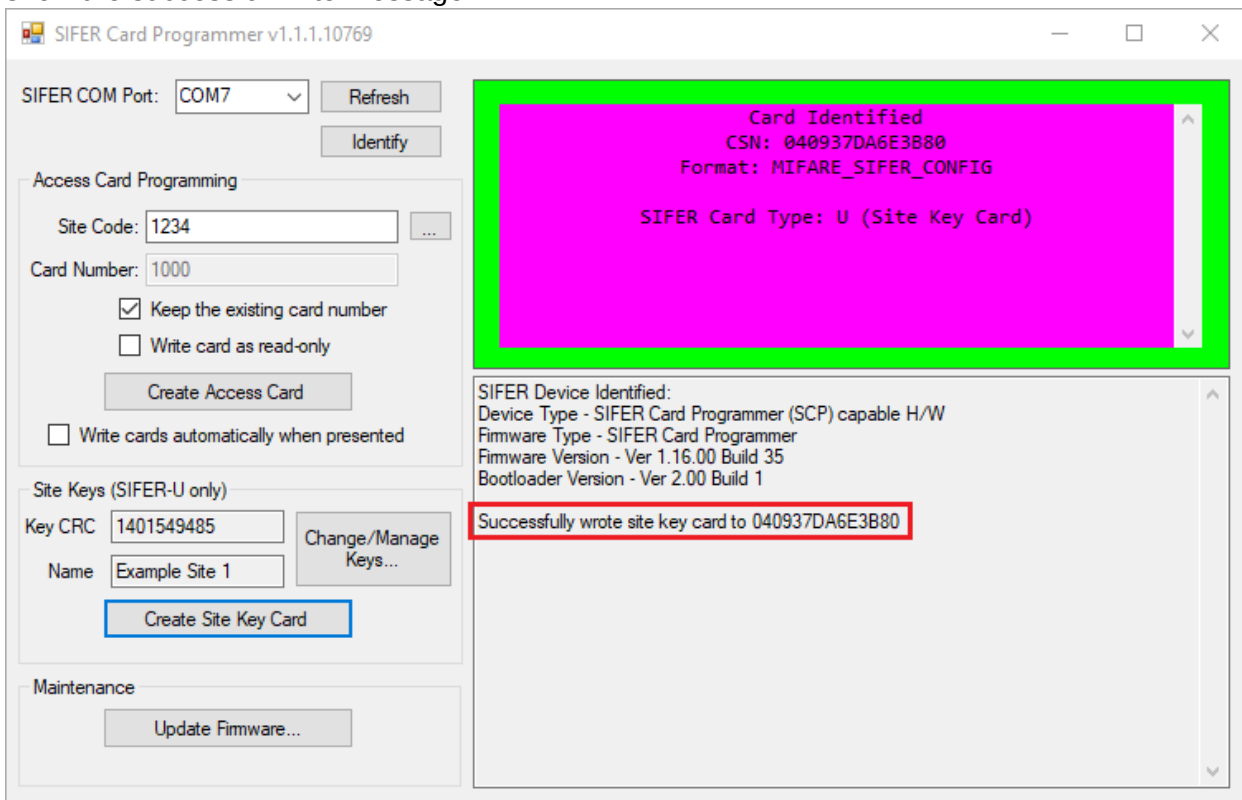
Start by holding the card against the reader head, and ensuring it is identified as a SIFER-U



While holding the card against the reader, click **Create Site Key Card** to begin the programming.



During the process, the information box will display yellow and “Writing...” before returning to its normal purple colour and identifying the card as a Site Key Card. The log window will also show the successful write message.



Step 3: Creating an Encrypted Card

Begin by ensuring that the correct Site Key is selected in the software.

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SIFER COM Port: COM7 Refresh Identify

Access Card Programming

Site Code: 1234

Card Number: 1000

☒ Keep the existing card number

☐ Write card as read-only

Create Access Card

☐ Write cards automatically when presented

Site Keys (SIFER-U only)

Key CRC: 1401549485 Change/Manage Keys...

Name: Example Site 1

Create Site Key Card

Maintenance

Update Firmware...

Waiting for card...

SIFER Device Identified:
 Device Type - SIFER Card Programmer (SCP) capable H/W
 Firmware Type - SIFER Card Programmer
 Firmware Version - Ver 1.16.00 Build 35
 Bootloader Version - Ver 2.00 Build 1

Successfully wrote site key card to 040937DA6E3B80

Enter your desired Site Code, and select whether to keep the existing pre-programmed Card Number (which may already be printed on the card) or manually enter a new one.

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SIFER COM Port: COM7 Refresh Identify

Access Card Programming

Site Code: 99

Card Number: 1001

☒ Keep the existing card number

☐ Write card as read-only

Create Access Card

☐ Write cards automatically when presented

Site Keys (SIFER-U only)

Key CRC: 1401549485 Change/Manage Keys...

Name: Example Site 1

Create Site Key Card

Maintenance

Update Firmware...

Waiting for card...

SIFER Device Identified:
 Device Type - SIFER Card Programmer (SCP) capable H/W
 Firmware Type - SIFER Card Programmer
 Firmware Version - Ver 1.16.00 Build 35
 Bootloader Version - Ver 2.00 Build 1

Successfully wrote site key card to 040937DA6E3B80

With the desired Site Code and Card Number entered, hold a new SIFER-U card against the reader so that it is identified by the software and click **Create Access Card**

SIFER Card Programmer v1.1.1.10769

SIFER COM Port: COM7 Refresh Identify

Access Card Programming

Site Code: 99 ...

Card Number: 1001

☐ Keep the existing card number

☐ Write card as read-only

Create Access Card

☐ Write cards automatically when presented

Site Keys (SIFER-U only)

Key CRC: 1401549485 Change/Manage Keys...

Name: Example Site 1

Create Site Key Card

Maintenance

Update Firmware...

Card Identified
CSN: 041E537A744380
Format: Mifare_DESFIRE_EV1_CSN
SIFER Card Type: U

SIFER Device Identified:
Device Type - SIFER Card Programmer (SCP) capable H/W
Firmware Type - SIFER Card Programmer
Firmware Version - Ver 1.16.00 Build 35
Bootloader Version - Ver 2.00 Build 1

Successfully wrote site key card to 040937DA6E3B80

The information box will briefly display yellow and “Writing...” before returning to purple and now identifying the card with the programmed Site Code and Card Number. The log window will display the successful write message.

SIFER Card Programmer v1.1.1.10769

SIFER COM Port: COM7 Refresh Identify

Access Card Programming

Site Code: 99 ...

Card Number: 1002

☐ Keep the existing card number

☐ Write card as read-only

Create Access Card

☐ Write cards automatically when presented

Site Keys (SIFER-U only)

Key CRC: 1401549485 Change/Manage Keys...

Name: Example Site 1

Create Site Key Card

Maintenance

Update Firmware...

Card Identified
CSN: 041E537A744380
Format: Mifare_DESFIRE_EV1_SIFER
E9030000630000
Site-Code: 99 Card # 1,001
SIFER Card Type: U

SIFER Device Identified:
Device Type - SIFER Card Programmer (SCP) capable H/W
Firmware Type - SIFER Card Programmer
Firmware Version - Ver 1.16.00 Build 35
Bootloader Version - Ver 2.00 Build 1

Successfully wrote site key card to 040937DA6E3B80

Successfully wrote to card 041E537A744380
Site code: 99
Card number: 1001

Additional Options

Keep the Existing Card Number

Flagging this option will retain the existing Card Number that the card is programmed with.

This is useful if the SIFER-U cards were ordered with card numbers printed on them, where the printed number matching the programmed number will make for easier data entry.

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SIFER COM Port: COM7 Refresh Identify

Access Card Programming

Site Code: 99 ...

Card Number: 1001

☒ Keep the existing card number

☐ Write card as read-only

Create Access Card

☐ Write cards automatically when presented

Site Keys (SIFER-U only)

Key CRC: 1401549485 Change/Manage Keys...

Name: Example Site 1

Create Site Key Card

Maintenance

Update Firmware...

Waiting for card...

SIFER Device Identified:
Device Type - SIFER Card Programmer (SCP) capable H/W
Firmware Type - SIFER Card Programmer
Firmware Version - Ver 1.16.00 Build 35
Bootloader Version - Ver 2.00 Build 1

Write Card as Read-Only

Flagging this option will prevent any further writes being allowed on the card.

While this option remains unchecked, it is possible to re-write a new Site Code and Card Number any number of times as desired.

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SIFER COM Port: COM7 Refresh Identify

Access Card Programming

Site Code: 99 ...

Card Number: 1001

☐ Keep the existing card number

☒ Write card as read-only

Create Access Card

☐ Write cards automatically when presented

Site Keys (SIFER-U only)

Key CRC: 1401549485 Change/Manage Keys...

Name: Example Site 1

Create Site Key Card

Maintenance

Update Firmware...

Waiting for card...

SIFER Device Identified:
Device Type - SIFER Card Programmer (SCP) capable H/W
Firmware Type - SIFER Card Programmer
Firmware Version - Ver 1.16.00 Build 35
Bootloader Version - Ver 2.00 Build 1

Write Cards Automatically When Presented

Flagging this option will remove the requirement to click **Create Access Card**, and the software will automatically write the encryption and Site Code / Card Number information as soon as a card is detected.

If manually assigning card numbers, the card number will automatically increment by 1 on every successful write.

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SIFER COM Port: COM7 Refresh Identify

Access Card Programming

Site Code: 99 ...

Card Number: 1001

☐ Keep the existing card number

☐ Write card as read-only

Create Access Card

☐ Write cards automatically when presented

Site Keys (SIFER-U only)

Key CRC: 1401549485 Change/Manage Keys...

Name: Example Site 1

Create Site Key Card

Maintenance

Update Firmware...

Waiting for card...

SIFER Device Identified:
Device Type - SIFER Card Programmer (SCP) capable H/W
Firmware Type - SIFER Card Programmer
Firmware Version - Ver 1.16.00 Build 35
Bootloader Version - Ver 2.00 Build 1

Using the Site Key (Configuration) Card

Encrypting a SIFER Reader

SIFER readers are receptive to configuration cards for 5 minutes after power up. Within this 5 minute receptive period, simply badge the Site Key Card twice at each reader to secure them.

- 1. Power cycle the Reader**
- 2. Badge the Site Key Card**
The SIFER reader will respond with:
Audible beep
Main LED will turn Purple/Red
Small LED will flash Purple for 5 seconds.
- 3. Badge the Site Key Card**
The SIFER Reader will respond with:
Audible beep
Main LED will flash Green for 1 Second

The SIFER Reader is now secured with the custom encryption key. It will now only respond to SIFER-C / SIFER-U credentials which are programmed with the same custom encryption.

De-Encrypting a SIFER Reader

SIFER Readers can only be de-encrypted with a Site Key Card that has the same custom encryption key that was used to encrypt it in the first place.

The de-encryption process is the same as the encryption process.

- 1. Power cycle the Reader**
- 2. Badge the Site Key Card**
The SIFER reader will respond with:
Audible beep
Main LED will turn Purple/Red
Small LED will flash Green for 5 seconds.
- 3. Badge the Site Key Card**
The SIFER Reader will respond with:
Audible beep
Main LED will flash Green for 1 Second

The SIFER Reader has now been restored to the Inner Range Global encryption key. It will now respond to SIFER-P credentials, and can be encrypted with a new Site Key if required.