MIFARE Programmer

User Manual

UM0095_1

Unit 10 Concept Park
Innovation Close
Poole
Dorset
BH12 4QT

t: +44 (0) 1202 723535
w: www.tdsi.co.uk
e: sales@tdsi.co.uk
e: support@tdsi.co.uk

Foreword

Copyright © 2015 TDSi. All rights reserved.
Time and Data Systems International Ltd operate a policy of continuous improvement and reserves the right to change specifications, colours or prices of any of its products without prior notice.

Guarantee

For terms of guarantee, please contact your supplier.
Copyright © 2015 Time and Data Systems International Ltd (TDSi). This document or any software supplied with it may not be used for any purpose other than that for which it is supplied nor shall any part of it be reproduced without the prior written consent of TDSi.

Trademarks

Microsoft and Windows are registered trademarks of Microsoft Corporation.
All other brands and product names are trademarks or registered trademarks of their respective owners.

Document Control

Issue	Date Issued	Change Summary	Issued by
1	27th January 2016	Initial release	GFH

Contents

1 Introduction 1

2 Licensing 2

2.1 Activation 2

2.2 Deactivation 4

3 Logging In 5

4 Configuration 6

4.1 Users 6

4.2 Add Users 6

4.3 Deleting User 6

4.4 Edit User 7

4.5 Configuring Card Settings 7

4.5.1 Card Type 7

4.5.2 Card Number Configuration 8

4.5.3 Card Number Format 8

4.5.4 EXgarde Settings 8

4.5.5 Classic _Plus SL1 Configuration 9

4.5.6 Plus Sl3 Configuration 9

4.5.7 DESfire 9

4.6 Program Reader 10

4.7 Re-configure Reader 10

4.8 Card Number Database 11

5 Card Management 12

5.1 Write Card 12

5.2 Card Information 13

5.3 Read Card 13

5.4 Read Card Number 13

6 Versions 14

1 Introduction

TDSi's MIFARE Programming tool provides the facility to control and manage you own MIFARE keys and cards for use with TDSi's MIFARE Sector readers.
This tool allows you to specify which sectors and security keys are used and to control the programming of the cards used throughout the estate. Access to the software is by login which ensures that only those authorised to change the security settings may do so.

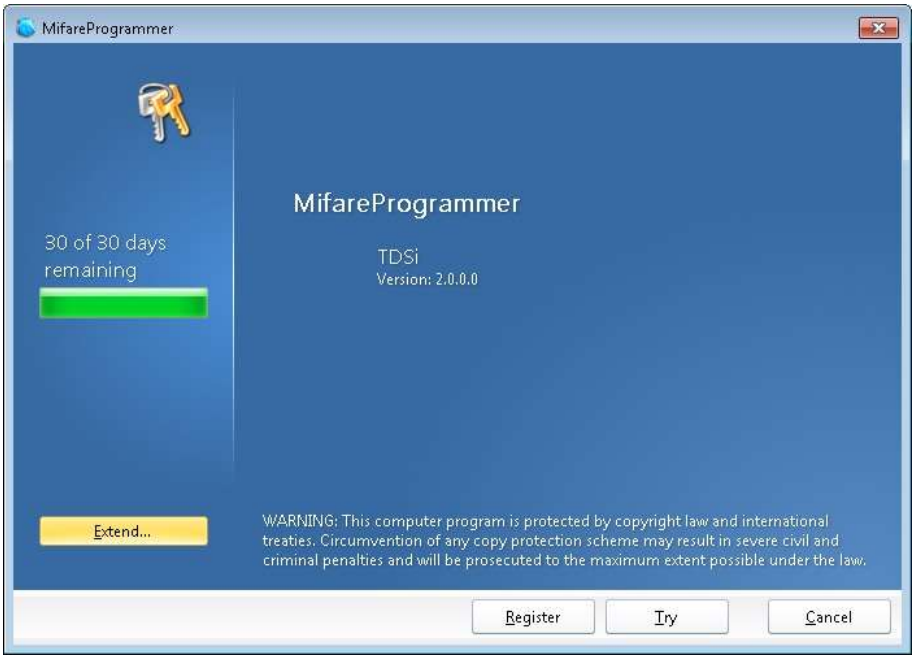
Key features of the MIFARE Programmer include.

- User Management
- Card Configuration
- Reader Configuration
- Card Information
- Read Card
- Write Card
- Card Used Database

2 Licensing

2.1 Activation

To activate the software, you must click the Register button on the license screen



You will then be presented with the registration screen.

Enter your user name, organisation and the serial number from the CD. The serial number will be of the form PRO-XXXXX-XXXXX-XXXX for the professional version of the software. Once complete click the Register button.

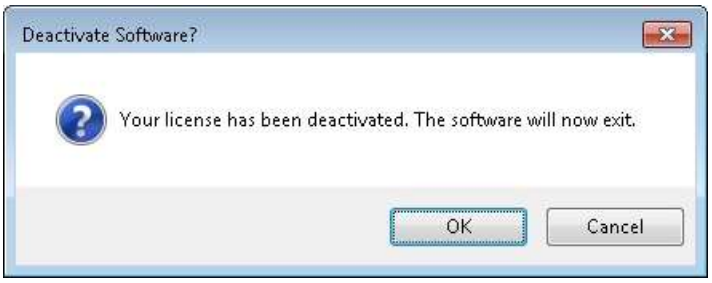
To activate the software, select the Activate manually by entering a code button

The Serial Number and Machine Code must be emailed (or via phone) to TDSi (support@tdsi.co.uk) and an unlock code will be sent back to you. This unlock code can then be entered in the field marked Activation Code. Once this has been entered click the Activate button.

2.2 Deactivation

If you are un-installing of moving the software to another machine, you will need to deactivate the license.
To deactivate your license, select the Help menu and select Deactivate.

Then select the Deactivate button. You will be prompted to confirm the deactivation.



The software will be deactivated and you will be given a deactivation code. Please keep this safe as this may be required as confirmation.

3 Logging In

Before the software can be used you must login. The software comes pre-loaded with a default Admin login:

- Admin - which is the main account used to create all of the other accounts
  (User name: Admin, Password: adminuser)

When run the software will display the login screen as shown below.

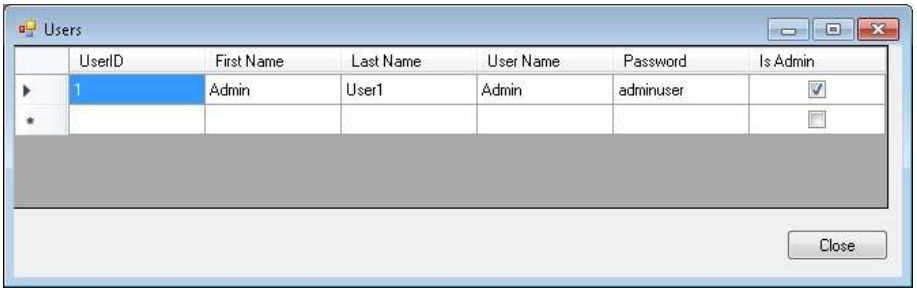
Enter your User name and Password and then click the OK button

4 Configuration

4.1 Users

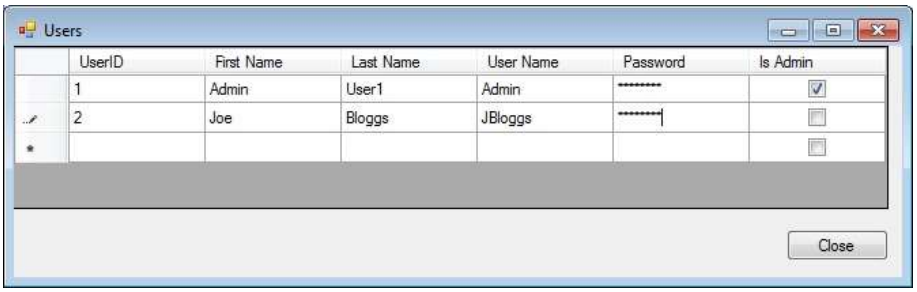
Use of the software is controlled by authorised users who are required to login to the system. There are two types of users which may be configured:

- Standard User - who has access to the main menu controls
- Administrator who also has access to configure users, security settings and reader configured (professional version).



4.2 Add Users

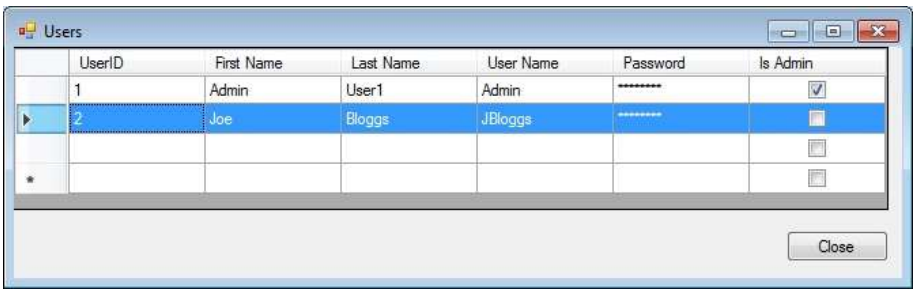
To add a new user into the system, select the next available row and enter the new user id.



As soon as new User ID is entered, a new row will appear below. If you don't want the user to have administration rights, un-check the Admin User check box. When you have finished entering the data click on the Close button to save the data.

4.3 Deleting User

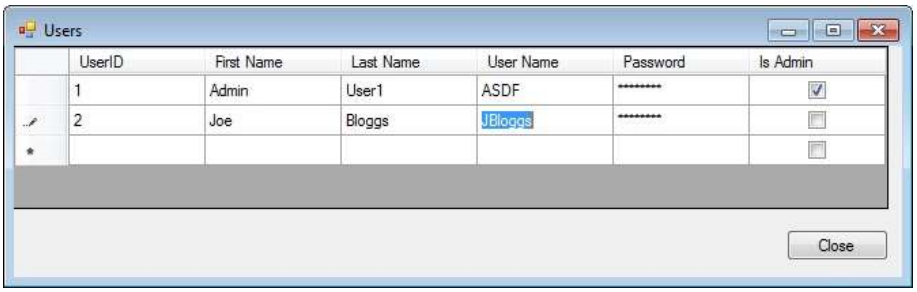
To delete a user from the system, click the row to highlight the user in the list and press the delete key.



Click Close to save the changes

4.4 Edit User

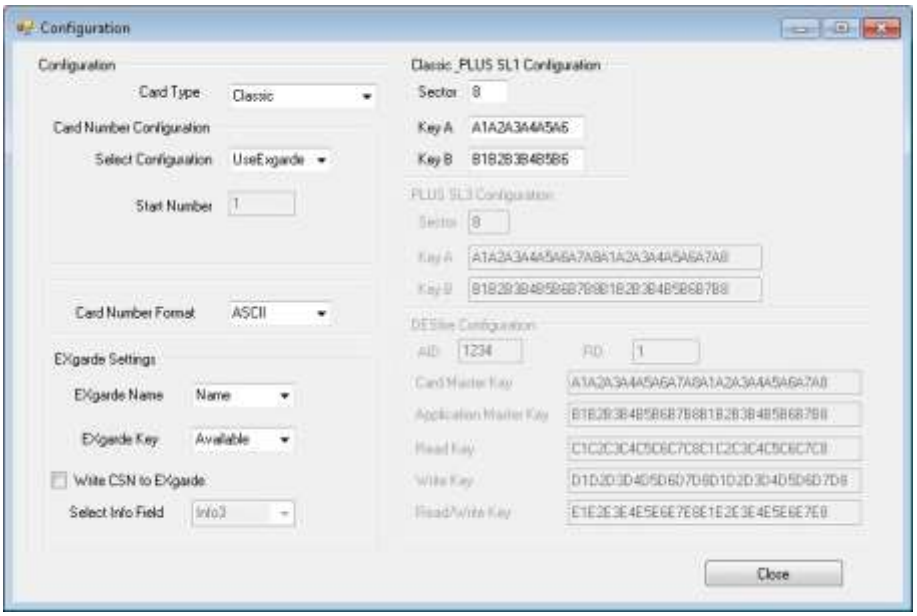
To edit a user in the list, click on the required field and make the necessary changes.



Click Close to save the changes

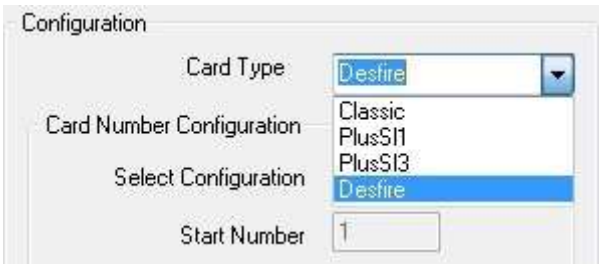
4.5 Configuring Card Settings

The card settings menu is only available to administrators. If this menu is disabled, then you do not have administrator rights to amend the settings.
From this form you can amend the security settings and define how you want to program cards.



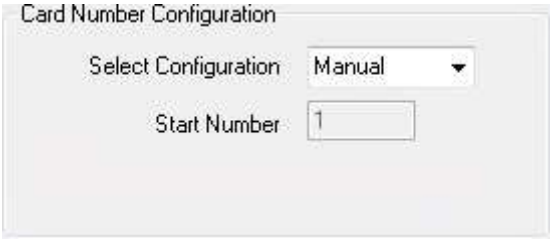
4.5.1 Card Type

Select the required card variant from the drop down menu.

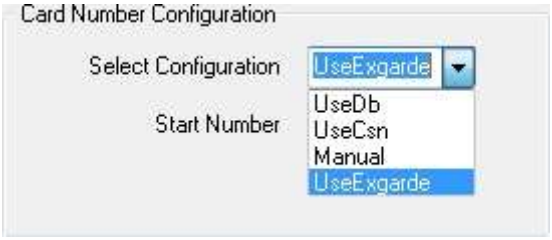


- Classic - 1k or 4k - Crypto1 - 2 x 48 bit keys
- Plus Sl1 - 1k, 2k or 4k - Crypto1 - 2 x 48 bit keys
- Plus Sl3 - 1k, 2k or 4k - AES - 2 x 128 bit keys
- Desfire - 2k, 4k or 8k AES - 4 x 128 bit keys

4.5.2 Card Number Configuration



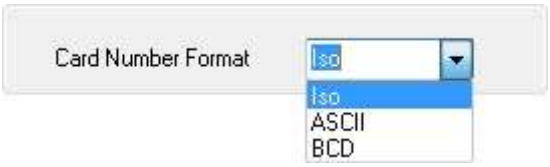
Select Configuration



This will set the method the Mifare programmer will use to number the new card.

- UseDB - This will generate a card number and store it on a local database. This will also enable the Start number field allowing you to define a number.
- UseCSN - This will use the CSN number read from the installed card reader.
- Manual - This will enable you to enter your won card number.
- UseExgarde - This will take the card numbers from the EXgarde database.

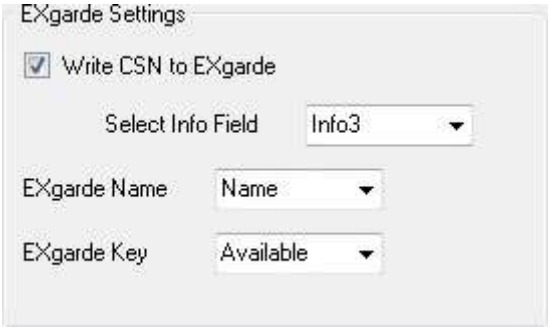
4.5.3 Card Number Format



This will only enable if you choose either the Classic, Plus Sl1 or Plus Sl3

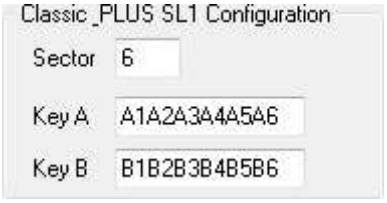
4.5.4 EXgarde Settings

These settings will only be available if the UseExgarde option is selected from the Card Number Configuration menu.



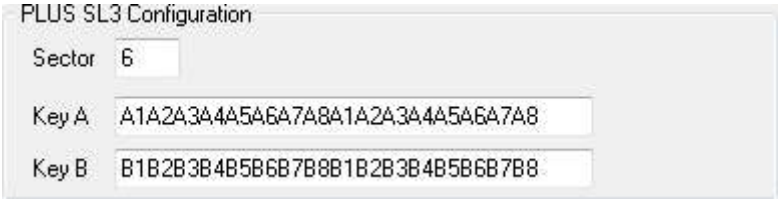
- Write CSN to EXgarde - This will enable the Select info Field box, allowing the CSN to be entered into a defined info field in the EXgarde database.
- EXgarde Name - This will allow you to choose between using the Name or Long Name from the EXgarde database.
- EXgarde Key - This can be set to either Available or In Use. If you choose In Use you can select a key associated with a defined Name.

4.5.5 Classic _Plus SL1 Configuration



- Sector - For the Classic and Plus Sl1 this can be set to 16 or 32 depending on card memory and user preference.
- Key A - This is the Read key 6byte 2 digit hexadecimal code
- Key B - This is the Write key 6byte 2 digit hexadecimal code

4.5.6 Plus Sl3 Configuration



- Sector - The Plus Sl3 can be set to 16 or 32 depending on card memory and user preference,
- TDSi default is set to 6.
- Key A - This is the Read key 16byte 2 digit hexadecimal code
- Key B - This is the Write key 16byte 2 digit hexadecimal code

4.5.7 DESfire

- AID - Application ID this can be set from 0000 to FFFF for a maximum of 28 applications
- FID - File ID can be set from 0 to 31
- Card Master Key - This will be a 16byte 2-digit hexadecimal code required to access the card.
- Application Master Key - This will be a 16 byte 2-digit hexadecimal code required to access the card applications
- Read Key - This key is set to be able to read the card application information.
- Write Key - This key is set to be able to write information to the card
- Read/Write Key - This key is set to be able to read and write information to the card application.

Note: The keys are not displayed at any time, it is therefore important that you make a note of the keys that you have defined and keep these in a secure place.

4.6 Program Reader

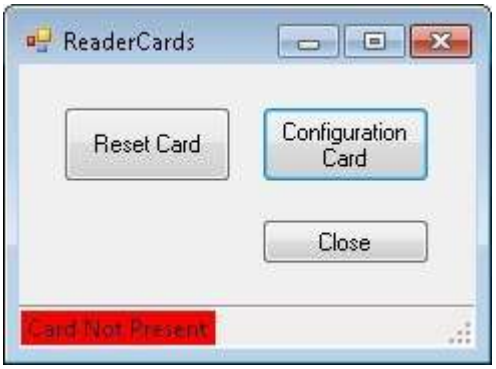
The reader menu is only available in the Professional version of the product. This enables you to re-configure the following TDSi MIFARE Sector Readers

- Part Number 5002-0441 Mullion Reader
- Part Number 5002-0433 Square Reader
- Part Number 5002-0434 Square Reader with keypad

These readers may have their sector information re-programmed using the configuration cards which can be created using the programming software.

Create Configuration Card

To create the configuration card, place a blank MIFARE card on the writer and click the Configuration button. This will create the configuration card using the settings defined under the settings menu.



Reset Card

You will be able to reset the configuration card by placing the card on to the desktop reader and selecting the Reset card button.

4.7 Re-configure Reader

Mullion Readers

The reader may only be re-configured during the first 10 seconds following power up. There is a two-step process for re-configuring the readers:

Step 1
Power down the reader. Re-apply power and within the first 10 seconds present the engineering card. The reader will read the card and erase its current configuration. This will be indicated by the red and green LED's alternating on the reader.

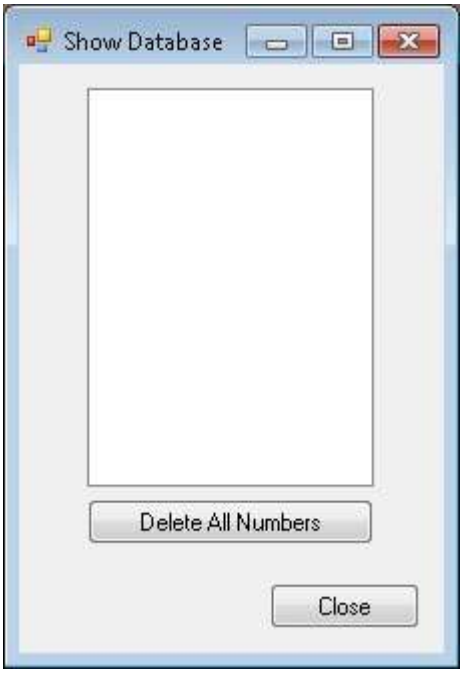
Step 2
Within 10 seconds of this step present the configuration card. The reader will read the card and the reader will reset. This will be indicated by 4 shorts bleeps and 4 flashes on the green led. The reader will now be configured to read cards created using the programmer and the sectors and keys that you have defined.

Square Readers

- Disconnect power from the reader
- Set both DIP switches to the ON position
- Power on the reader and present the configuration card
- Power off the reader
- Return DIP switches to original position

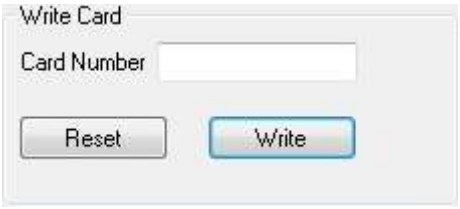
4.8 Card Number Database

All cards programmed have their card number written to a database for reference. Card numbers that have been written may be checked by selecting the Database menu from the main form. This will display a list of all the card numbers.



5 Card Management

5.1 Write Card



The method to program a card is dependent upon the number to write.

Use Database

When you have chosen to use the database to define your card numbers, you just place the card to be written on the writer and click the Write Card button. This will write the number displayed in the card number field and this will automatically increment once the number has successfully been written to the sector.

Manual Card Number

When you are using a manual card number you should enter your number in the card number text box. Then place the card to be written on the writer and click the Write Card button. Note: you must ensure that you use unique numbers if you do not want duplicate numbers.

Use CSN

Using the card CSN is similar to the database in as much as duplicates cannot occur, however, in this instance the CSN is read from the card and then programmed into the specified sector. To program a card using CSN place the card to be written on the writer and click the Write Card button.

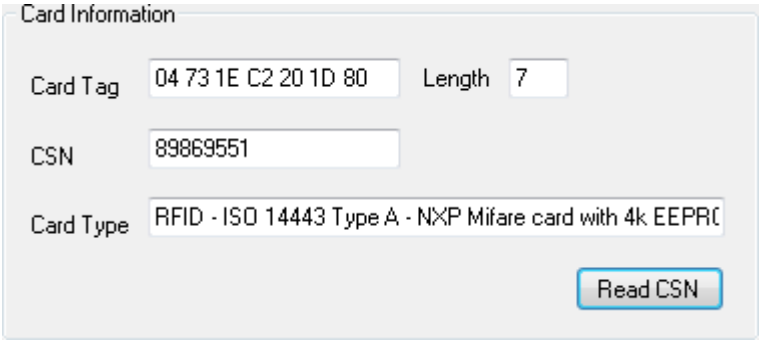
Use EXgarde

Using the EXgarde mode allows you to select a keyholder and then an issued key to program the card. When in this mode select the keyholder and then a key from the drop down boxes and click Write to program the card.

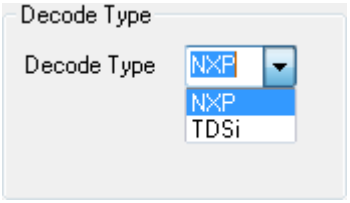
5.2 Card Information

Read card type allows you to identify the type of MIFARE card that you have. To identify the card type, present the card to the reader and click the Read CSN button.
The following will be displayed about the card:

- Card Tag (tag number in Hex)
- Length (length of UID)
- Card Serial Number in decimal format
- Card Type



When a 7 byte UID card is read then the serial number can be decoded using either the TDSi format or the NXP format.



5.3 Read Card

Read card type allows you to identify the type of MIFARE card that you have. To identify the card type, present the card to the reader and click the Read CSN button.
The following will be displayed about the card:

- Card Tag (tag number in Hex)
- Length (length of UID)
- Card Serial Number in decimal format
- Card Type

When a 7 byte UID card is read then the serial number can be decoded using either the TDSi format or the NXP format.

5.4 Read Card Number

You can check what card number has been programmed into the card by placing the card on the writer and then clicking the Read Card button. This will read the card number from the sector that is defined in the settings menu.

6 Versions

Feature	Trail	Standard
User Management	✔	✔
Card Configuration	✔	✔
Reader Configuration	✘	✔
Card Information	✔	✔
Read Card	✔	✔
Write Card	✔	✔
Card Used Database	✘	✔

This Page Intentionally Left Blank

TDSi
ACCESS EVERYWHERE

Because everyone deserves peace of mind

TDSi UK
Unit 10 Concept Park, Innovation Close, Poole, Dorset BH12 4QT United Kingdom
t: +44 (0)1202 723535 f: +44 (0)1202 724975 e: sales@tdsi.co.uk

TDSi France
Immeuble ATRIA, 2 rue du Centre, 93160 NOISY LE GRAND France
t: +33 (0)1 58 84 20 90 f: +33 (0)1 58 84 20 91 e: tdsif@wanadoo.fr

bsia british security industry association

Beacon company