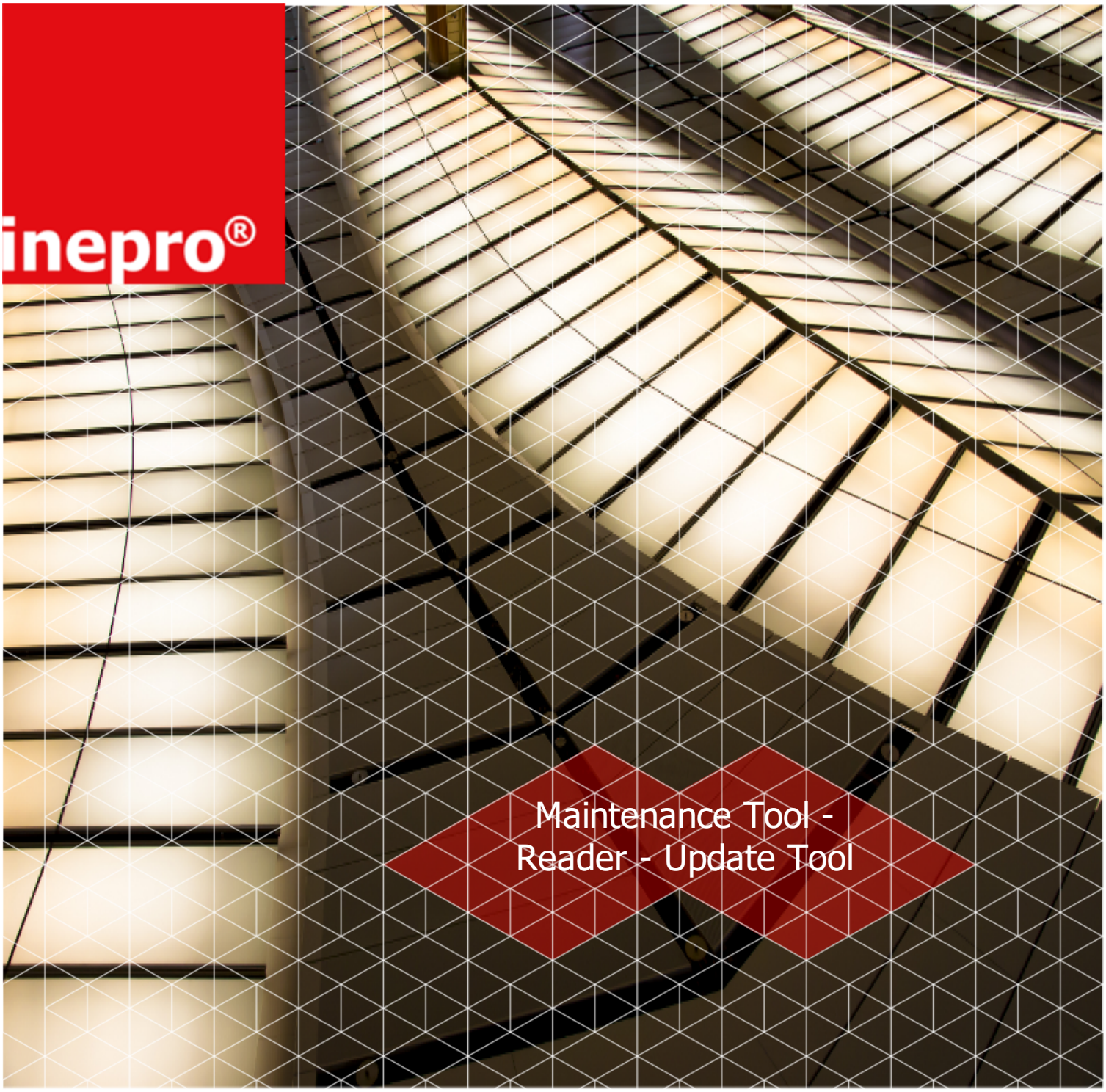

Operator Manual | Maintenance Tool - Reader - Update Tool

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Maintenance Tool - Reader - Update Tool

The most versatile card reader solution

Congratulations on your selection of the Inepro <%PRODUCTNAME%>. We are certain you will be pleased with your purchase of one of the flexibele solutions of the market.

We want to help you get the best result from your <%PRODUCTNAME%>. This manual contains information on how to do that; please read it carefully. Due to continuous product improvements this manual is subject to changes without notice.

We strongly recommend you read the license agreement to fully understand its coverage and your responsibilities of ownership.

Your Inepro dealer is dedicated to your satisfaction and will be pleased to answer your questions and your concerns.

Best wishes,
Inepro BV.

Maintenance Tool - Reader - Update Tool

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3 Default card Read out 7
4 Concept Summery 8

END-USER LICENSE AGREEMENT I

Directives

TTENTION!!

Read this manual carefully before installing the Maintenance Tool - Reader - Update Tool!

Mains connection
Before connecting the appliance to the mains, check that the mains supply voltage corresponds to the voltage printed on the type plate of the adapter. If the mains voltage is different, consult your supplier.

Guarentee
No guarantee can be given if safety regulations are not followed.

Changes and/or modifications
Changes and/or modfications whch have not been approved by the responsible party can void the user's authorty to operate the equitement.

Security
Always disconnect the power supply before handling anything inside the device.

For Indoor Use Only
This device may only be used indoors.

FCC Federal Communications Commission - US
This device is complies with part 15 of the FCC rules, operation is subject to two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, includng interference that may cause undesired operation.

CE Conformité Europeéne (Conform European Norm)
This device is in conformity with the EMC directive and low-voltage directive.

KC - Korea Certification
This device is in conformity with the Korea Certification directive.

Industry Canada

Conformité d'Industrie Canada
Appareil concernés:
MCR708, MCR708G, DCR708, DCR708G, SCR708

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.
L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Confirm Canada Industries
Relevant Devices:
MCR708, MCR708G, DCR708, DCR708G, SCR708

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:
(1) This device may not cause interference; and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

RCM Regulatory Compliance Mark
This device is in conformity with Australian law.

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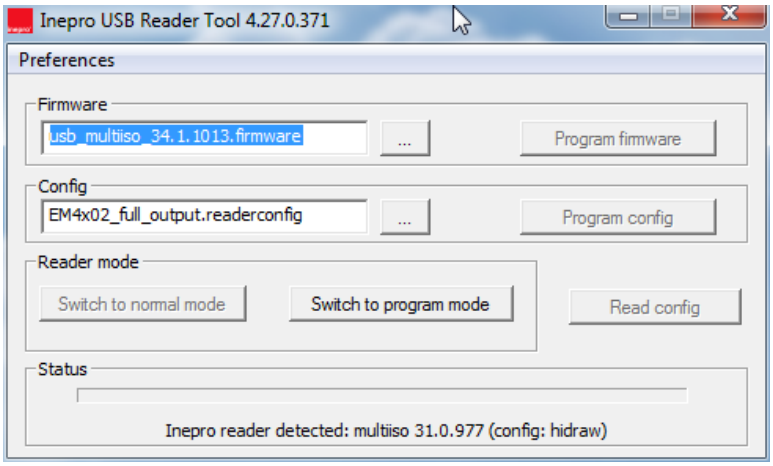
Part I

Inepro Card Reader Tools

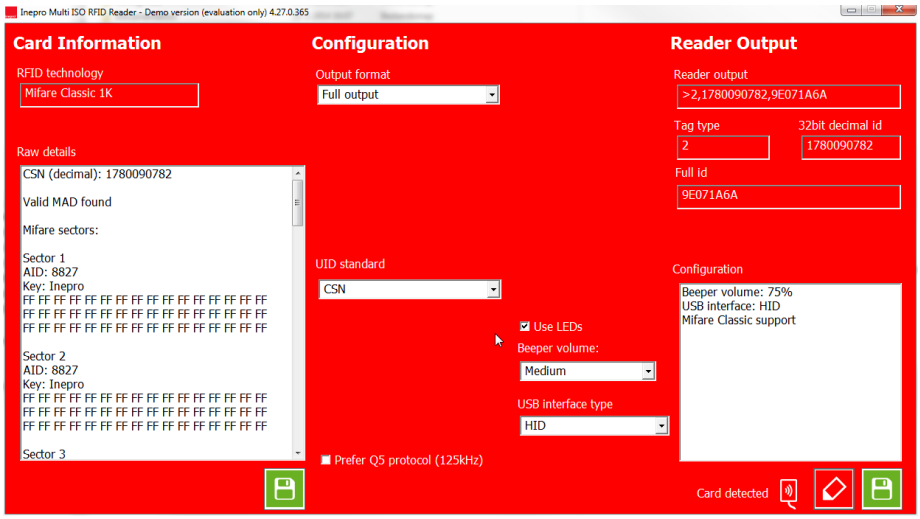
Inepro Card Reader Tools

There are two Inepro Card Reader Tools; the Inepro Reader Software and Inepro Reader Update. The Inepro Reader Software is used to read out a card and view the card details like the card ID and sector information. It can also be used to see if other output formats will return the desired card ID and to create and store custom configuration files. The Inepro Reader Update Tool is used to update to Inepro reader with new firmware or another or new configuration file.



Inepro Reader Update Tool

With this tool it is possible to upgrade the reader firmware and to program a custom created config file. For more information regarding this Reader Program Tool please consult the user manual.



Inepro Reader Software Tool

With this software card information can be read out, and custom configuration files can be stored.

HID or HID?

When working with card reader the term 'HID' will emerge, so what does it mean?
Well, the complex issue with this question is, that there are two concepts that both are called 'HID' and both are related to the card reader. Therefore both will be explained:

HID

Hughes Identification Devices, or HID is often a reference to one or more card technologies developed by the Hughes Identification Devices company, like HID Prox or iClass SE.

HID

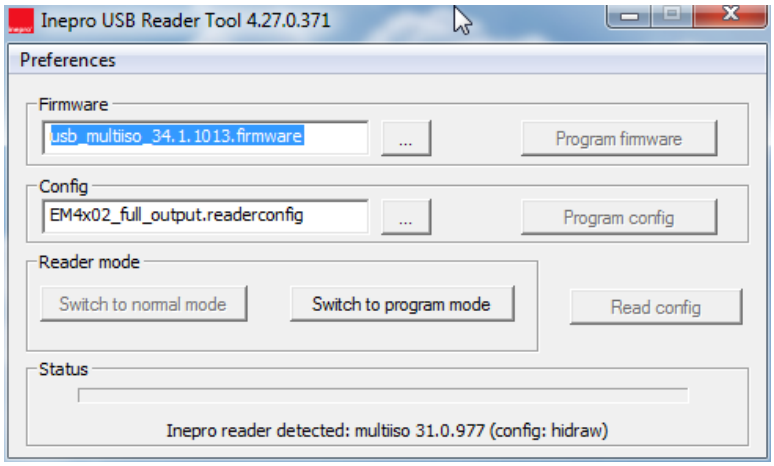
A Human Interface Device, or HID is a type of computer device that interacts directly with humans. In this manual the card reader is such a HID

Change the Configuration of the reader

By default the card reader is programmed as full output and will recognize all available card types. This can be changed by changing the configuration of the reader, for example by changing to Classic output. A default classic output configuration file can be found in the config files folder. To change the configuration follow the following instructions:

Prequisites:

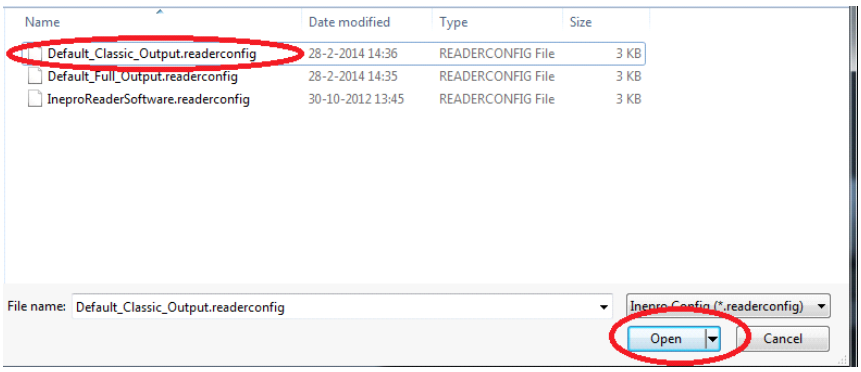
- No prequisites required



1. Open the shortcut to the Inepro Reader Update tool.
   On the bottom of the tool the status of the reader is shown (in this image: 'Inepro reader detected: multiiso 31.0.977 (config hidraw)'). Normally when no reader is connected this will be: 'Inepro Reader Removed'.
   'Inepro reader detected: multiiso 31.0.977 (config hidraw)' means that an Inepro reader has been detected by the software and that that reader is a Multi ISO reader that has the 'HID raw' config file loaded.

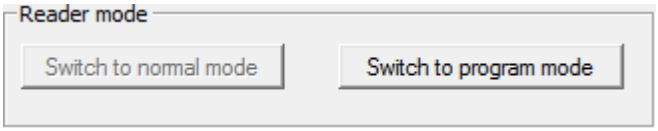
2. Connect the USB connector to a free USB port on your PC
   Shortly after that, the status 'Inepro reader removed', should change to 'Inepro reader detected' and will show the type of the reader and which firmware and config file is loaded on the reader.

3. Select the required config file by clicking the search button in the config block:



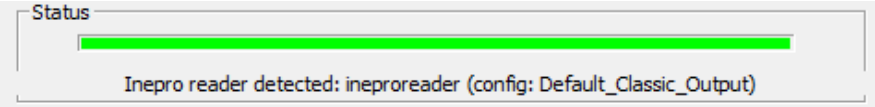
4. A browse window is now opened, select the classic output configuration in the config files folder:
   After selecting the correct file, the file name is now shown in the config block, but the button to program the config is still greyed out and cannot be selected.

This is because the reader is in 'normal mode' and not in 'program mode'.



5. To set the reader in program mode click on "Switch to program mode" in the Reader mode block.
6. To verify that the reader is in program mode the 3 led's on front of the reader will blink continuously.

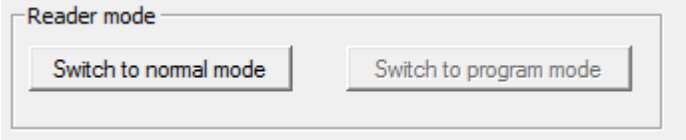
7. Now click "Program Config" to actually upload the selected config to the reader.



Shortly the Status will show; "Programming" but it will only take a few seconds, once finished the Status bar is completely green.

8. Now switch back the reader to normal mode by pressing the button "Switch to normal mode" in the reader mode Block.

Change the Configuration of the reader



The reader will beep twice and after a few seconds only the right LED will light up.

9. Close the Inepro USB reader tool and remove the USB connector from your PC.

10. To see now what has been changed, please follow the steps of the chapter: "Default Card read out".
As you will see the output is now changed.
It now only shows the Hexadecimal card ID and will only return <Enter> when removing the Card.

Inepro Reader Software

With the Inepro Reader software it is possible to read out the RFID technology of the card as well as all the RAW details. These details can be stored, typically to export to third party software/databases. The Inepro Reader software is using 'HID Raw' as communication with the reader. The type of communication is set in the configuration, the default configuration uses HID. So to let the card reader communicate with the Inepro Reader software the reader must be programmed with a configuration containing 'HID Raw' communication.

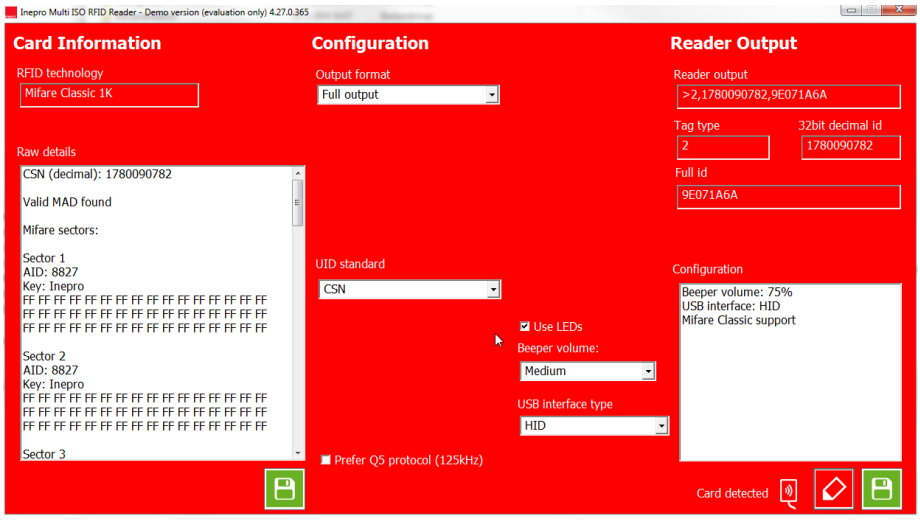
To change the configuration please see the chapter: "Change the configuration of the reader". Change the configuration using the Following config file: "IneproReaderSoftware.readerconfig".

The following settings can be adjusted and afterwards stored in a configuration file which can be programmed in to the reader:

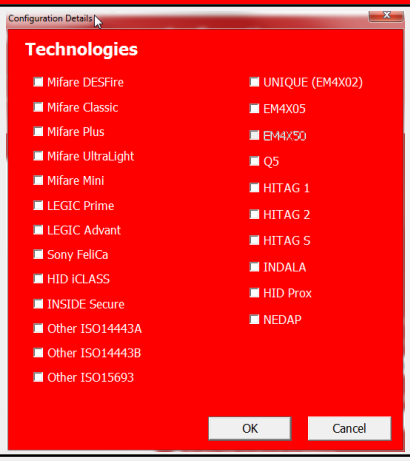
Field	Value	Description	Default
Output format	▪ Classic Output ▪ Full Output	▪ Only ID of the card ▪ Type ID, decimal and hexadecimal ID	Full Output
Byte order	▪ Default ▪ Reversed	▪ Standard conversion from Decimal to Hexadecimal ▪ Paired reversed conversion from Decimal to Hexadecimal ('ABCDEF' -> 'EFCDAB')	Default
Output Length	▪ Automatic ▪ 4 char. ▪ 5 char. ▪ 6 char. ▪ 7 char. ▪ 8 char. ▪ 9 char. ▪ 10 char. ▪ 11 char. ▪ 12 char. ▪ 13 char. ▪ 14 char. ▪ 15 char. ▪ 16 char. ▪ Remove leading zero's	▪ The actual length of the ID ▪ Up to 4 characters with leading zero's ▪ Up to 5 characters with leading zero's ▪ Up to 6 characters with leading zero's ▪ Up to 7 characters with leading zero's ▪ Up to 8 characters with leading zero's ▪ Up to 9 characters with leading zero's ▪ Up to 10 characters with leading zero's ▪ Up to 11 characters with leading zero's ▪ Up to 12 characters with leading zero's ▪ Up to 13 characters with leading zero's ▪ Up to 14 characters with leading zero's ▪ Up to 15 characters with leading zero's ▪ Up to 16 characters with leading zero's ▪ Remove leading zero's	Automatic
UID standard	▪ CSN	▪ Also known as Card Serial Number	CSN
Prefer Q5 protocol	▪ Ticked ▪ Not Ticked	▪ The 125 kHz cards will be preferred to the 13,65 MHz cards ▪ The 13,65 MHz card will be detected earlier then the 125kHz card (because of the longer wavelength)	Not ticked
Decimal output	▪ Ticked ▪ Not Ticked	▪ The output will be decimal ▪ The output will be hexadecimal	Not ticked
Ignore card removed	▪ Ticked ▪ Not Ticked	▪ When the card is removed, the <enter> character will be send ▪ When the card is removed, the Card ID will be send	Not ticked

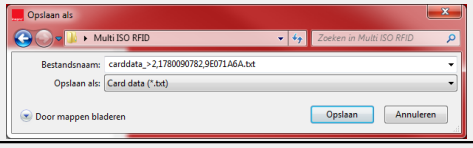
Inepro Card Reader Tools

Field	Value	Description	Default
Use LEDs	▪ Ticked ▪ Not Ticked	▪ LED's will not be active ▪ LED's are active	Ticked
Beeper volume	▪ Off ▪ Low ▪ Medium ▪ High	▪ The beeper is switched off ▪ Low volume level ▪ Medium volume level ▪ High volume level	Medium
USB interface type	▪ HID ▪ HID Raw (without driver) ▪ CDC ACM (Virtual COM port) ▪ USB Ethernet	▪ HID (keyboard communication) this communication will need no drivers installed on the host. ▪ HID Raw is communication without a driver, so the software which is used will need an internal driver. The Inepro Reader tool uses this type of communication. ▪ ODC ACM (virtual comport) this communication protocol will act as a serial comport. ▪ USB Ethernet	HID



Card technologies

Icon	Description
	 By the reader accepted card technologies can be switched on or off. When a card is presented to the reader this card type is automatically switched on. This configuration can be found under the edit button: After changing 1 or more settings a complete configuration list is shown in the configuration box.

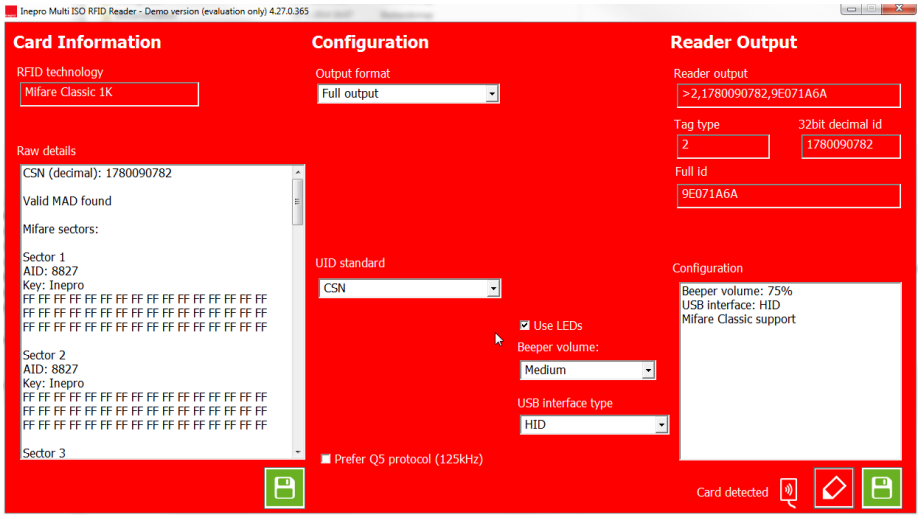
Icon	Description
	
	To store the raw card detail information press the Save button on the left: Type in a correct configuration name so that it is clear which settings it contains or for which project the configuration will be needed and press OK.
	To Save the configuration click the 'Save' button on the right fill in a recognisable name and click 'OK'. The configuration is now stored and can be selected when programming a configuration file in to the reader, as described in the chapter: "Change the configuration of the reader" ■

Default card Read out

By default the card reader is programmed to show a full output of a card via the HID protocol. All available card types will be recognized by the reader. With this configuration the card type ID can be determined and the card ID will be shown.

Prerequisites:

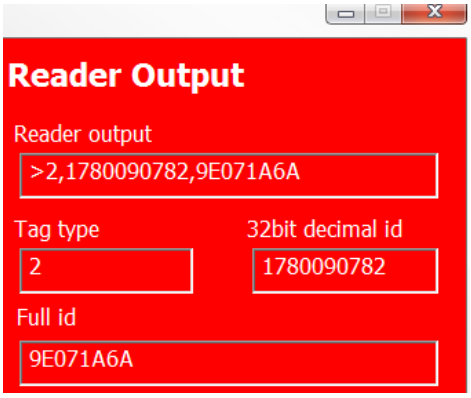
- Card Reader has a valid firmware version
- Card Reader has the 'HID Raw' configuration
- Card Reader mode is set to 'Normal Mode'



Inepro Card Reader Tools

To read out this complete output perform the following steps:

1. Make sure the USB connector attached to the card reader is connected to a free USB port on the PC
2. Open a blank Word document, notepad or the Inepro reader
3. Present a card (13,65MHz or 125 kHz can be used) to the reader
   When using notepad or Word there will be a number, this is the card ID. In the Inepro Reader much more information can be extracted. The rest of this section will treat the process when the Inepro Reader is used:



In the reader output field the complete output is shown:
>2,1780090782,9E071A6A

4. Remove the card.

Once the card is removed, the software should display the following:
<2,1780090782,9E071A6A

Reader output broken down:

Value	Description	Notes
>	Card is placed	
2	Card type	Mifare (Please find a list with al card type ID's in the documentation folder)
1780090782	Decimal Card ID	Normally in byte reversed order (that is the hex value is divided up in pairs of two and those pairs are set back to front). So, 'ABCDEF' becomes 'EFCDAB' and is then converted to decimals.
9E071A6A	Hexadecimal Card ID	
<	Card removed	

Concept Summery

Concept	Description
IneproReaderSoftware.readerconfig	To communicate with the Inepro Reader Software via the 'HID Raw' communication protocol
Classic output	The output of the reader will only show the hexadecimal card ID
Full output	The output of the reader will show the cardtype ID, decimal card ID and the hexadecimal Card ID

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