STid
Electronic Identification

ultrys

Designed in France
Made in France

www.stid.com

Acknowledgment

Welcome to the world of high security!

You have purchased ULTRYS v2 software; it will allow you to configure SPECTRE readers, encode user cards and vehicle tags.

We would like to thank you for the confidence you place in us and we hope that this solution developed by STid will keep you satisfied.

We remain at your disposal for any further information about this programming tool and our cutting-edge solutions.

We look forward to seeing you for more information on our website www.stid-security.com.

The STid Team

1. Information

PC requirements

- A PC with operating system: Windows 7 or 10 or Windows server 2012r2.
- USB communication port.
- 50 MB min of free disk space.

USB Key Content

- FTDI USB Driver for Windows 7, 8.x and 10.
- ULTRYS Version 2.x.x.

Hardware required

To configure the reader:

- USB cable provided with SLA and SMA to directly configure the reader via USB link.

Or

- STid UHF 866-915 MHZ encoder to encode UHF SCB configuration card:
    - ETSI part numbers:
        - STR-W45-E/U04-5AA/1 (v10 firmware version required*)
        - GAD-W45-E/U04-5AA/1 (v08 firmware version required*)
    - FCC part numbers:
        - STR-W55-E/U04-5AA/1 (v10 firmware version required*)
        - GAD-W55-E/U04-5AA/1(v08 firmware version required*)
- UHF ISO card part number: CCTW630_AP

To encode user credentials and vehicle tags:

- STid UHF 866-915 MHz encoder:
    - ETSI part numbers:
        - STR-W45-E/U04-5AA/1 (v10 firmware version required*)
        - GAD-W45-E/U04-5AA/1 (v08 firmware version required*)
    - FCC part numbers:
        - STR-W55-E/U04-5AA/1 (v10 firmware version required*)
        - GAD-W55-E/U04-5AA/1(v08 firmware version required*)

*Identification on the back of the encoder.

Windows Installation

1. Insert the ULTRYS v2 USB stick on an USB port of your PC.
2. Wait for the automatic opening of the browser window.
3. Launch ULTRYS V2.x.x_setup.exe.
4. Follow the instructions on the screen.

Compatibility ULTRYS / Reader Range / User IDs

This ULTRYS version (2.x.x) allows you to configure SPECTRE Access readers.

To configure URx & GAT readers, please use ULTRYS v1.x.x.

	ULTRYS v1	ULTRYS v2
SPECTRE + SPECTRE ANTENNA	x	✓
SPECTRE + URD ANTENNA	x	✓
URx + URD ANTENNA	✓	x
URx + SPECTRE ANTENNA	✓	x
Credential encoding in secure mode	x	✓

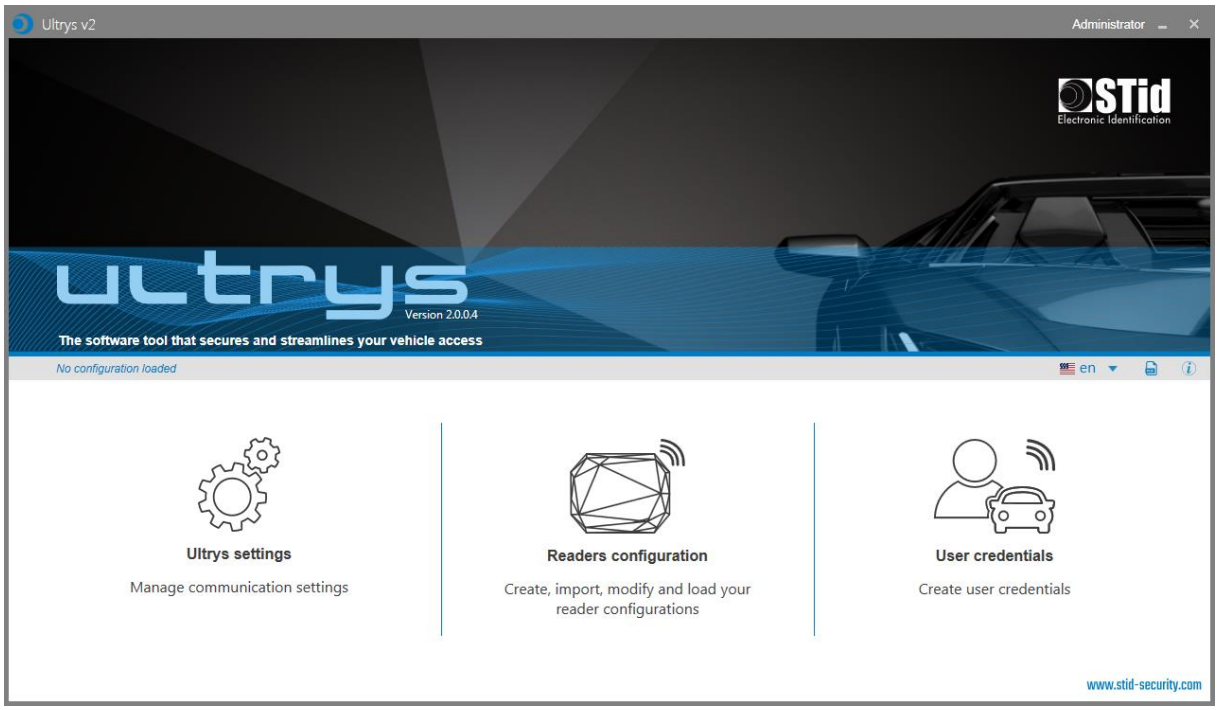
Warning:

- To read credentials encoded with ULTRYS v1 on a SPECTRE reader:
  configure the EPC reading in Mode 1(standard) and do not use the EPC filter.

- Credentials encoded with ULTRYS v2 will not read on the Urx /GAT readers.

Overview

It is possible to install the software on an unlimited number of workstations.



- The software is divided into three distinct parts:

  ULTRYS settings

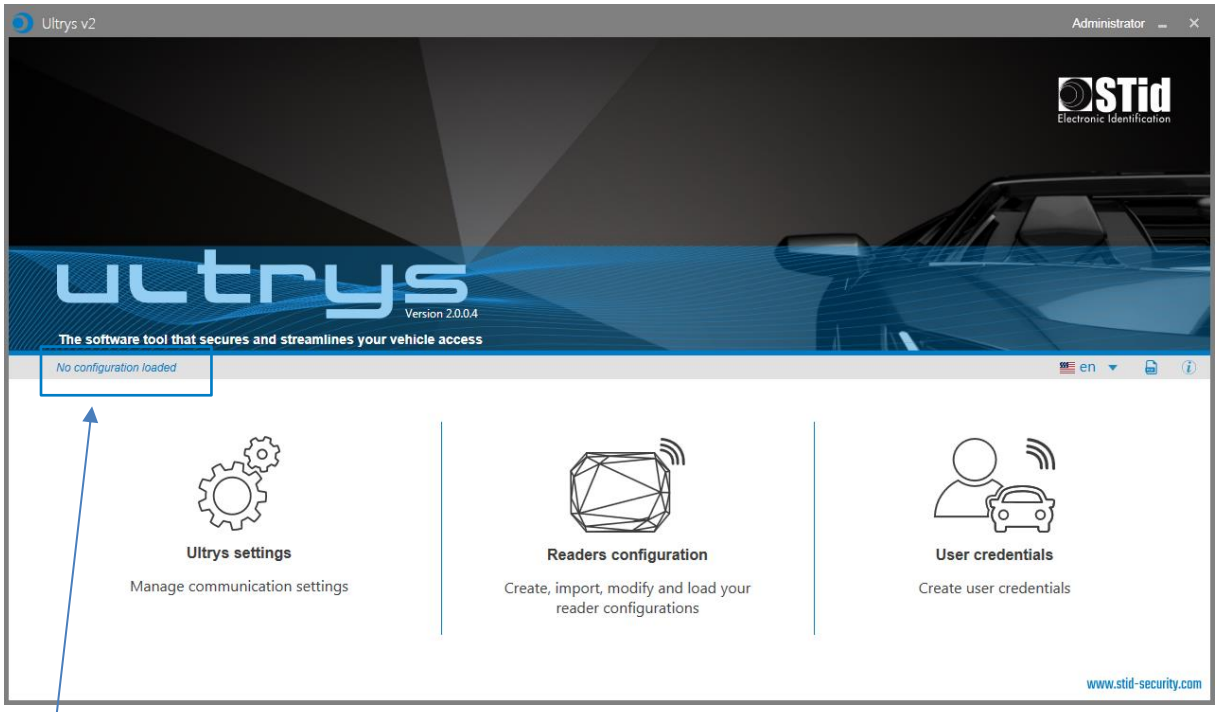
  Readers configuration

  User credentials

- On the Home page, you can select the language (English, Spanish, French) and click on the link for user manual.

Open

At the first opening no file is loaded by default.
ULTRYS is directly open on the home page.

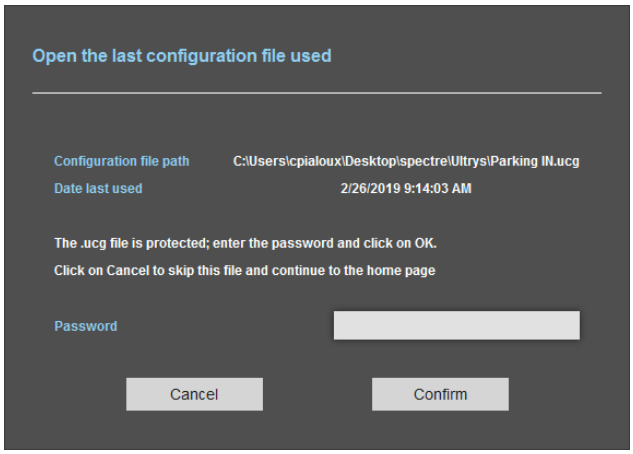


This mention indicates the current configuration.

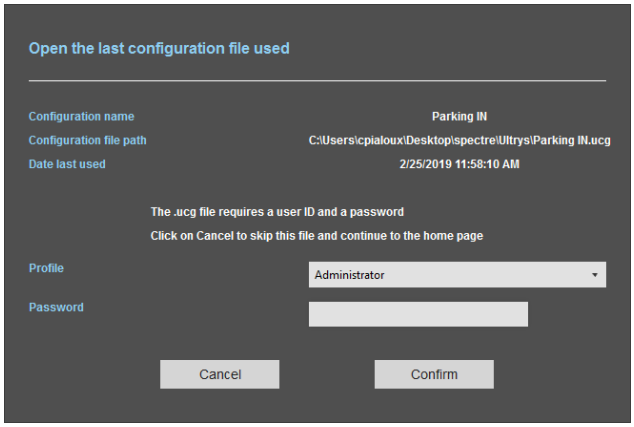
At the next opening, ULTRYS will automatically load the last loaded configuration file.

Two possible cases:
- The loaded file is the one to use
- The loaded file is not the one to use

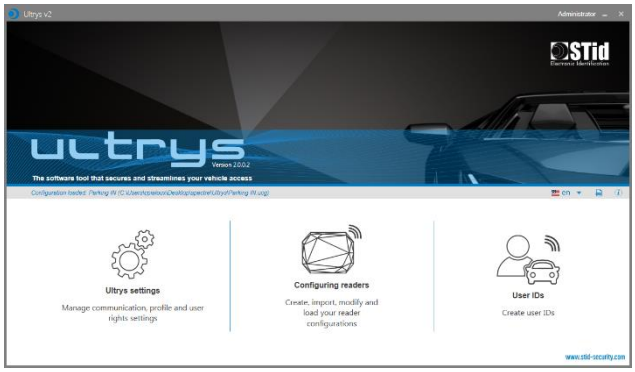
1st case: the loaded file is the one to use



1- Enter the password of the configuration file if there is one if not go to step 2.

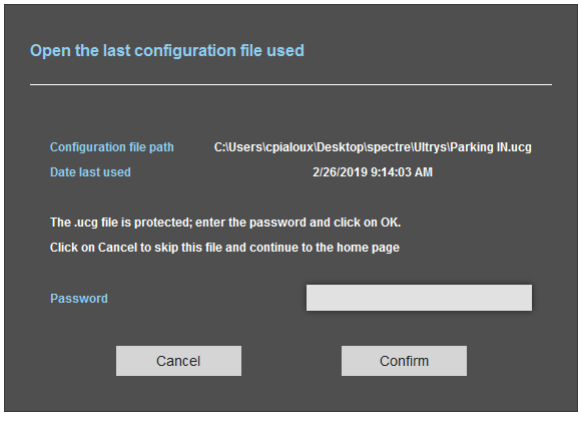


2- Select the profile to use to open the file.
3- Enter the profile password if there is one.
4- Please confirm.



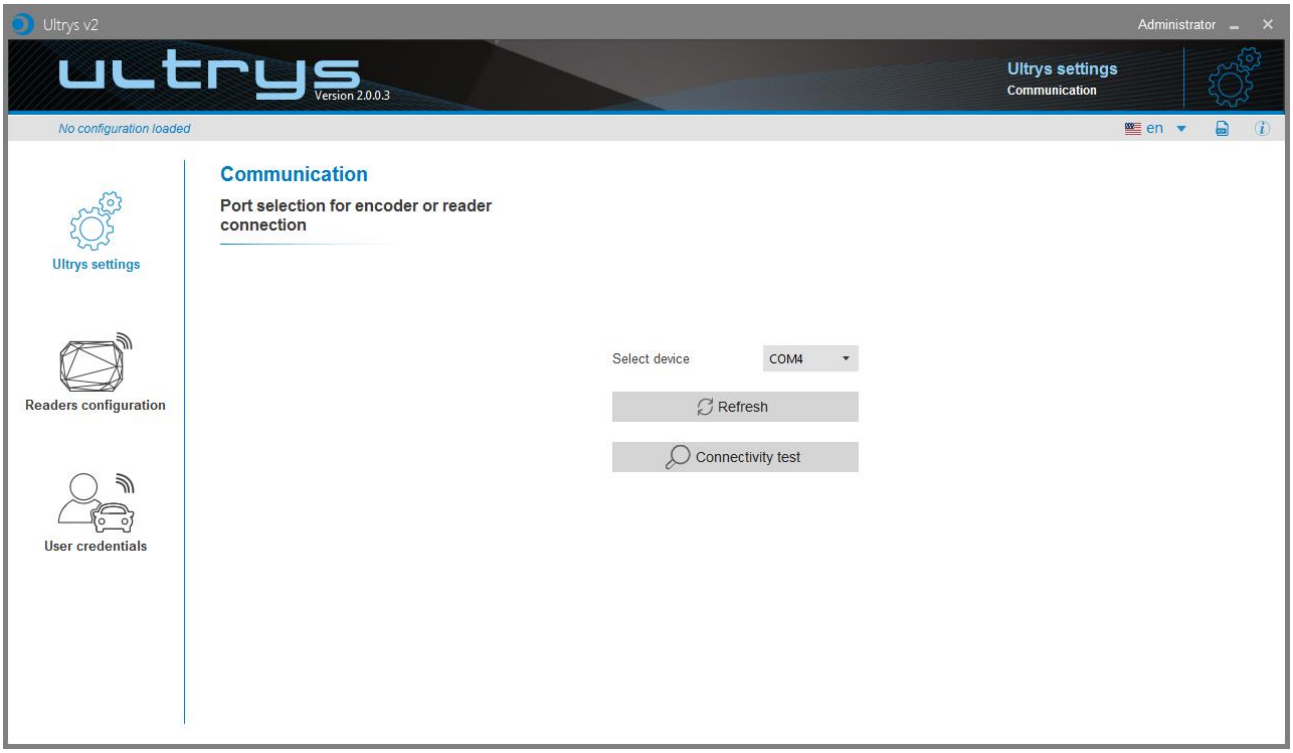
5- ULTRYS loads the file and opens the home page.

2nd case: the loaded file is not the one to use



1- Cancel.
2- ULTRYS is open on the home page without any configuration loaded.

2. ULTRYS Settings

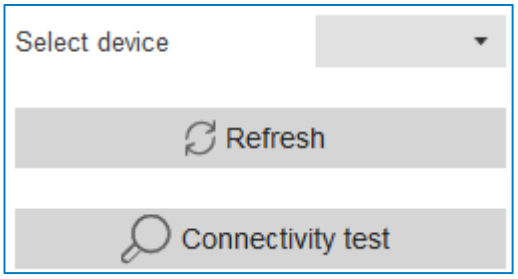


- Connect the SPECTRE reader to the PC using the provided USB cable to load the configuration via serial link directly onto the reader:

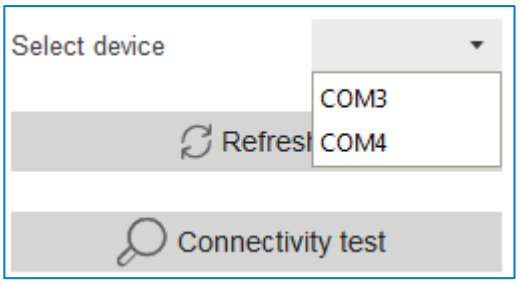
or

- Connect an UHF encoder to the PC to encode User IDs or load the configuration onto UHF SCB configuration card.

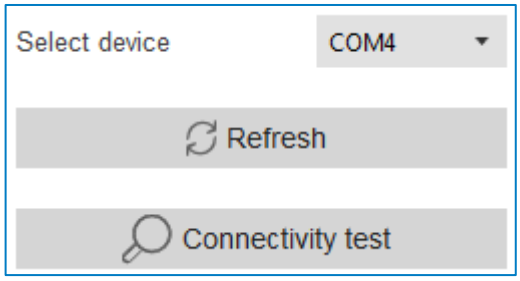
To set the communication port



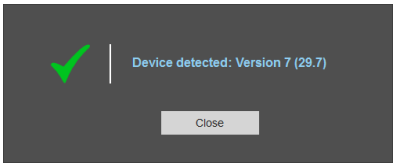
1- Click on 'Refresh' to detect all readers connected to the PC.



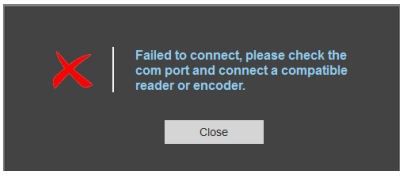
2- Open the dropdown list Select device
3- Select the COM port number corresponding to the reader.



4- Run the connectivity test



Message OK (with indication of the firmware version).



Message: Failed

- Check the compatibility of the reader.
- Check the USB cable.
- Check the Baudrate reader: it must be fixed to 115200.

3. Reader configuration

3.1 Readers configuration

This button allows to access to the settings of the loaded configuration settings.

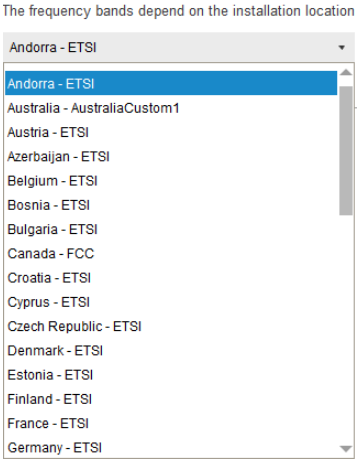
3.2 Create new configuration

The reader configuration is done in nine steps. To move from one stage to another, you must click on “Next”.

 Step1	Frequency band regulation
 Step2	Configuration protection loaded into the reader
 Step3	Reader selection
 Step4	Antenna type selection
 Step5	Installation configuration
 Step6	Setting up light indicator (only available for ANT_UHF2)
 Step7	Communication protocol
 Step8	User management
 Step9	Configuration save and protect

Step 1- Frequency band regulation

1

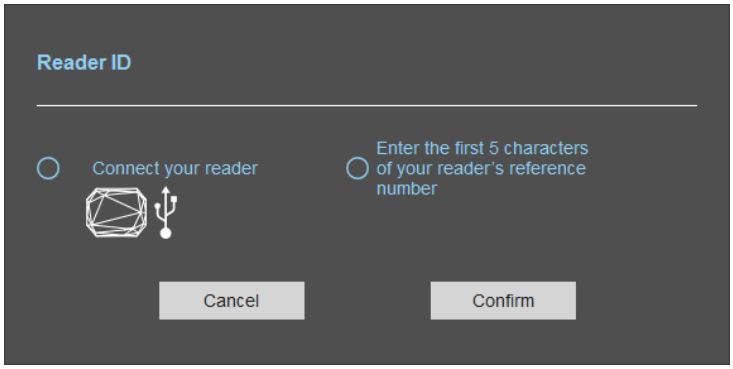


Select the country in which the installation will be done.

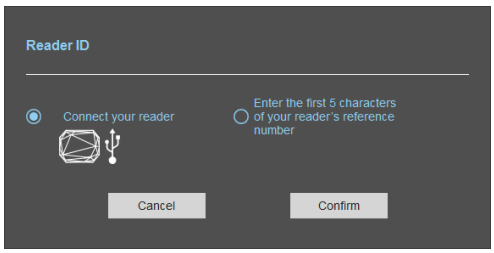
For a country which is not in the list, please contact STid: support@stid.com.

2

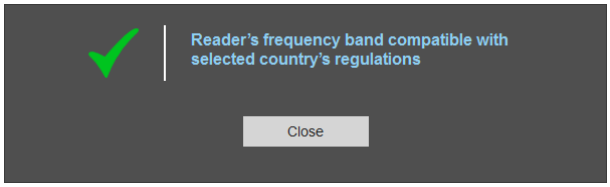
To approve the feasibility to install your reader in the selected country, you can check the compatibility.



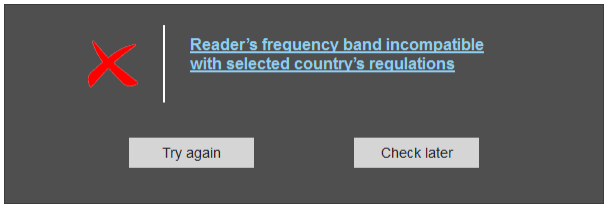
With USB reader connection



1- Connect the SPECTRE reader and set the communication COM port.
2- Select 'Connect your reader'
3- Please confirm

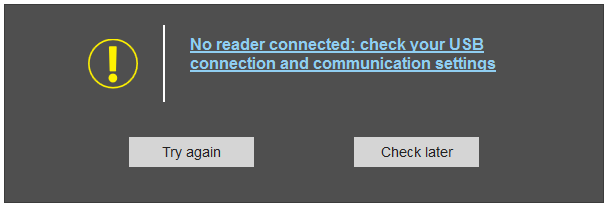


Message: OK



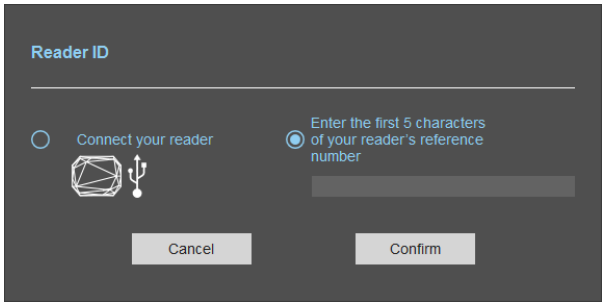
Message: NOK

The reader can't be installed in the selected country.



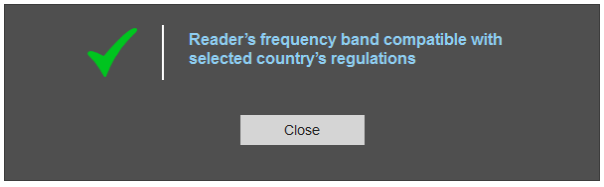
- Check the USB cable
- Check the communication with reader

With reader part number

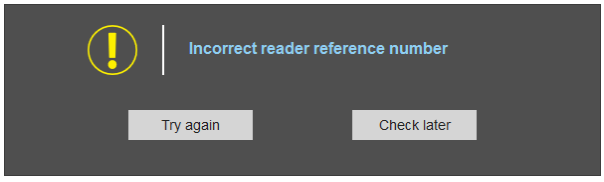


Enter the first 5 characters of the reader part number

Example: SLAR4, SLAR5, SMAR4...

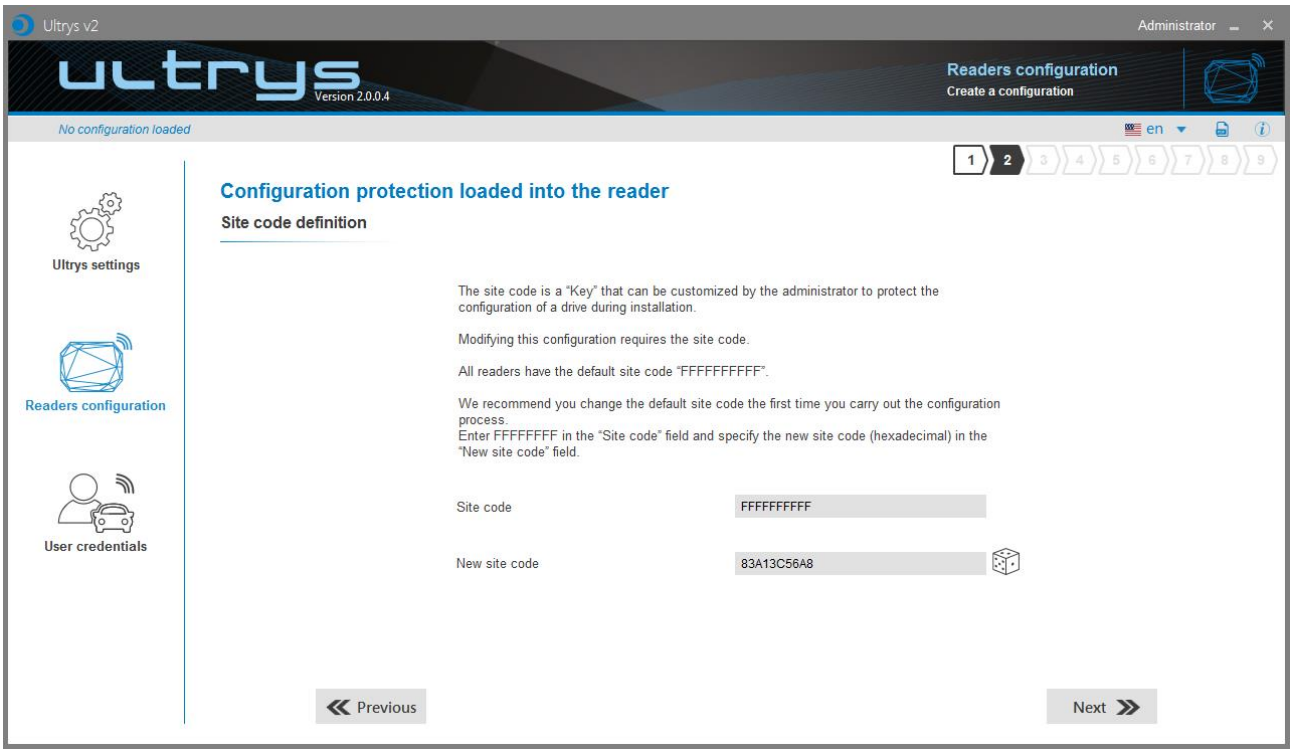


Message: OK



Message: the reference reader is not compatible with regulation selected.

Step 2- Configuration protection loaded into the reader



SPECTRE readers are initially supplied with a default configuration and a site code to 0xFFFFFFFFFF.

The size of this site code is 5 bytes (10 hexadecimal characters).

After the initial setup and in order to reconfigure the reader, it will be necessary to present an UHF SCB card or a configuration file with the same 'site code' as the reader.

 Random site code generator.

Caution

This site code is important and should definitely be known by the administrator.
It protects the configuration data and allows reader configuration updates.

If you lose this site code, you won't be able to reconfigure the reader again and the reader must be reset at the factory.

To change the site code, it will be necessary to know the current site code.

Step 3- Reader selection

Only SPECTRE Access readers are compatible with this ULTRYS version.

Step 4- Antenna type selection

The SPECTRE reader can be connected to new SPECTRE antennas (ANT-UHF2), or previous antennas (ANT_URD).

Select the type of antenna used in the installation and compatible with the reader selected.

Step 5- Installation configuration

1 Name the lane

Maximum 10 characters.

For example, Entry1.

2 3 Add / Delete lane

Use 'Add /Delete lane' to configure the number of lanes you will use in your application.

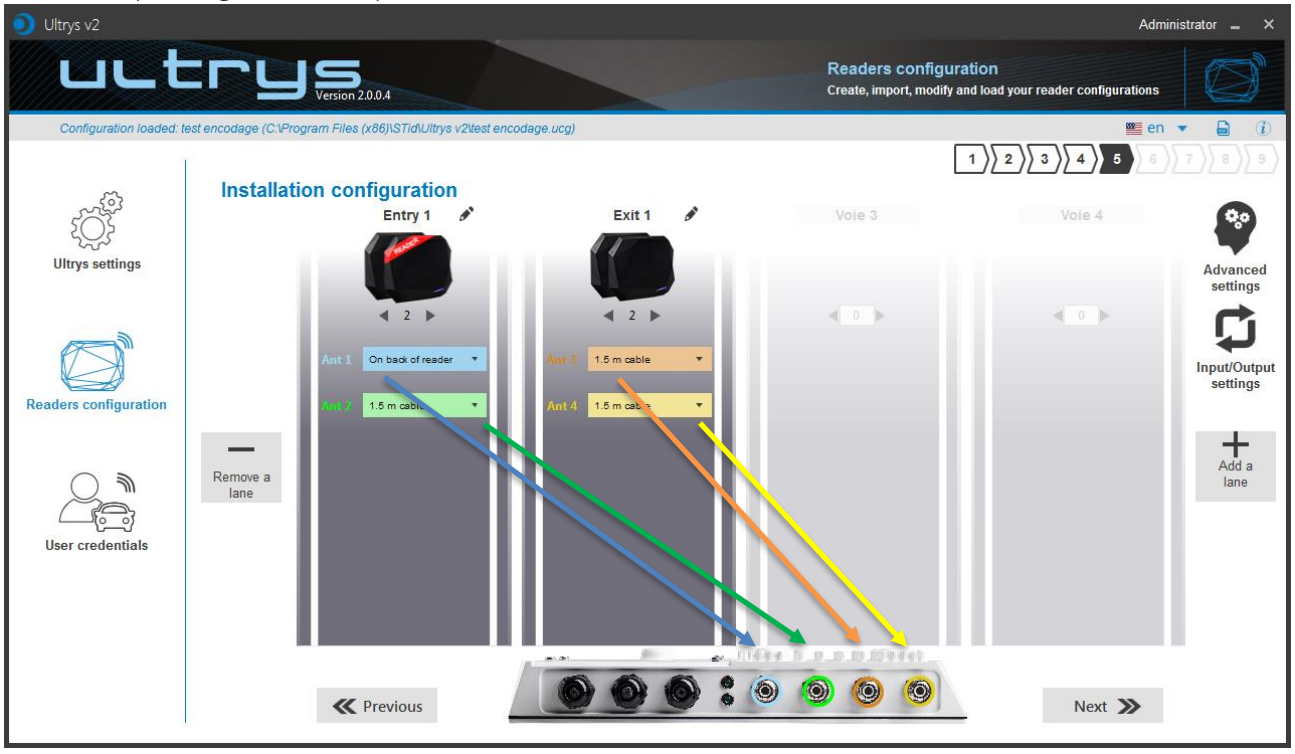
The default setting is one antenna on the first lane.

For more information about the possible combination please refer to the document NA_SPECTRE.

4 Add / Remove antenna on lane

Set the number of antennas on the corresponding lane.

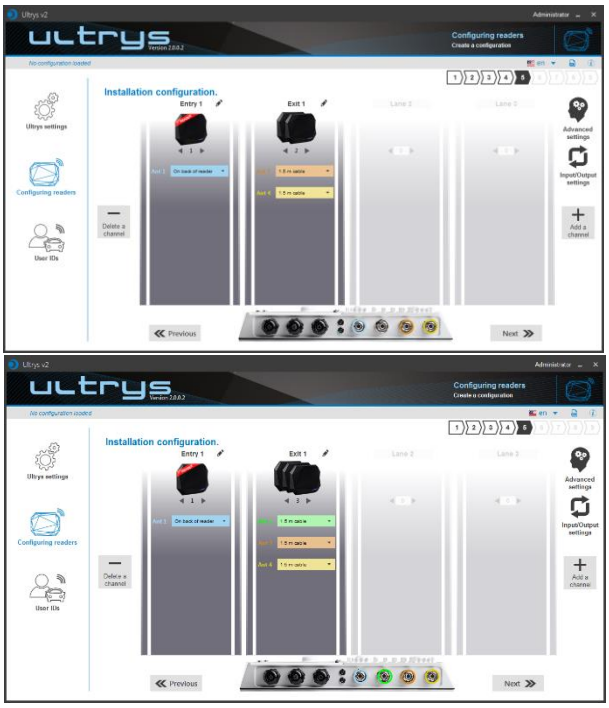
When an antenna is added, the RF port to which the antenna has to be connected appears on the reader with corresponding color to help the installation.



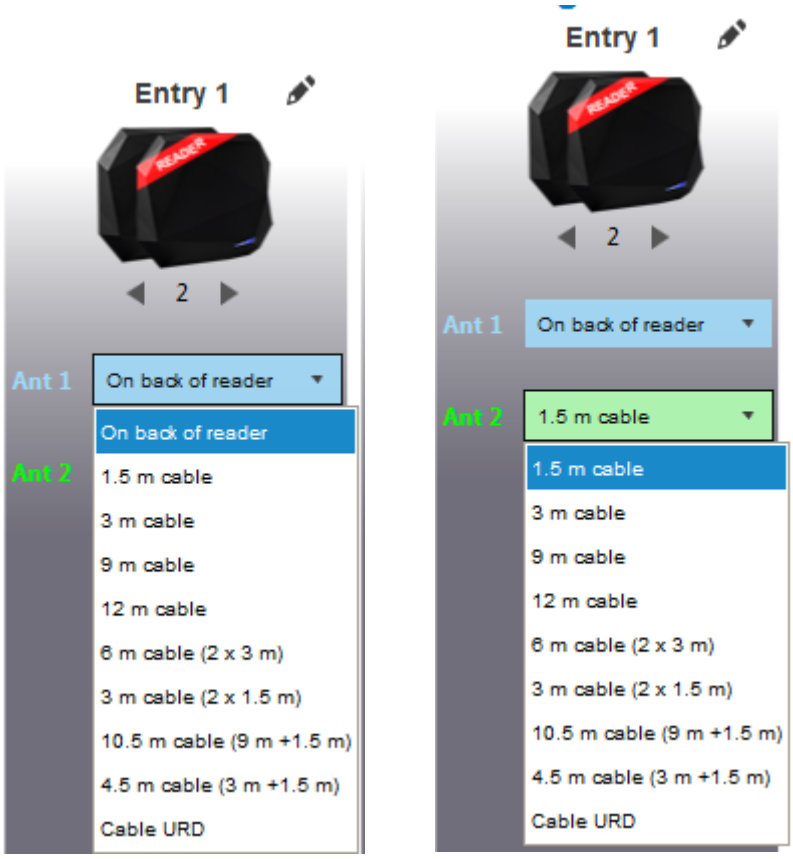
RF ports are assigned in order to add the antennas in the configuration wizard.

When an antenna is removed from the configuration, the RF port connection for other antennas does not change.

Example: Ant 2 deleted from lane 1 and added to lane 2.



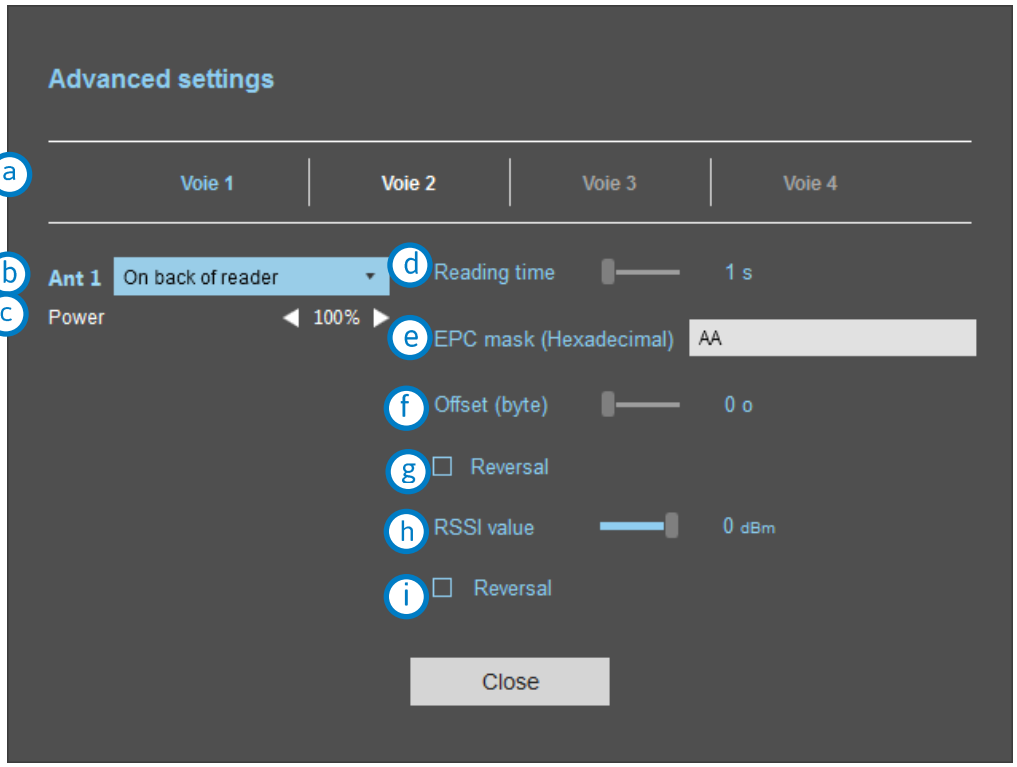
5 Select the cable length for each antenna



For each antenna, select the cable length you would like to use between antenna and reader.

Only the first Antenna of the lane 1 can be lean against the reader.

6 Advanced settings



a Select the lane to configure. The lanes selected in installation setup are blue. When a lane is selected in Advanced parameters it is written in white.

b Select / Change the cable length between the antenna and the reader.

c Adjust the power of each antenna (from 10% to 100%) to adjust the reading distances.

d Adjust the timing for a scan (reading) by step of 1 second (max 30s).
This setting is taking into account only if *Input type selection* is set to *Activating all lanes* or *Activating the event lane*.

e **The EPC filter is not available in Secure Mode**.
Enter the value for EPC Mask, max 62 hexadecimal bytes.

f Enter the value for offset EPC mask in bytes (0 to 65535). It depends on the EPC Mask length.

g *Reversal* not selected: only tags with an EPC value corresponding to the EPC mask value will be provided to the user.
Reversal selected: only tags with an EPC value different from the EPC mask value will be provided to the user.

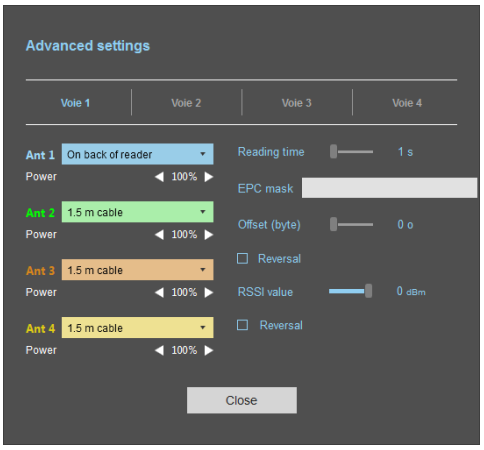
h RSSI (Received Signal Strength Indication) is a measure of the power in reception of the tag response. The value returned by the reader is proportional to the amplitude of the reception signal
Enter the RSSI value (-110dBm to 0dBm). 0dBm deactivates the RSSI filter.

i *Reversal* not selected: only tags with an RSSI greater than or equal to the specified value will be provided to the user.
Reversal selected: only tags with an RSSI smaller or equal to the specified value will be provided to the user.

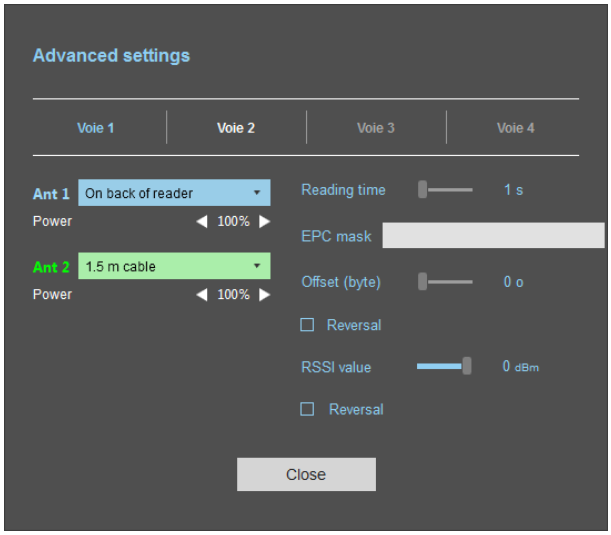
Ex: RSSI filter = -49f=dBm + Reversal not selected
A tag that will have a RSSI value of -20dBm will be sent back,
A tag that will have a RSSI value of -60dBm will not be sent back.

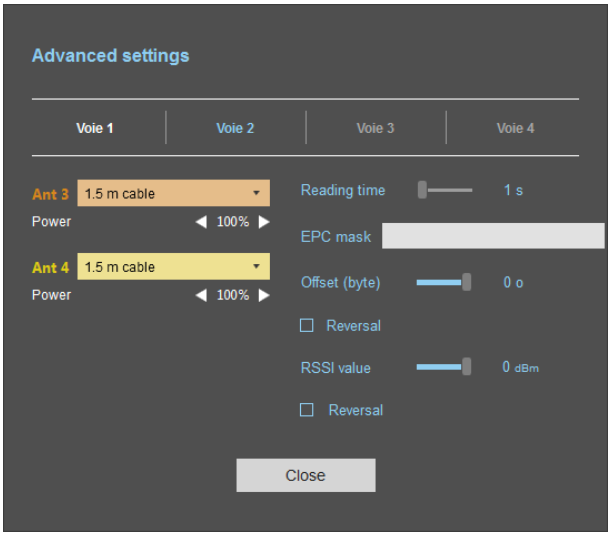
Scan time, EPC filter and RRSI filter settings are the same for antennas on the same lane. The cable length and RF power antenna are set for each antenna.

Example 1: 4 antennas on lane 1.



Example 2: 2 antennas on lane 1 and 2 antennas on lane 2.



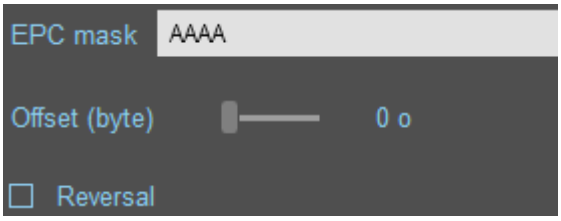


EPC filter

Example:

Code EPC Tag 1: AAAAABCD0000000000000001
Code EPC Tag 2: AA02ABCD0000000000000002
Code EPC Tag 3: AA02ABCD0000000000000003
Code EPC Tag 4: AA02FFFF0000000000000003

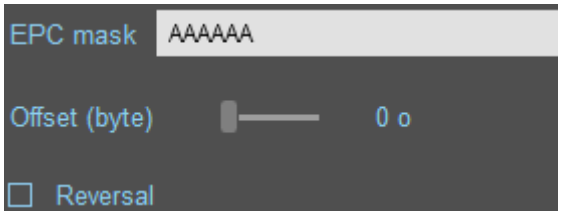
1- *EPC mask* = AA AA and *Offset* = 0



Tag 1: AAAAABCD0000000000000001
Tag 2: AA02ABCD0000000000000002
Tag 3: AA02ABCD0000000000000003
Tag 4: AA02FFFF0000000000000003

Only tag 1 is transmitted.

2- *EPC mask* = AA AA AA and *Offset* = 0



Tag 1: AAAAABCD0000000000000001
Tag 2: AA02ABCD0000000000000002
Tag 3: AA02ABCD0000000000000003
Tag 4: AA02FFFF0000000000000003

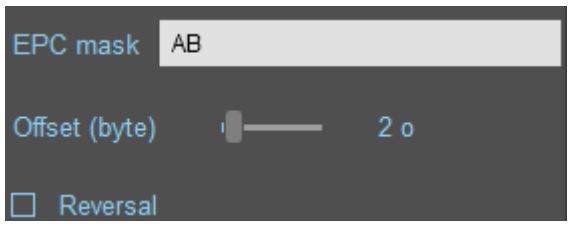
No tag is transmitted.

3- *EPC mask* = 01 and *Offset* = 11

Tag 1: AA AA AB CD 00 00 00 00 00 00 00 01
Tag 2: AA 02 AB CD 00 00 00 00 00 00 00 02
Tag 3: AA 02 AB CD 00 00 00 00 00 00 00 03
Tag 4: AA 02 FF FF 00 00 00 00 00 00 00 03

Offset is represented in blue; the filter is done on byte 12.
Only tag 1 is transmitted.

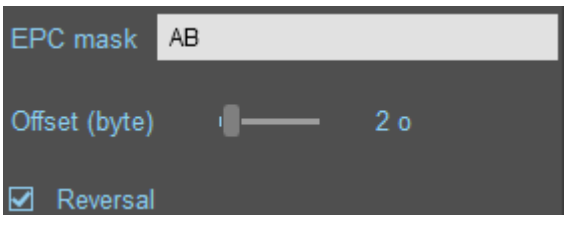
4- *EPC mask* = AB and *Offset* = 2



Tag 1: AA AA AB CD 00 00 00 00 00 00 00 01
Tag 2: AA 02 AB CD 00 00 00 00 00 00 00 02
Tag 3: AA 02 AB CD 00 00 00 00 00 00 00 03
Tag 4: AA 02 FF FF 00 00 00 00 00 00 00 03

Tags 1, 2 and 3 are transmitted.

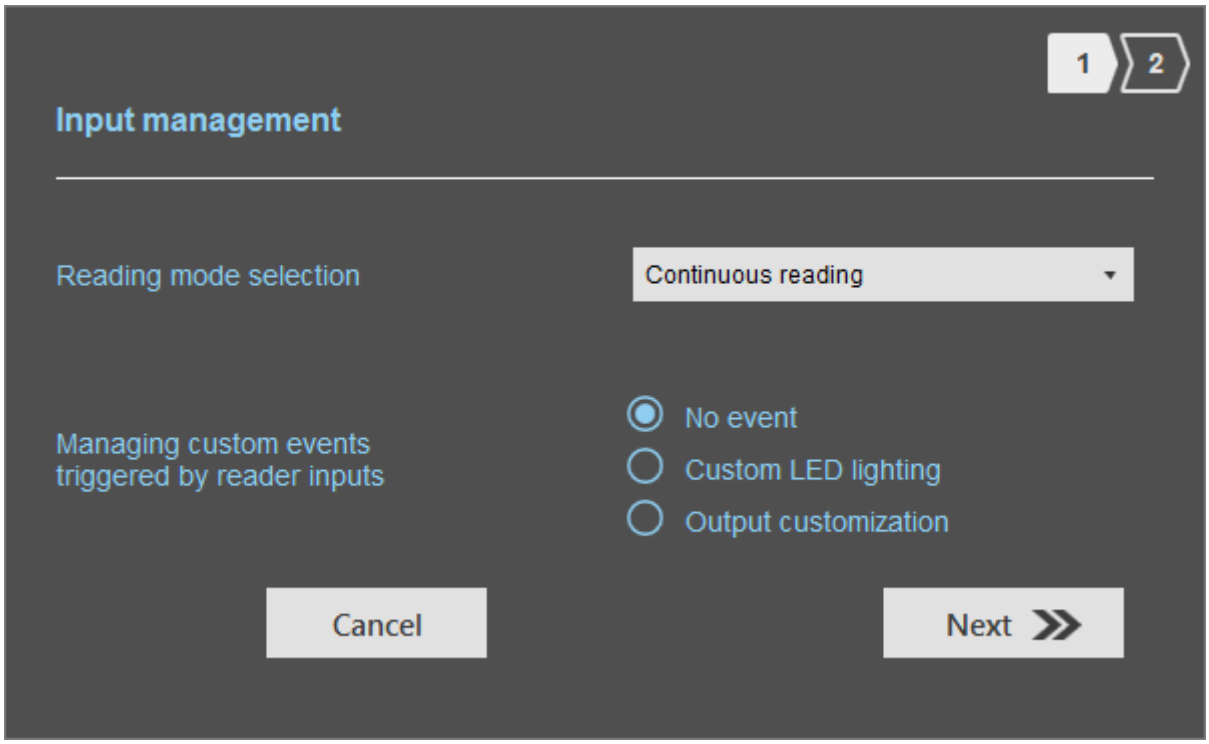
5- *EPC mask* = AB, *Offset* = 2 and *Reversal*



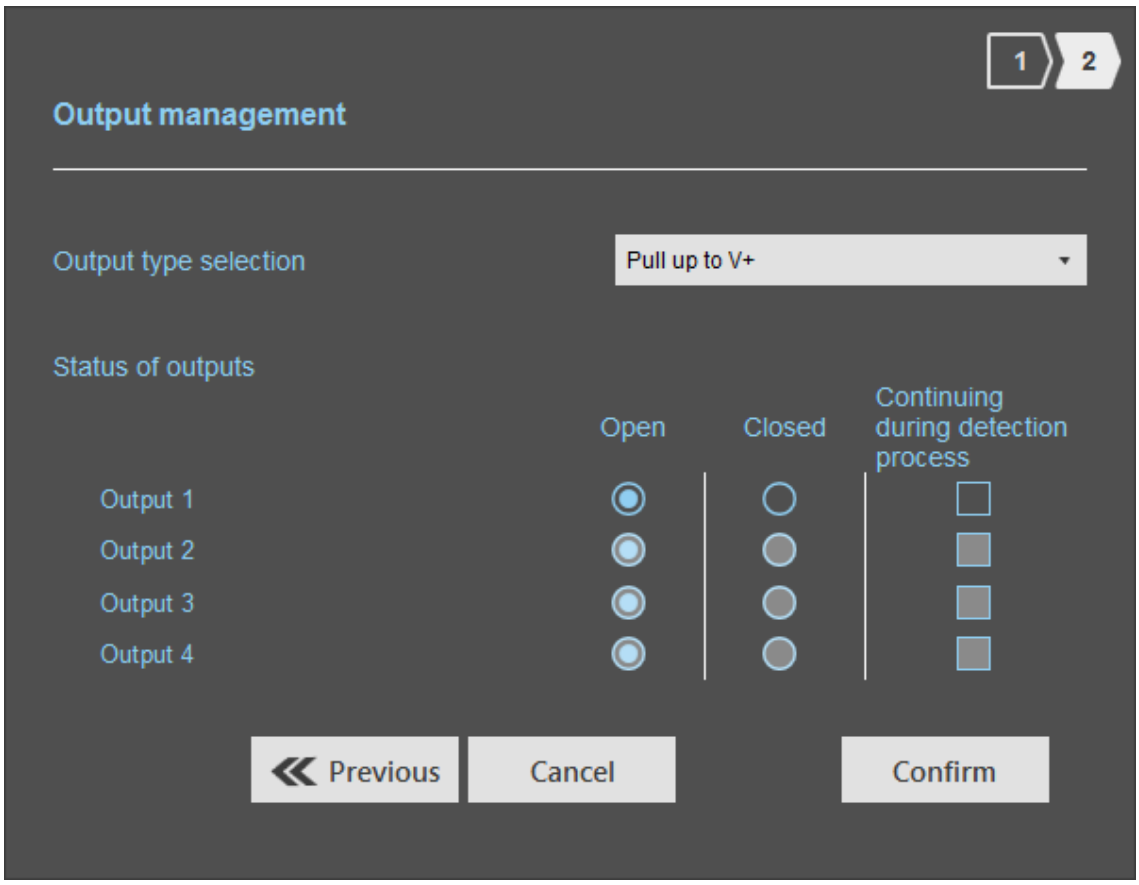
Tag 1: AA AA AB CD 00 00 00 00 00 00 00 01
Tag 2: AA 02 AB CD 00 00 00 00 00 00 00 02
Tag 3: AA 02 AB CD 00 00 00 00 00 00 00 03
Tag 4: AA 02 FF FF 00 00 00 00 00 00 00 03

Tags 1, 2 and 3 are not transmitted. Only tag 4 is transmitted.

7 Input/ output settings



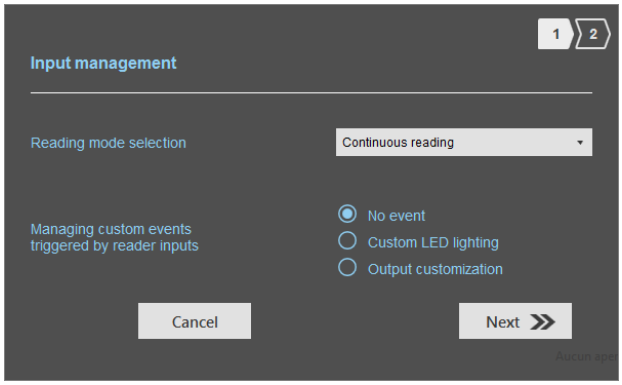
Select the reading mode, the output settings depend on this mode.



Both types of output are Pull up to V+ or Open drain.

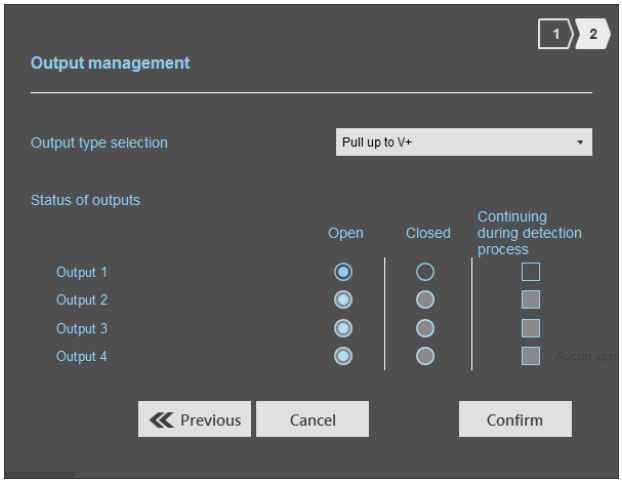
Status of outputs: select for each output the default state 'Open' or 'Closed' and if the state is maintained during the detection process.

a Reading mode = Continuous reading + No event



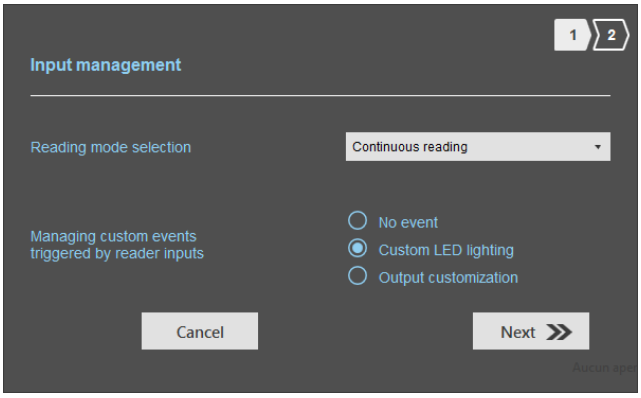
In this mode, the reader scan continuously.

There is no action on input activation.



Select the output type and default state for output.

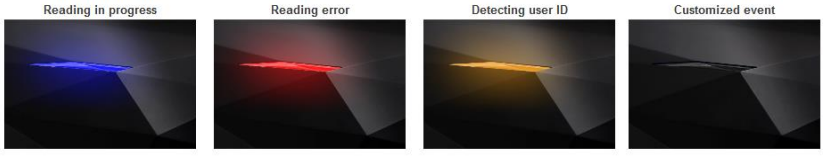
b Reading mode = Continuous reading + Customized LED lighting



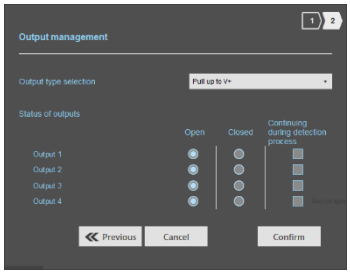
The LEDs are activated on 'Customized event' color during 1 second by Input.

Ex:

- On lane 1 there is one antenna, an action on Input1 activates the LED during 1 second.
- On lane 2 there are four antennas, an action on Input2 activates the LED on each antenna during 250 ms.

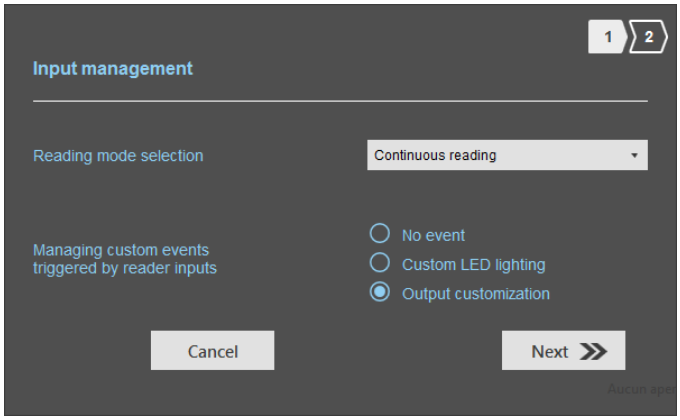


The LED 'Customized event' color is defined on step 6: Setting up light indicator.

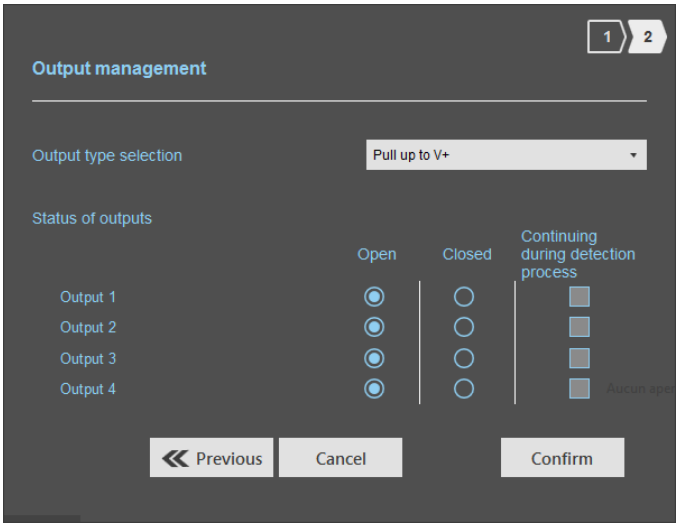


Nothing to do.

C Reading Mode = Continuous reading + Output customization

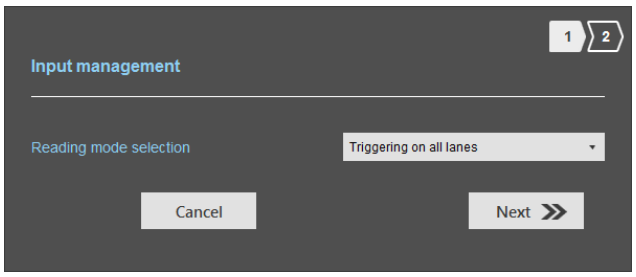


An action on Input toggles the corresponding output regardless of RF function of the reader.

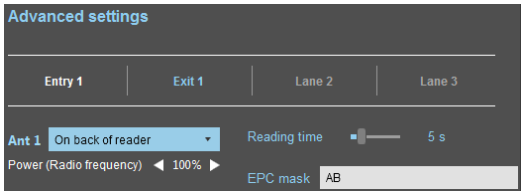


Select the output type and default state for output.

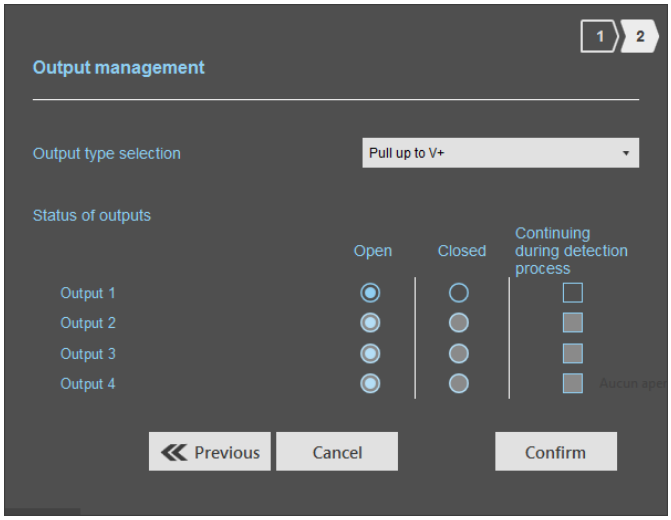
d Reading Mode = Activate all lanes



If an Input is activated (In1, In2, In3 or In4), the reader scans on all lanes set.

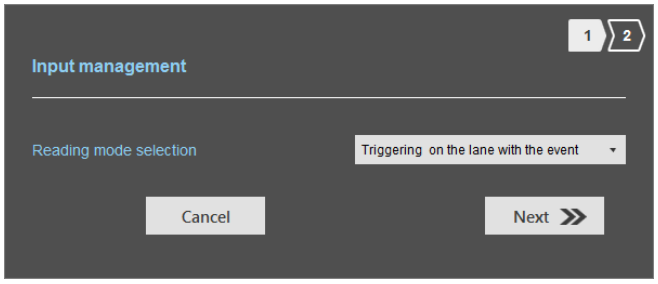


The duration of the reading is defined in 'Advanced settings'.

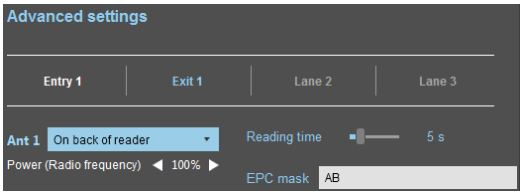


Select the output type and default state for output.

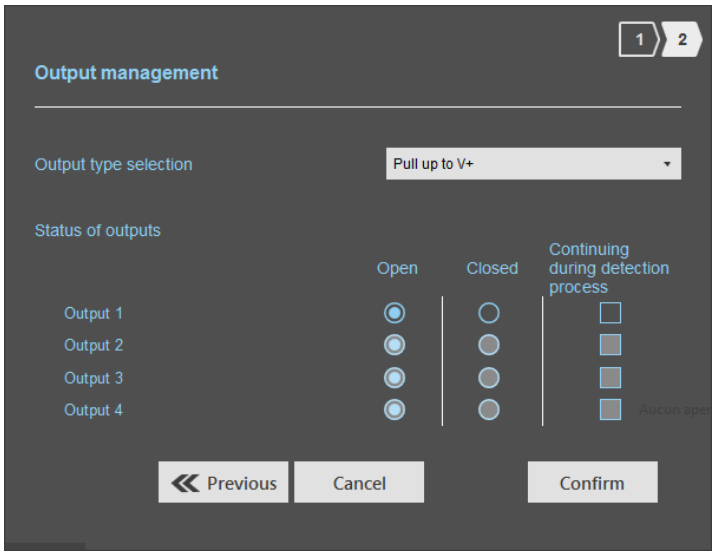
Reading mode = Triggering on the lane with the event



If an Input is activated, the reader scans on the corresponding lane.



The reading duration is defined in 'Advanced settings'.



Select the output type and default state for output.

Summary table

Reading Mode	Input	Configurable Outputs states?	Maintain during detection available?	Output
a Continuous reading + No event	No action	Yes by lane	Yes by lane	- If 'Continuing during detection process' not activated: the output state toggles at the ascent. - If 'Continuing during detection process' activated: the output state toggles to the RF detection and remains in this state as long as, at each scan is at least one detection.
b Continuous reading + Custom LED lighting	Custom LED lighting for all antennas / lane	No	No	In this mode the Outputs are not usable.
c Continuous reading + Output customization	An action on an Input toggles the corresponding output.	Yes	No	The output state is only linked to a user action on the input.
d Triggering on all lanes	An action on any input activates the reading on all configured lanes.	Yes by lane	Yes	- If 'Continuing during detection process' not activated: the output state toggles at the ascent during the ascent time of the identifier (physically on the BUS + 200ms. - If 'Continuing during detection process' activated: the output state toggles to the RF detection and remains in this state as long as, at each scan is at least one detection.
e Triggering on the lane with the event	An action on Input *x* activate the scan on lane *x*.	Yes by lane	Yes	

Note: as long as the action is detected on the input, the output remains toggled.

Step 6- Setting up light indicator

Reading in progress:

This LED lights when the RF is on.

After initializing reader sequence, this LED must be lit on the selected color.

Reading error:

This LED lights when the RF is bad, in this case the reader can't read the tag.

- Check the antenna connection
- Check the antenna cable

Detecting user ID:

This LED lights when a tag is detected by the antenna.

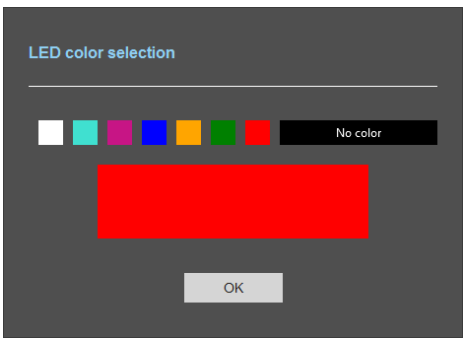
Customized event*:

By default, there is no color.

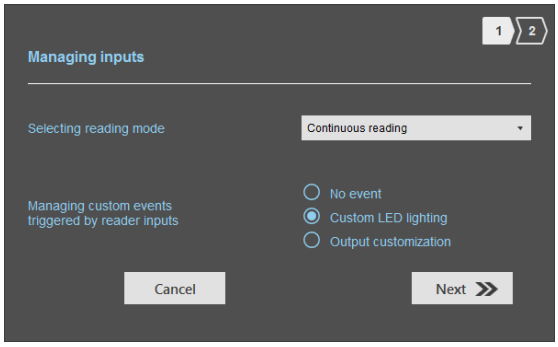
LED brightness:

The LED brightness can be adjusted by step of 10% (from 10% to 100%)

LED color:

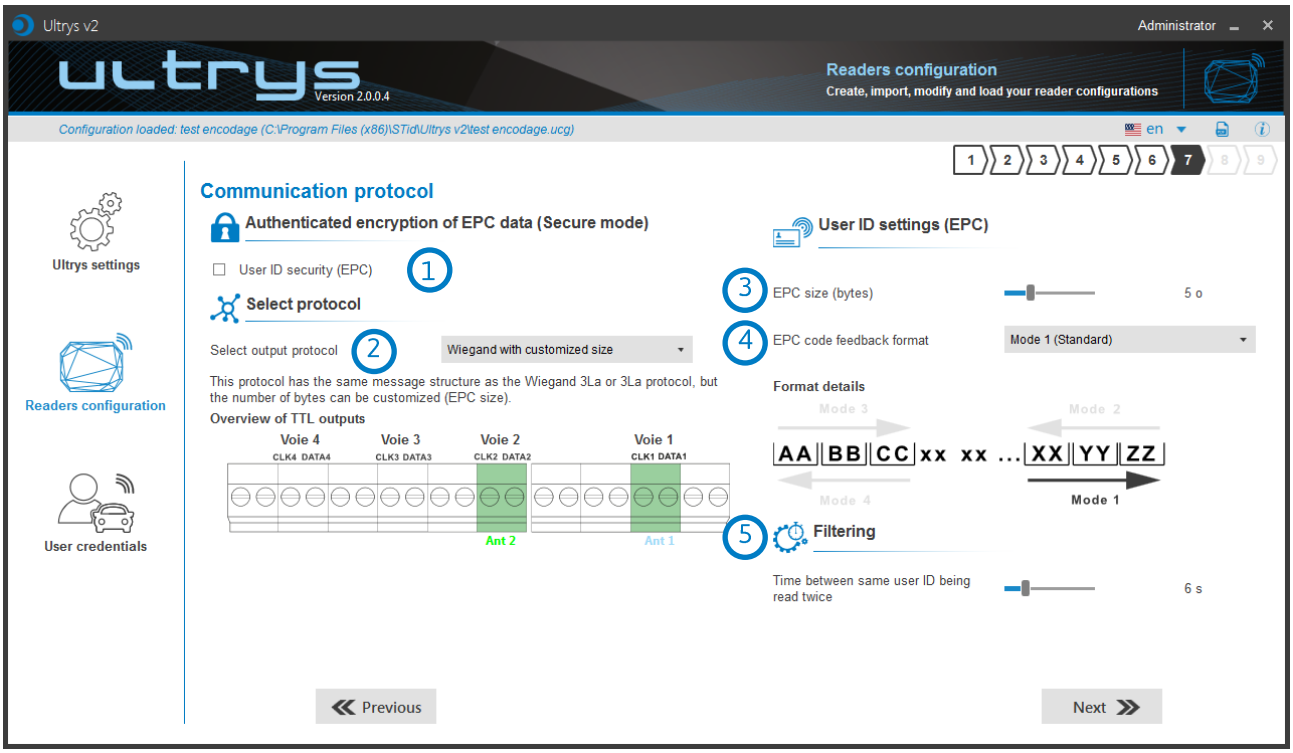


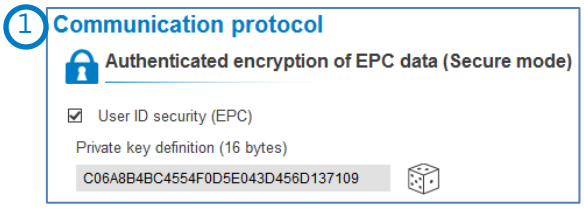
*The LED 'Customized event' only appears if 'Reading Mode' = Continuous reading + custom LED lighting



Default display:

Step 7- Communication protocol





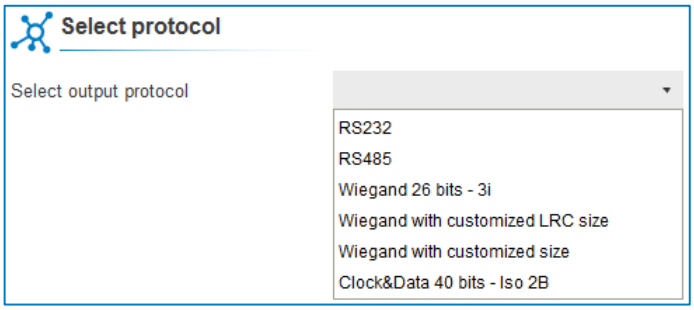
The EPC can be encrypted and signed before being written in the tag.
The reader will decrypt and authenticate the EPC before sending it on its output media.
Only an EPC correctly decrypted and authenticated will produce an output data, otherwise the reader will remain mute.

Notes:

- Only UHF tags compatible with "*FAST ID*" feature and having at least 128 bits of EPC can be decrypted and authenticated by the SPECTRE Access reader.
  The chips compatible with secure encoding are: Monza X, Monza R6P, Monza 4D, this chip is present into
  - TLTA-W53M-943_S
  - TLTA-W75B-943_S
  - IronTag 206
  - CCTW490_AN

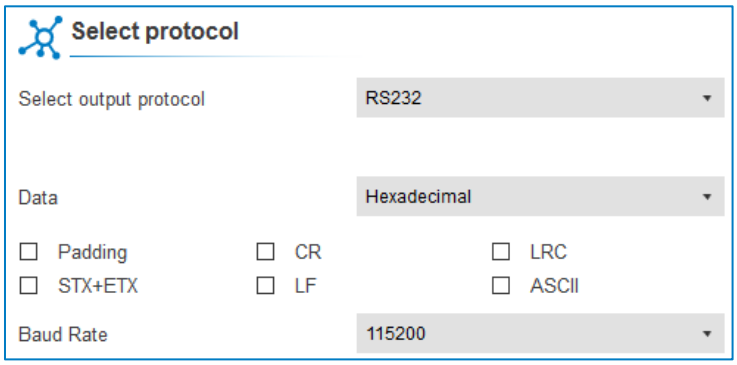
- **The secure mode is not accessible if an EPC mask has been set in 'Advanced settings'.**

Note: After setting an EPC security key, if you return to step 5 with the Previous button, and you set an EPC filter, then returning to step 7, the "EPC ID Security" checkmark is displayed. in gray, the key field is still accessible but not taken into account.

② 

The displays depend on the chosen protocol.

RS232 / RS485



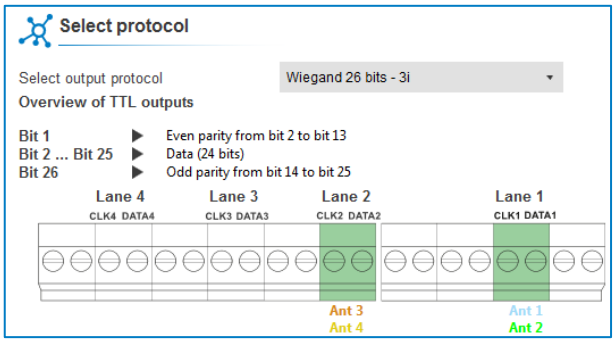
Serial frame:

1 byte	*X bytes*	*1 byte*	*1 byte*	*1 byte*	*1 byte*
STX	*Data**	*LRC*	*CR*	*LF*	*ETX*

**Doubled if the ASCII option is activated.*

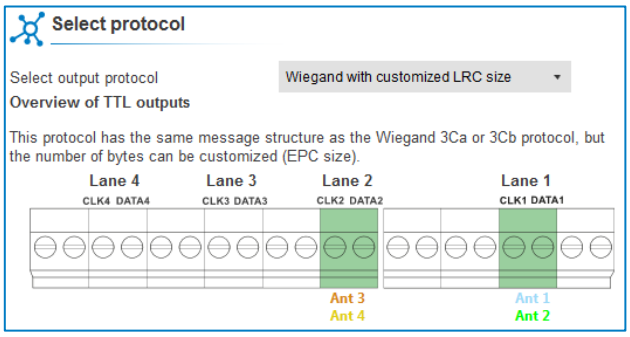
Data	Data sent in decimal or hexadecimal format.
Padding	Add on the frame leading zeros. If this option is not activated, the leading zeros won't be sent.
STX+ETX	Add STX (0x02) and ETX (0x03) in the frame.
CR	Carriage return (0x0D).
LF	Line feed (0x0A).
LRC	Checksum byte by XORing of all previously characters without the STX.
ASCII	If this option is activated, the Data will be sent in ASCII mode.
Baud Rate	9600, 19200, 38400, 57600 or 115200 bauds.

Wiegand 26 bits- 3i

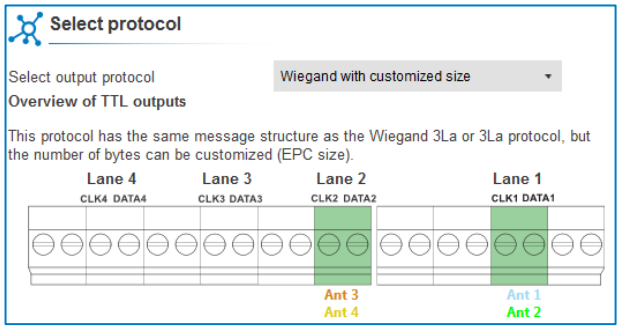


Note: the graphic indicating the lanes, depends on the configuration of the number of antennas/lanes.

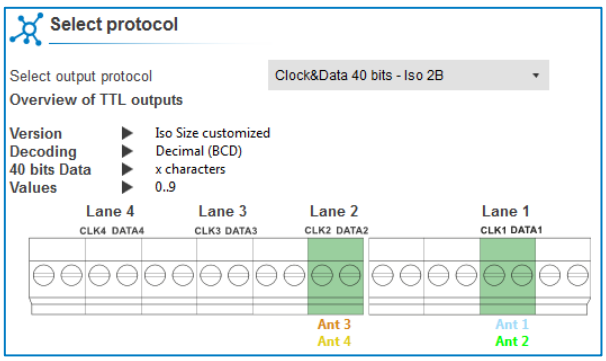
Wiegand with LRC customized size



Wiegand customized size



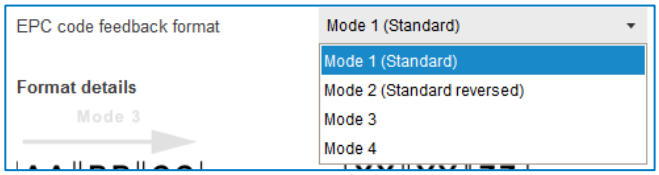
Decimal Clock&Data – Iso 2B



3

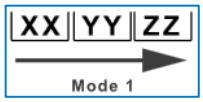
Protocol	Size in plain mode	Size in secure mode
RS232 / RS485	1b up to 62b	1b up to 6b
Wiegand 26 bits	Fixed to 3b	Fixed to 3b
Wiegand with LRC custom size / Wiegand custom size	1b up to 16b	1b up to 6b
Decimal Clock&Data – Iso 2B	1b up to 7b	1b up to 6b

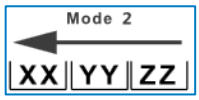
4

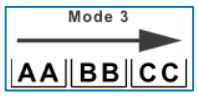


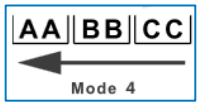
There are 4 modes to feedback the EPC.

Example: EPC data: AA BB CC DD EE xx xx … VV WW XX YY ZZ with 'EPC size' fixed to 4bytes.

- 

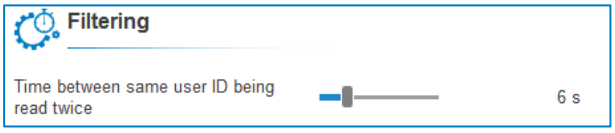
: EPC feedback = WW XX YY ZZ
- 

: EPC feedback = ZZ YY XX WW
- 

: EPC feedback = AA BB CC DD
- 

: EPC feedback = DD CC BB AA

5

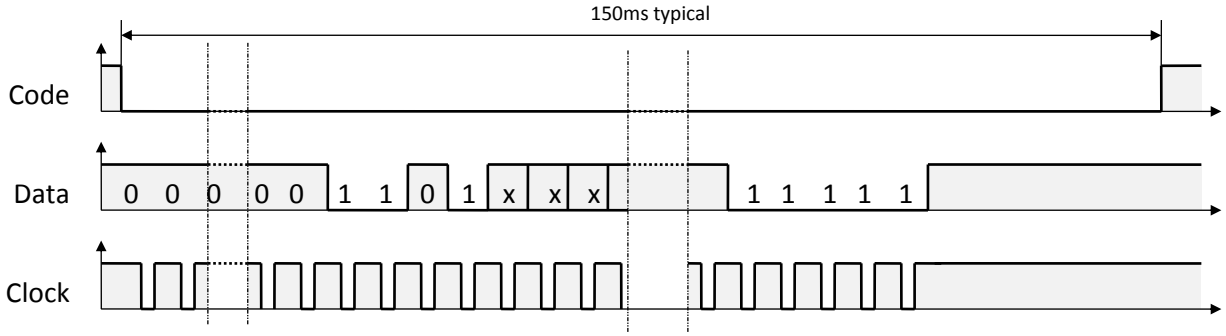


The reader emits the credential code present in the field only once during this time.

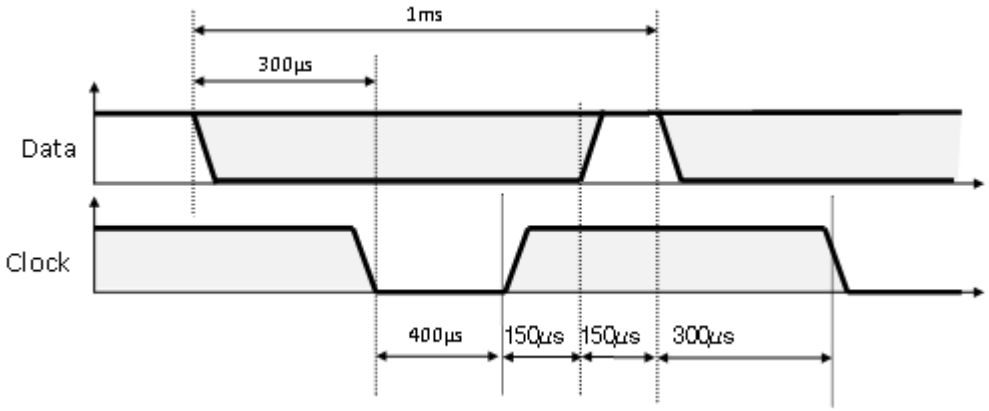
This time is adjustable from 0 to 30 seconds.

Clock&Data ISO2B protocol

Chronograms



Clock details



Message structure

Leading zeroes	*Start Sentinel*	*Datas*	*End Sentinel*	*LRC*	*Trailing zeroes*

Message description

The frame is made of a first series of 16 zero followed by synchronization characters of 5 bits (4 bits, LSB first, plus 1 parity bit). It ends the frame with trailing zero without a clock. The message consists of the following:

Start Sentinel:	*1character 1011b (0x0B) – parity bit 0. Transmission 1101 0*
Data:	*According to ID type: 13 or 10 decimal characters*
End Sentinel:	*1character 1111b (0x0F) - parity bit 1. Transmission 1111 1*
LRC:	*1 control character, which is the « XOR » of all characters.*

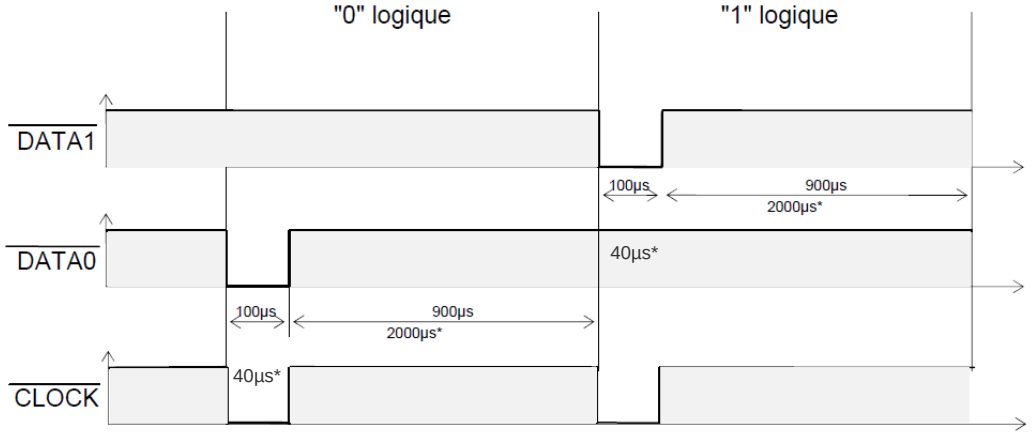
Example Clock&data size 5 bytes:

For a hexadecimal user code of « 0x187E775A7F », the output code will be: « *0105200966271* ».
The frame sent by reader will be:

000...	1101 0	0000 1	1000 0	0000 1	1010 1	....	0110 1	0100 0	1110 0	1000 0	1111 1	1111 1	000...
	B	*0*	*1*	*0*	*5*	*2 0 09 6*	*6*	*2*	*7*	*1*	*F*	*F*	
Zero	*S.S*	*Char.1*	*Char.2*	*Char.3*	*Char.4*	*Char ....*	*Char.10*	*Char.11*	*Char.12*	*Char.13*	*E.S*	*LRC*	*Zero*

Wiegand Protocols

Chronograms



* variant 3i timings

Wiegand 3i protocol

Variant	Decoding	24 bits data	Values
3i	*Hexadecimal*	*6 characters*	*0 to F*

Message structure

Bit 1	Bit 2 ... Bit 25	Bit 26
Even parity from bit 2 to bit 13	*Data (24 bits)*	*Odd parity from bit 4 to bit 25*

Message description

The frame consists of 26 bits as follows:

First parity: *1bit even parity of next 12 bit*
Data: *6 hexadecimal characters 'MSB first'*
Last parity: *1bit odd parity of previous 12 bits*

Example: for the hexadecimal code « *0x0FC350* », the frame sent will be:

0	0000	1111	1100	0011	0101	0000	1
	0	*F*	*C*	*3*	*5*	*0*	
Parity	*Char.1*	*Char.2*	*Char.3*	*Char.4*	*Char.5*	*Char.6*	*Parity*

Wiegand 3CB protocol

Bit 1 … Bit 40	Bit 41… Bit 44
Data « MSB first »	*LRC*

Message description

The frame consists of 44 bits as follows:

Data: 10 hexadecimal characters « MSB first »
LRC: 1 control char, all characters « XORed»

Example: for the hexadecimal code « *0x01001950C3* », the frame sent will be:

0000	0001	0000	0000	0001	1001	0101	0000	1100	0011	0011
0	*1*	*0*	*0*	*1*	*9*	*5*	*0*	*C*	*3*	*3*
Char.1	*Char.2*	*Char.3*	*Char.4*	*Char.5*	*Char.6*	*Char.7*	*Char.8*	*Char.9*	*Char.10*	*LRC*

Wiegand 3CA protocol

Bit 1 … Bit 36	Bit 37… Bit 36
Data « MSB first »	*LRC*

Message description

The frame consists of 36 bits as follows:

Data: 8 hexadecimal characters « MSB first » (32 bits)
LRC: 1 control char, all characters « XORed »

Example: for the hexadecimal code « *0x001950C3* », the frame sent will be:

0000	0000	0001	1001	0101	0000	1100	0011	0010
0	*0*	*1*	*9*	*5*	*0*	*C*	*3*	*2*
Char.1	*Char.2*	*Char.3*	*Char.4*	*Char.5*	*Char.6*	*Char.7*	*Char.8*	*LRC*

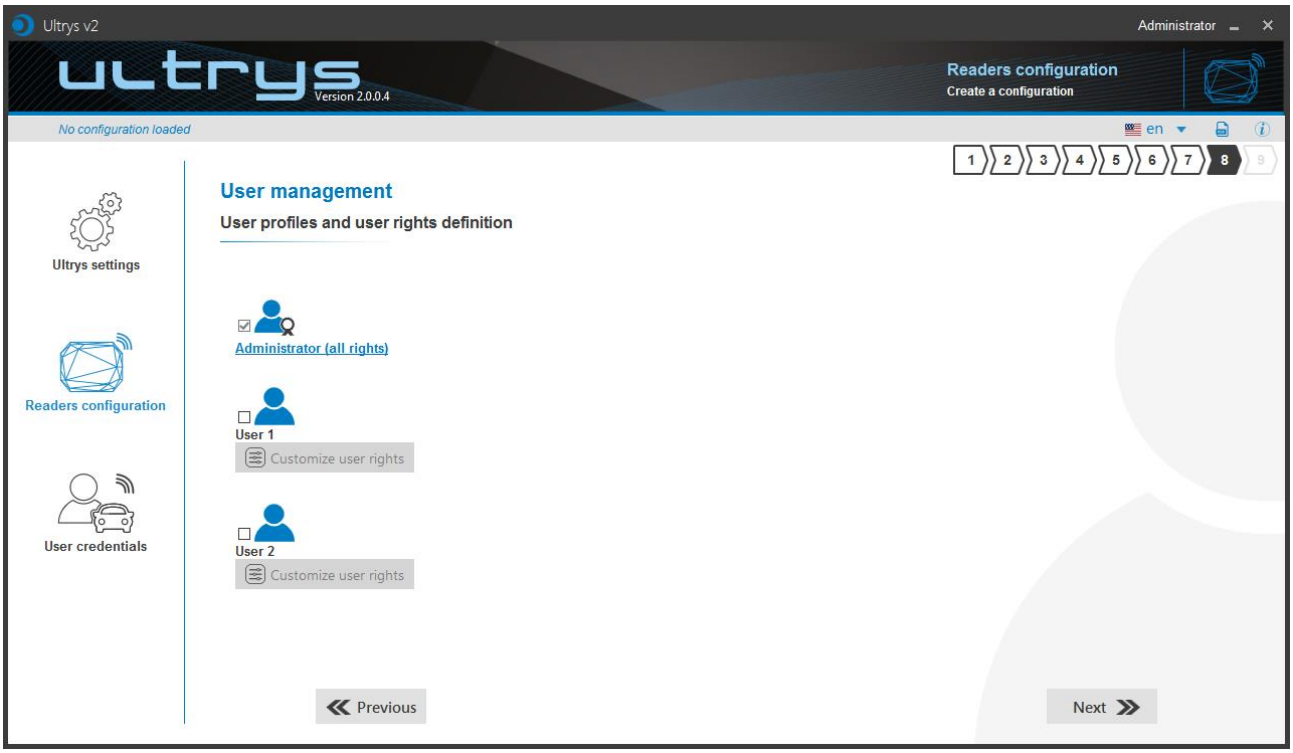
Wiegand 3LA protocol

Same as « *Wiegand 3CA* » WITHOUT LRC.

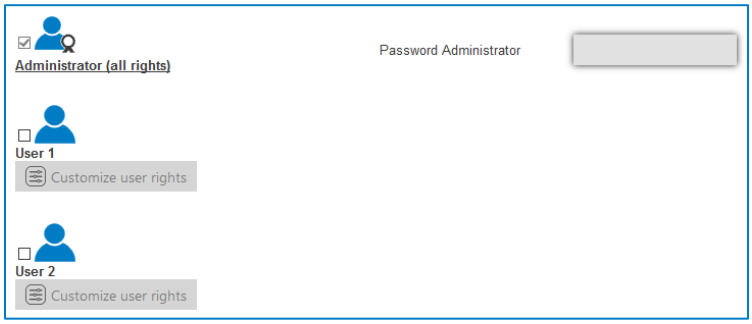
Wiegand 3LB protocol

Same as « *Wiegand 3CB* » WITHOUT LRC.

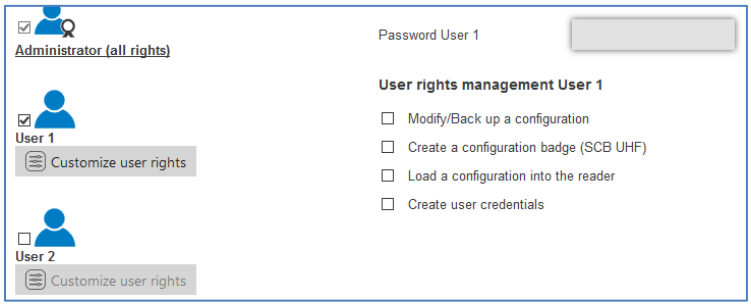
Step 8- User management



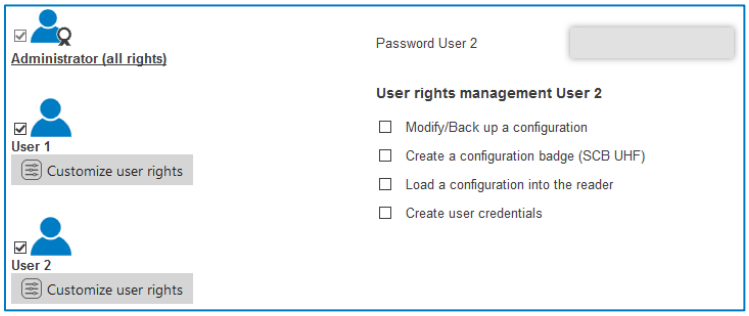
ULTRYS v2 allows to manage three different profiles by configuration file.



Define an Administrator password to protect the configuration file.

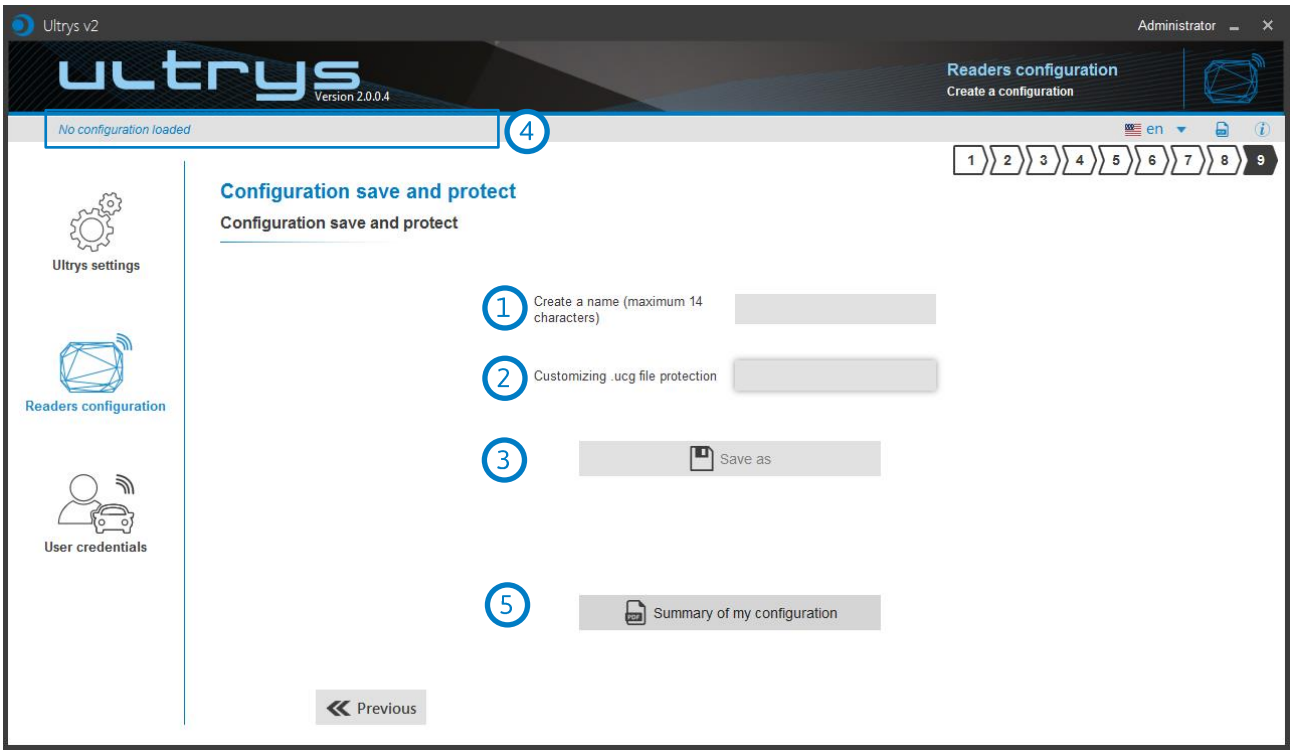


Define a User 1 password and select the corresponding rights.



Define a User 2 password and select the corresponding rights.

Step 9- Configuration save and protect



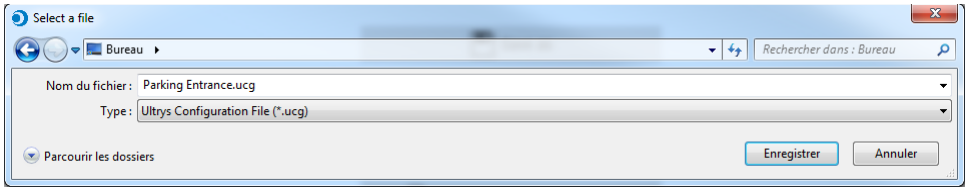
This step allows you to save the configuration file containing all the current configuration settings (keys, formats, reader…). You can select a location and password to protect the file.

1 Choose a name to easily find the configuration. (example: Parking IN).

Note: the name of the configuration must be contained in the file name.

2 To protect the configuration file, you can define a password. This password is different from Administrator password.

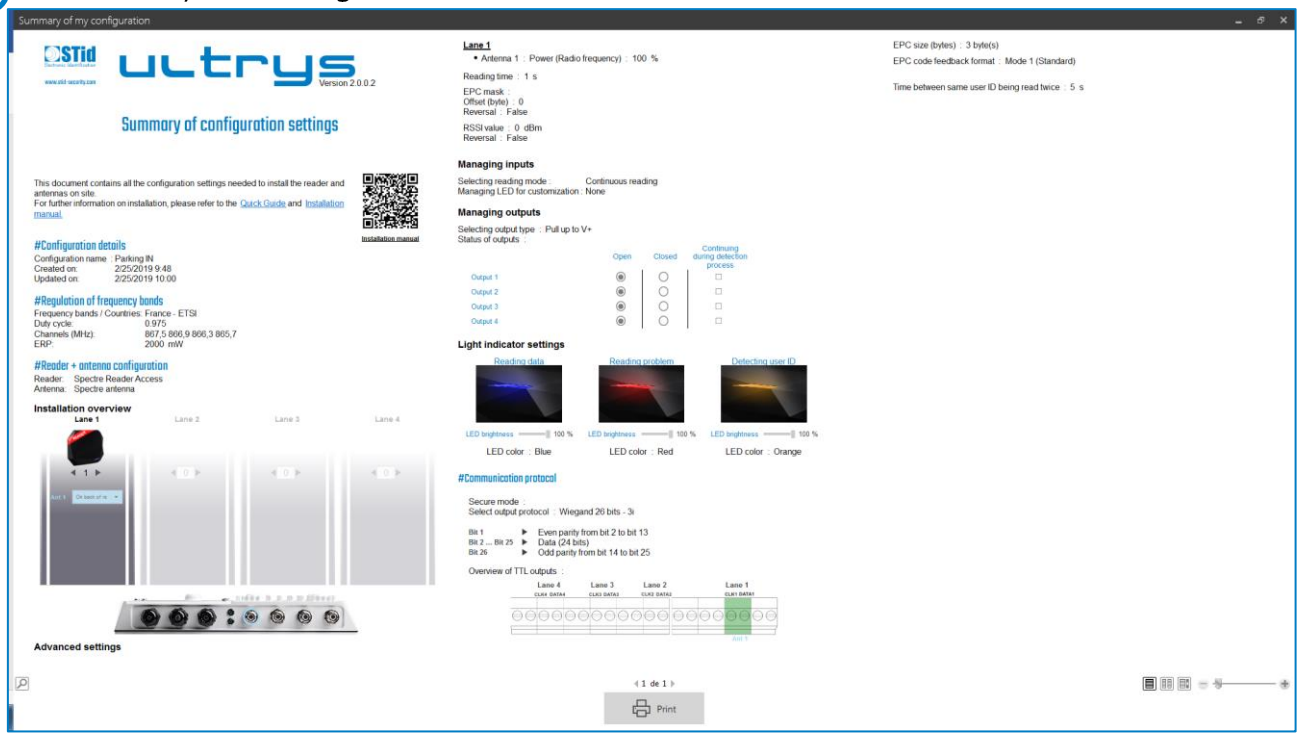
3 Select a directory and a file name to save.



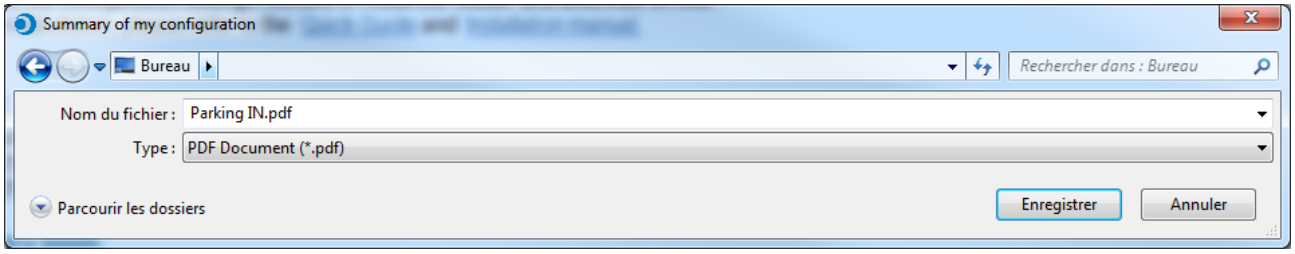
4 The name and location of 'Configuration Loaded' indicates now the chosen name and location.

If you choose a file name that does not contain the name of the configuration, ULTRYS does not take into account the specified name or directory. It saves the file with the configuration name on the Desktop.

5 Get a summary of the configuration created

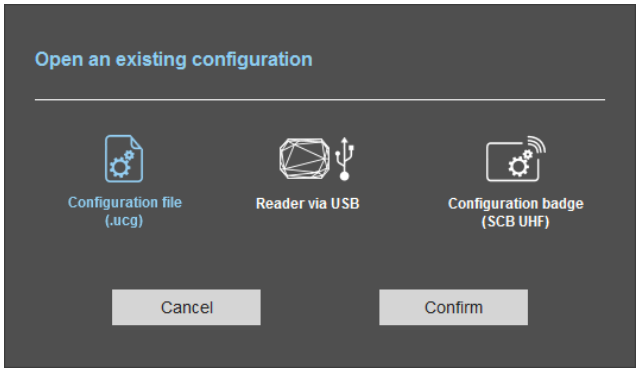


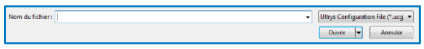
Print: allows to save this configuration information in a PDF file.



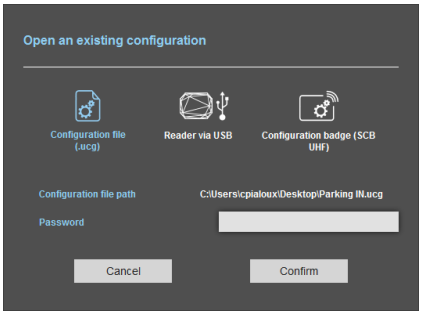
3.3 Open an existing configuration

3.3.1 Configuration file

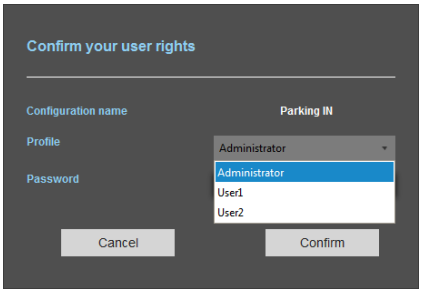




1- Select a configuration file .ucg on your PC or USB stick.

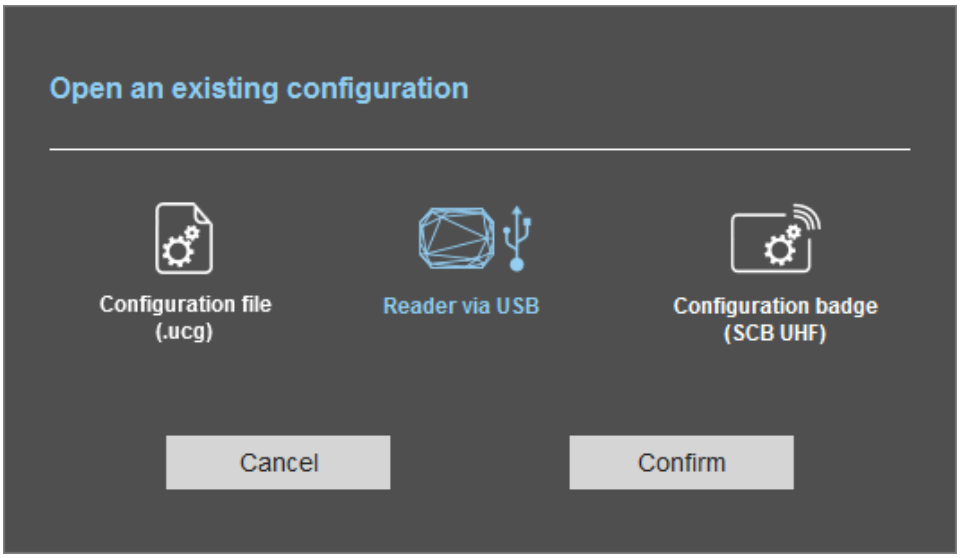


2- If the file has been protected for reading, enter the password and confirm.

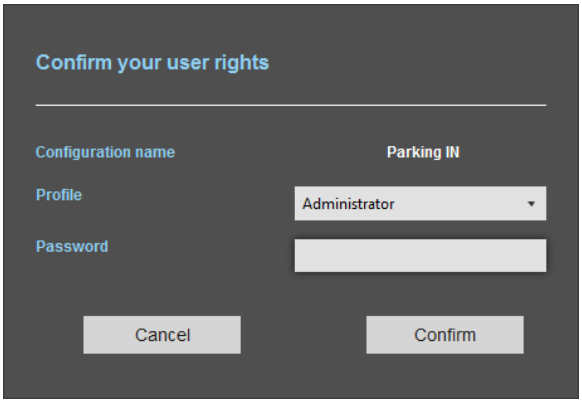


3- Select the profile to use and enter the corresponding password. Please confirm.

3.3.2 Reader via USB



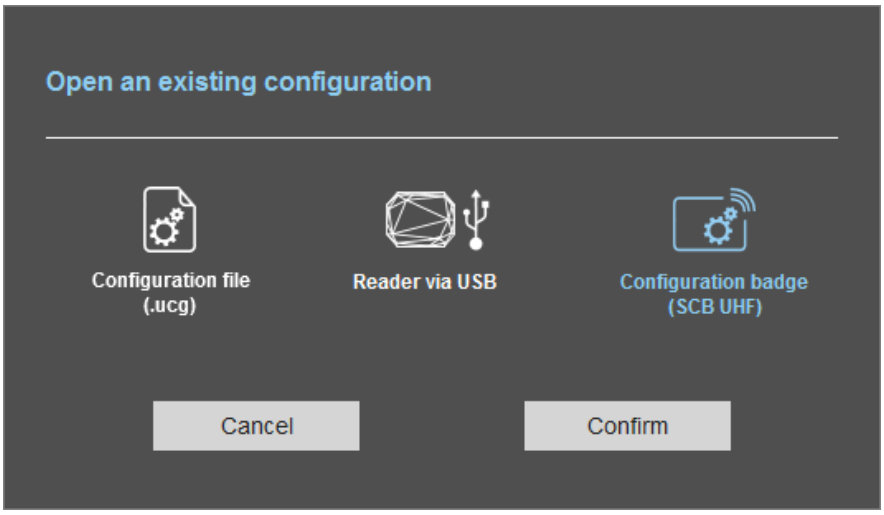
1- Connect the SPECTRE reader via USB cable provided.
2- Configure the communication parameters.
3- Please confirm.



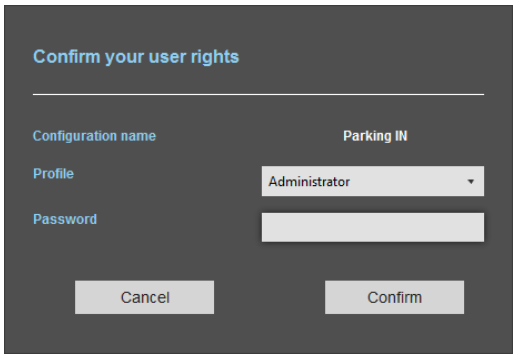
4- Select the profile to use and the corresponding password. Please confirm.

5- ULTRYS v2 then displays the configuration wizard with all settings loaded from the reader.

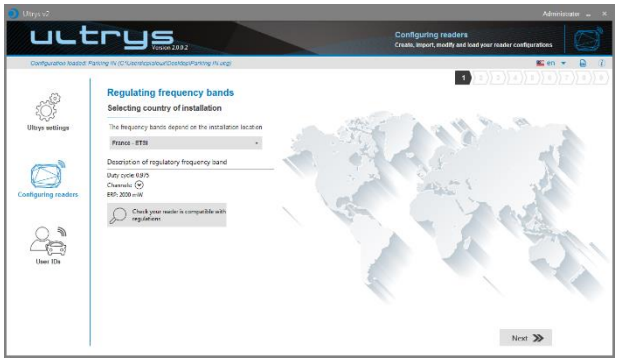
3.3.3 Configuration badge (SCB UHF)



1- Connect an UHF encoder (STR or GAT Desk).
2- Configure the communication settings.
3- Present the SCB UHF to the encoder.
4- Please confirm.

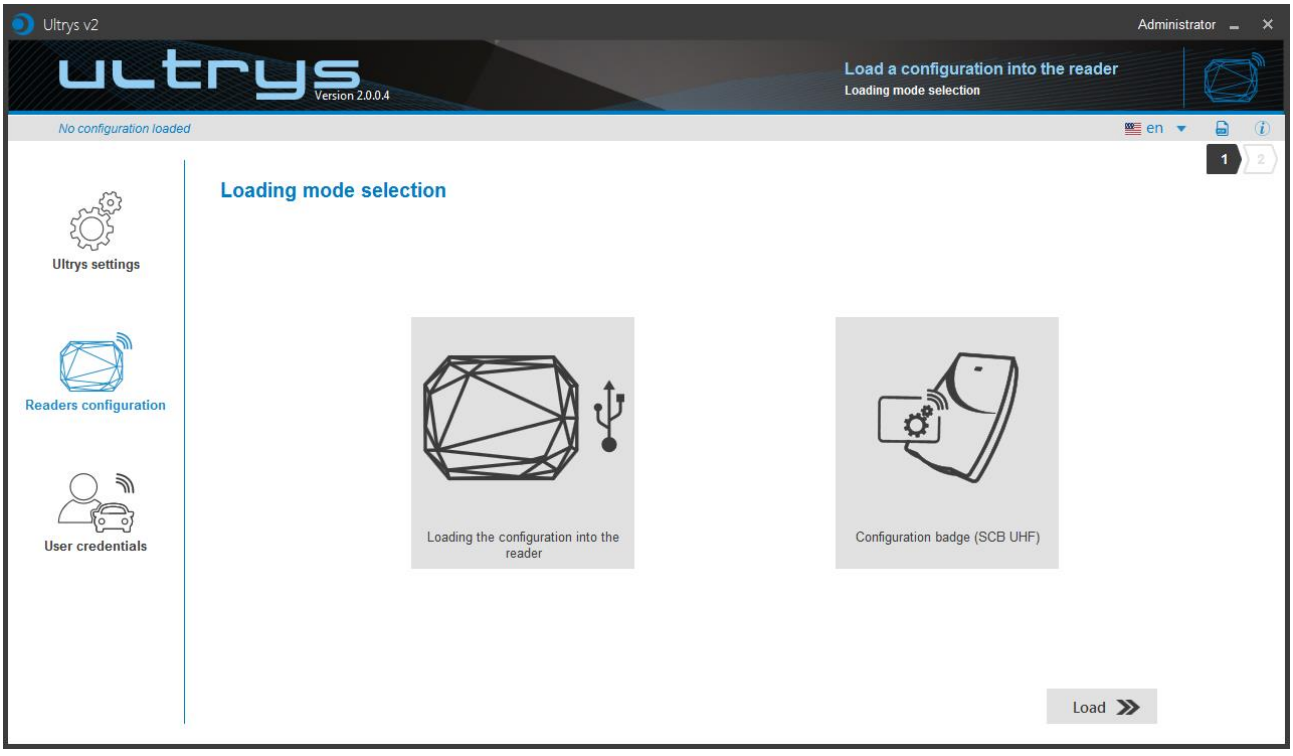


5- Select the profile to use and the corresponding password. Please confirm.

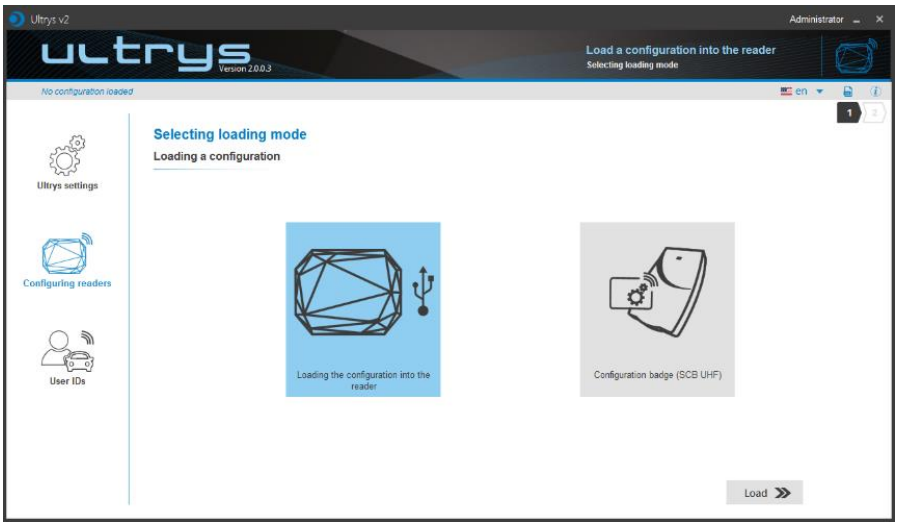


6- ULTRYS then displays the configuration wizard with all settings loaded from the SCB UHF.

3.4 Load the configuration into the reader

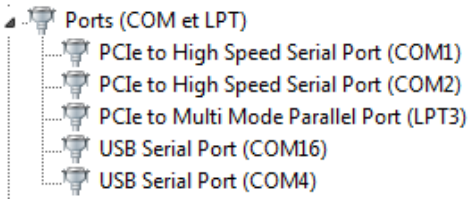


3.4.1 Loading the configuration into the reader

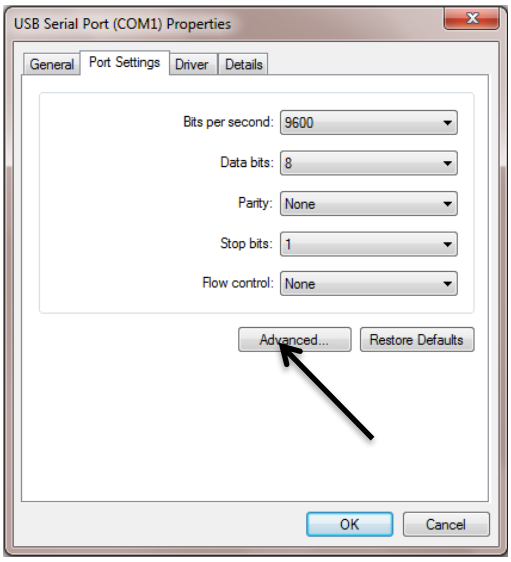


1- Connect a SPECTRE reader via USB cable.
2- Configure the communication settings.

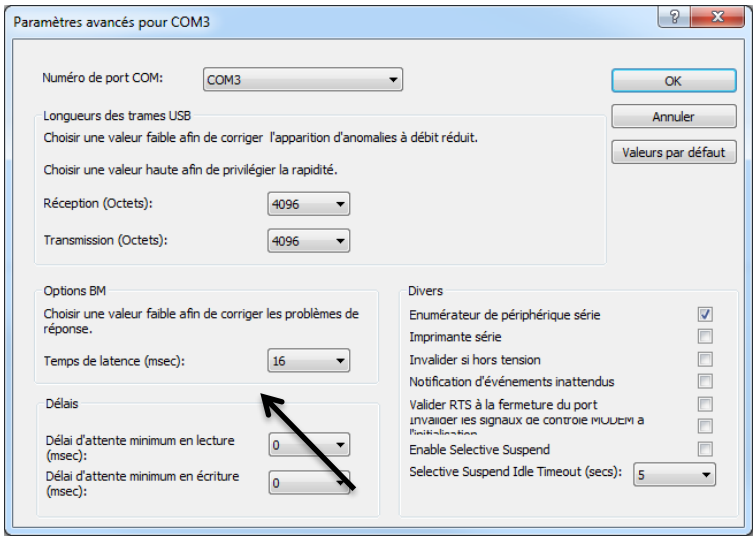
3- Configure the latency of com port to 1



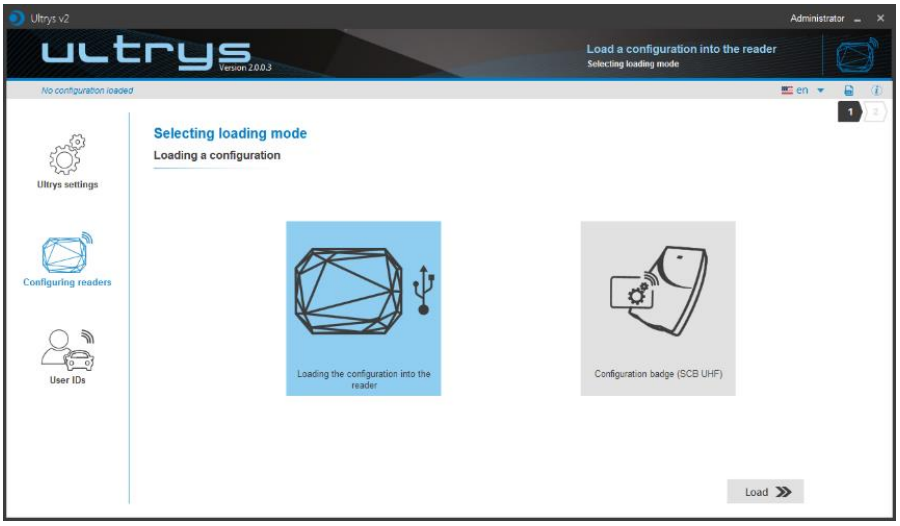
Double click on the good COM port number.



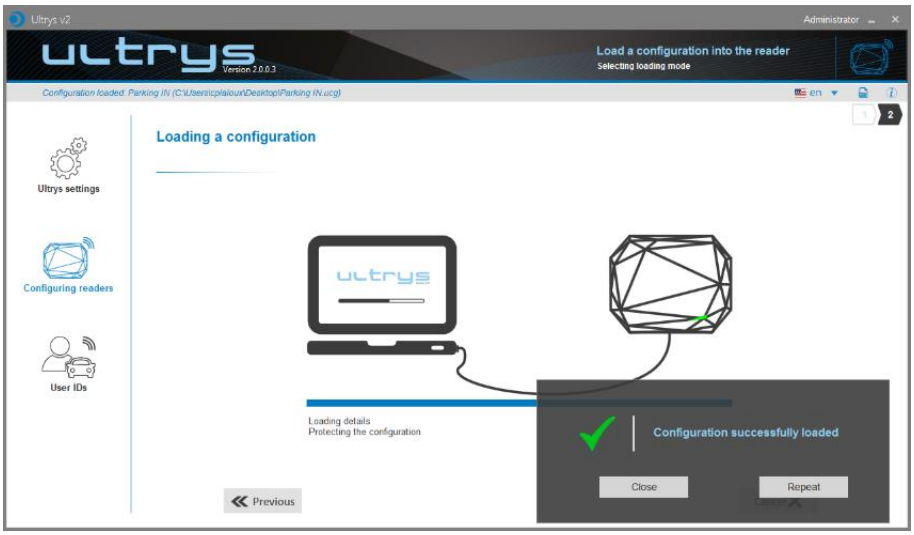
Open Advanced…



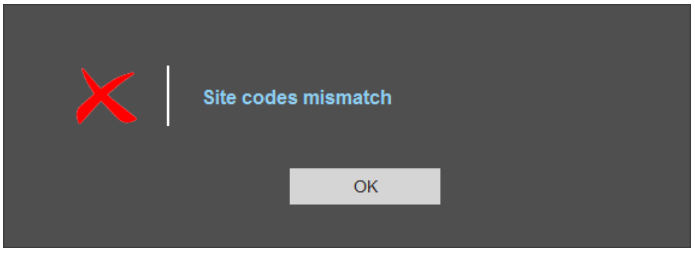
Put Latency on “16”



4- Load.



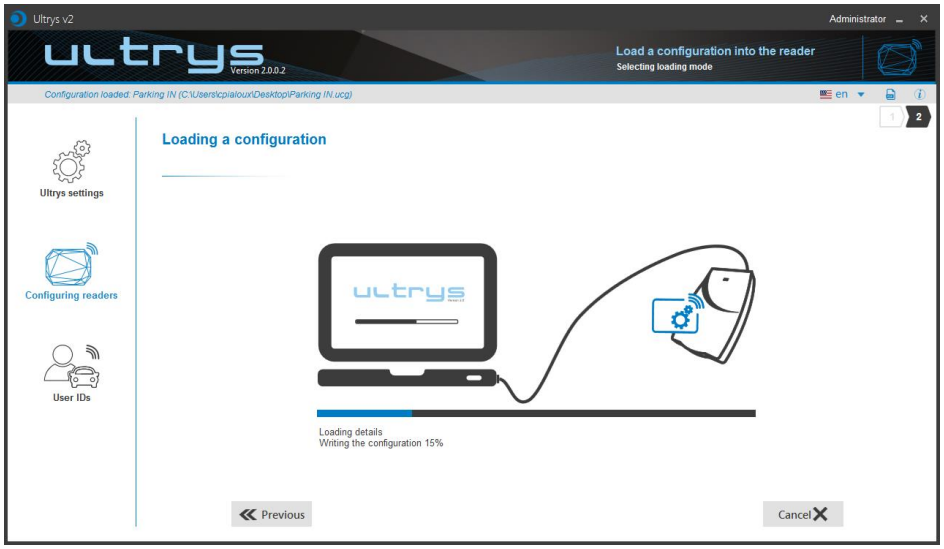
5- Close. ULTRYS v2 then displays the home page.



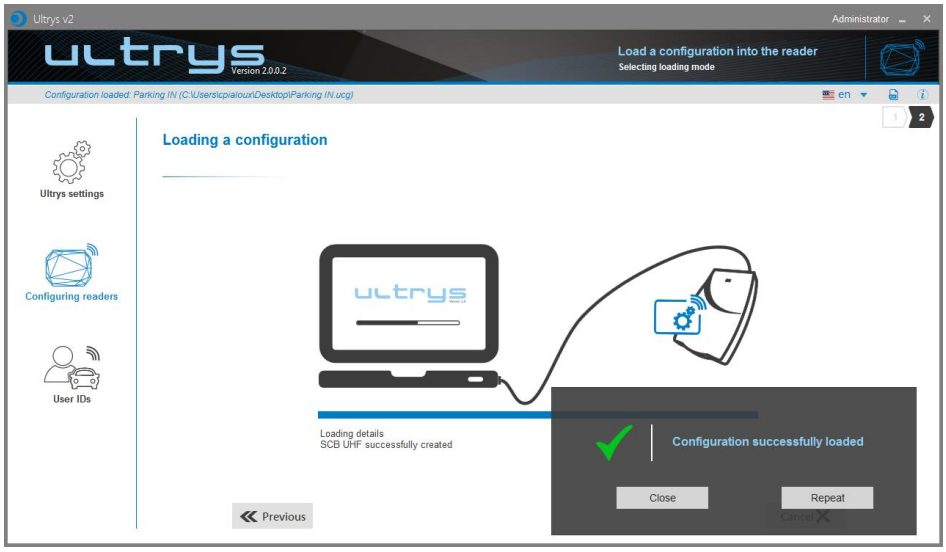
Error the site code of the SPECTRE reader is not the same in configuration file.

The selected RF regulation is not compatible with the reader.

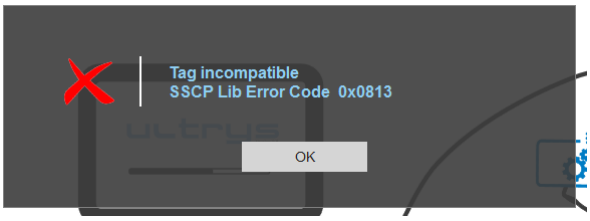
3.4.2 Configuration card (SCB UHF)



1- Connect an UHF encoder (STR or GAT Desk).
2- Configure the communication settings.
3- Present a compatible SCB UHF card to the encoder.
4- Load.



5- Close. ULTRYS v2 then displays the home page.



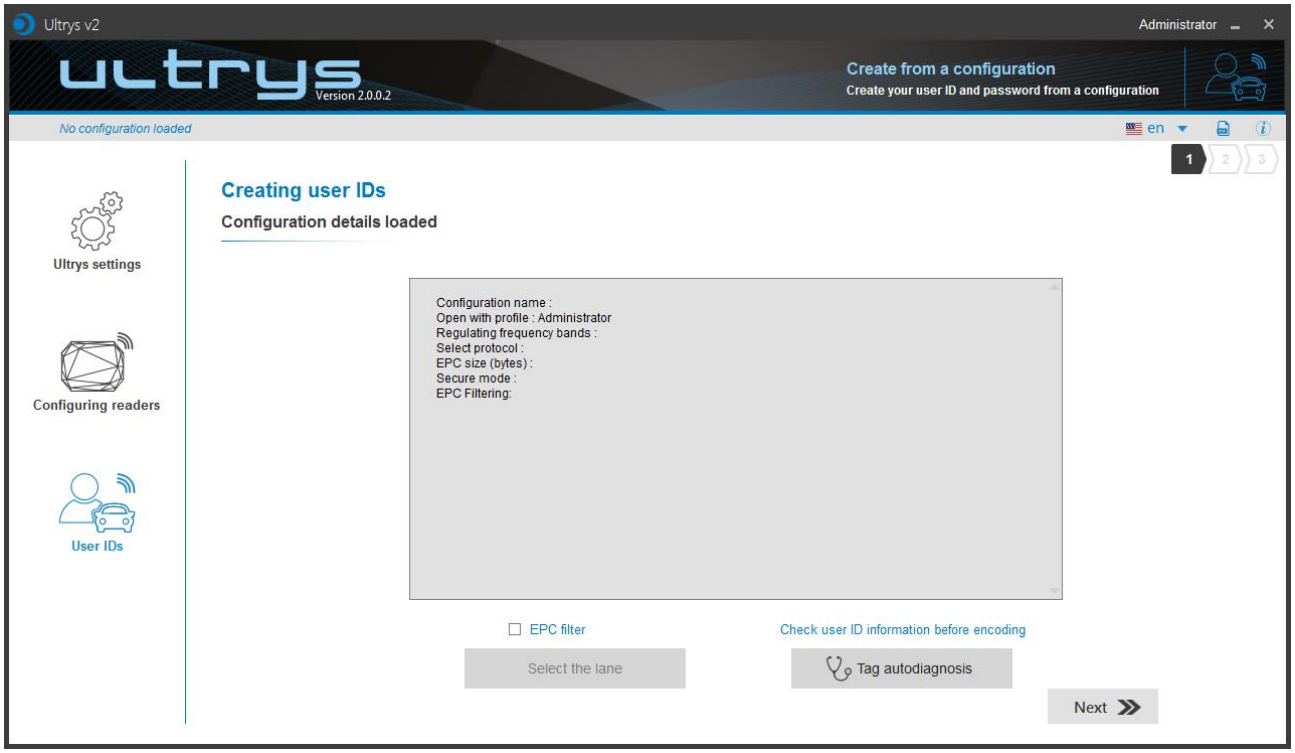
The tag presented to the encoder is not compatible to create a SCB UHF.

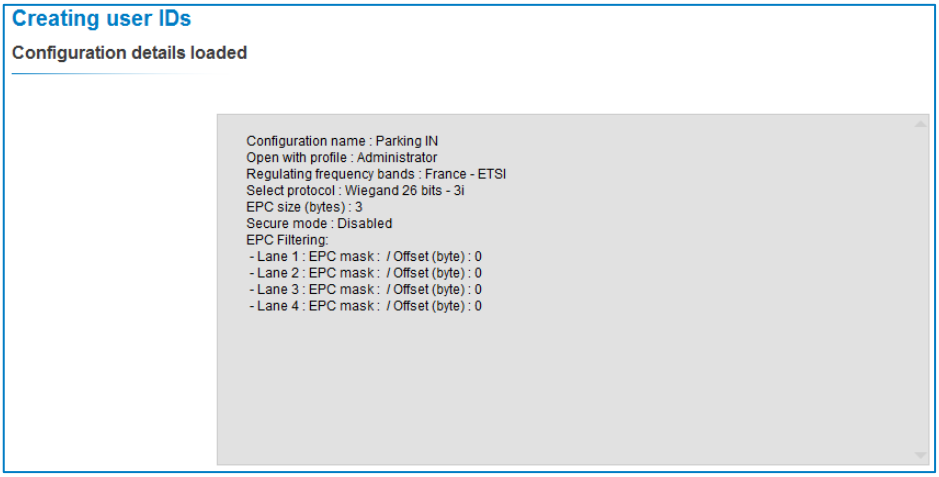
4. User credentials

The user credentials encoding is done in three steps. To move from one step to another, you must click on “Next”.

1 2 3 Step1	Configuration details loaded
1 2 3 Step2	User ID definition
1 2 3 Step3	Encoding tags

Step 1- Configuration details loaded

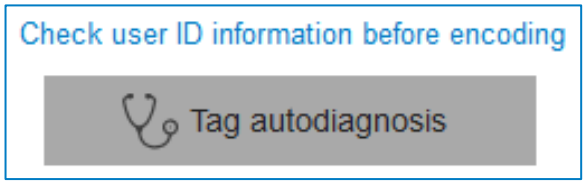




Check the configuration loaded is the correct one to use or open the configuration to use.

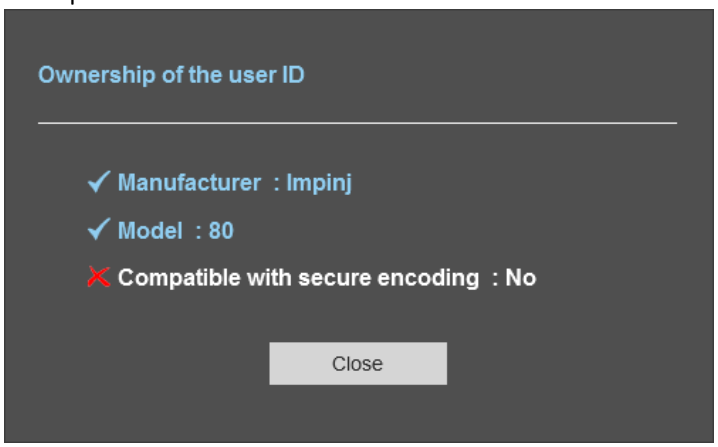
Caution: If the authenticated encryption of EPC data has been enabled in the configuration, make sure the tag is compatible with this option by performing the tag autodiagnosis.

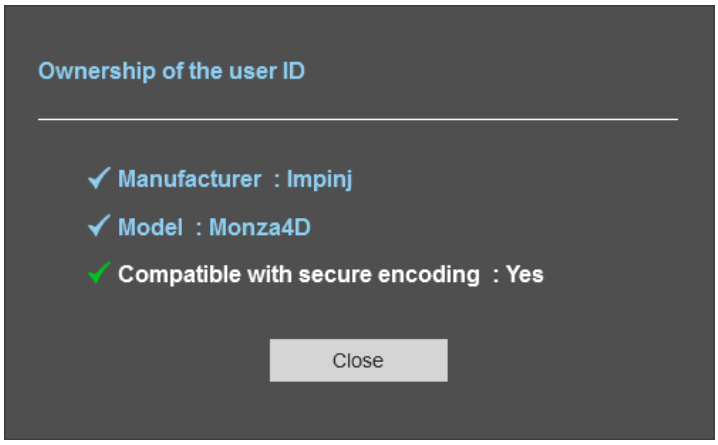
If a non-compatible tag is still encoded in secure mode it will not be read by the Spectre reader.



It indicates the UHF chip type and if it is compatible with secure encoding.

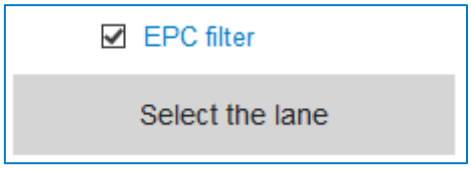
Examples:





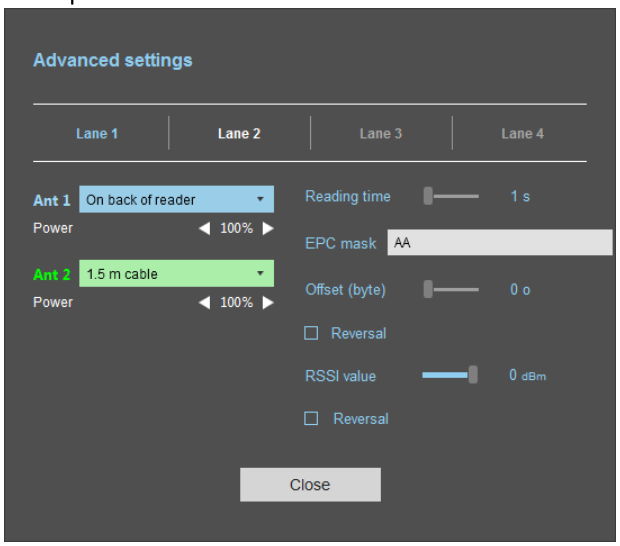
The chips compatible with secure encoding are: Monza X, Monza R6P, Monza 4D, those chips are present into the following credentials:

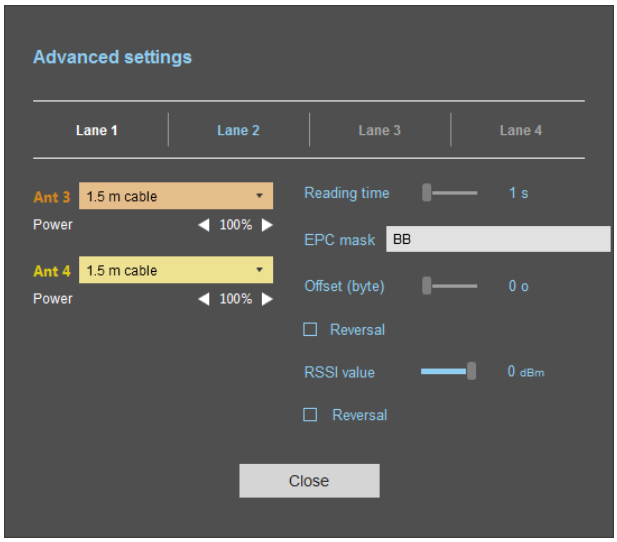
- TLTA-W53M-943_S
- TLTA-W75B-943_S
- IronTag 206
- CCTW490_AN

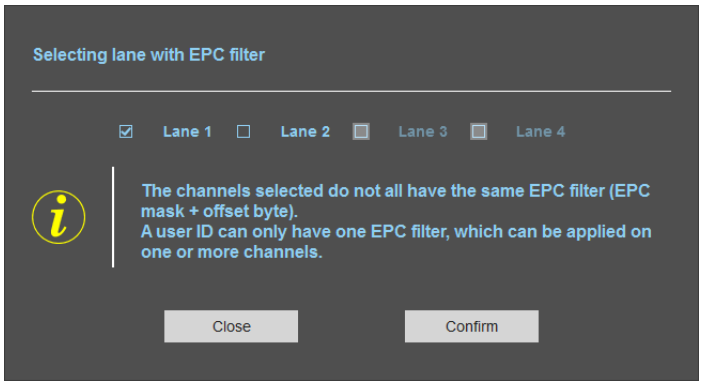


If an EPC filter has been set in the 'Advanced settings', select 'EPC Filter' and the corresponding lane to encode automatically the value of the EPC filter into the user credential.

Example:

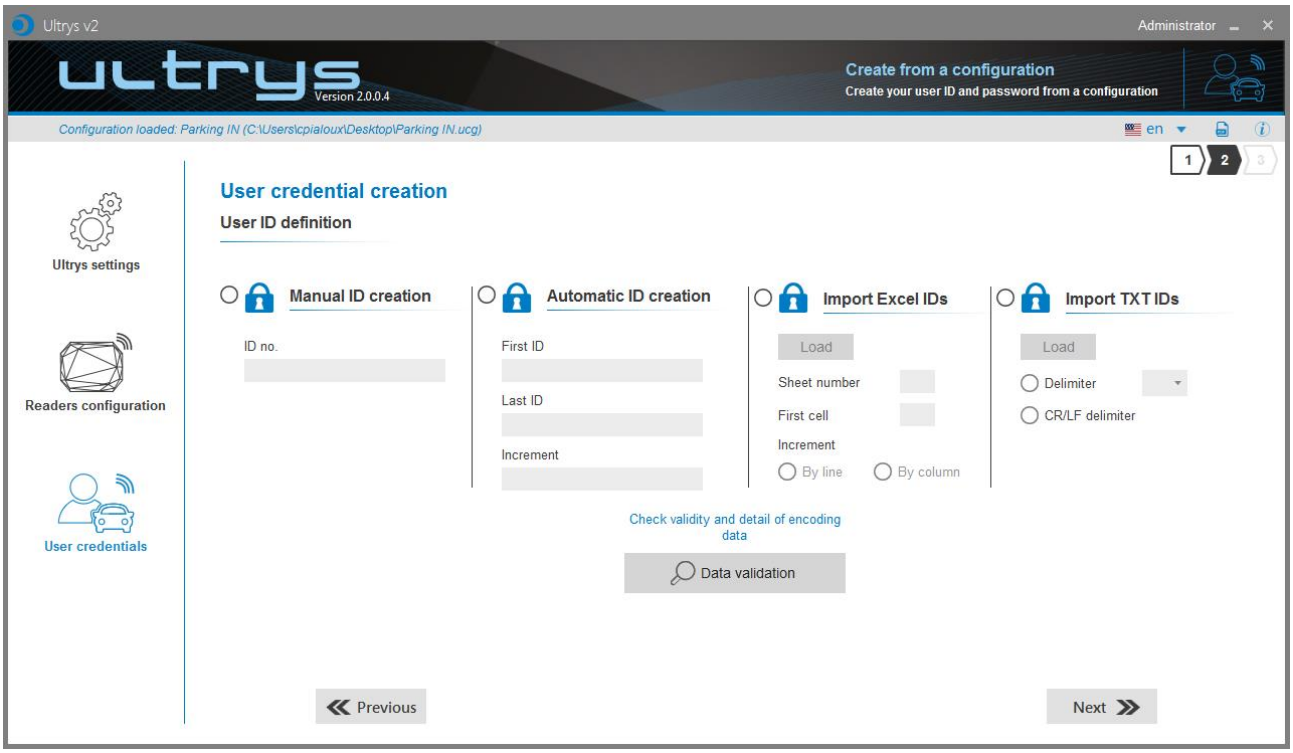






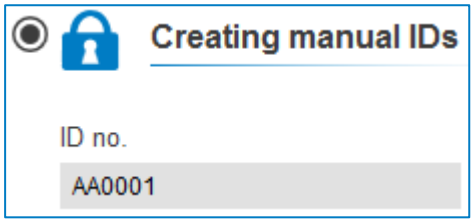
In this example, if the lane 1 is selected, the user credential will be encoded with the EPC filter AA.

Step 2- User ID definition



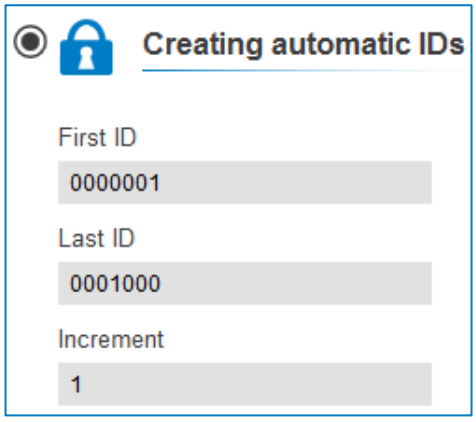
It is possible to enter the user IDs in four ways (described below).
Warning, credentials encoding depend on the reading EPC mode and EPC filter.

ID size is constrained by the protocol defined in the menu « *Config* ». If the data is it is not respected in the input fields, then the software will complete with « 0 » (by default MSB).

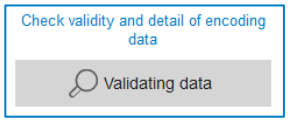


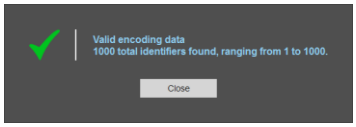
Enter directly the ID value in the field and click Next.

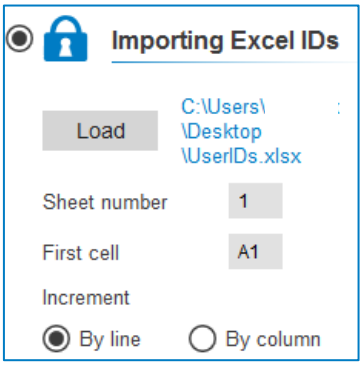
Use to encode a single tag or a specific value.



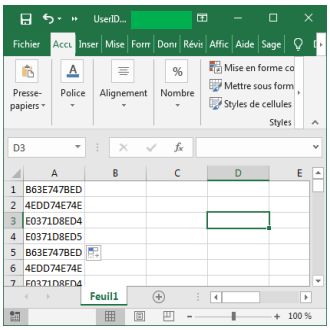
Fill in each corresponding field, the beginning, the end and the increment to generate the list of user IDs to encode.

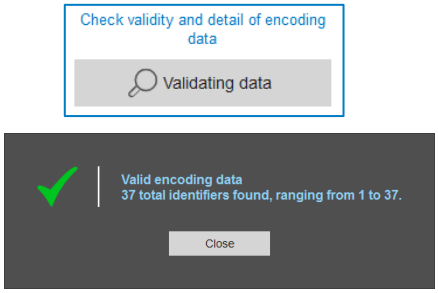


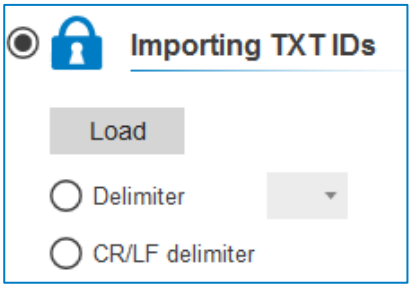




This mode allows you to import lists in Excel format to be used for the user IDs programming.



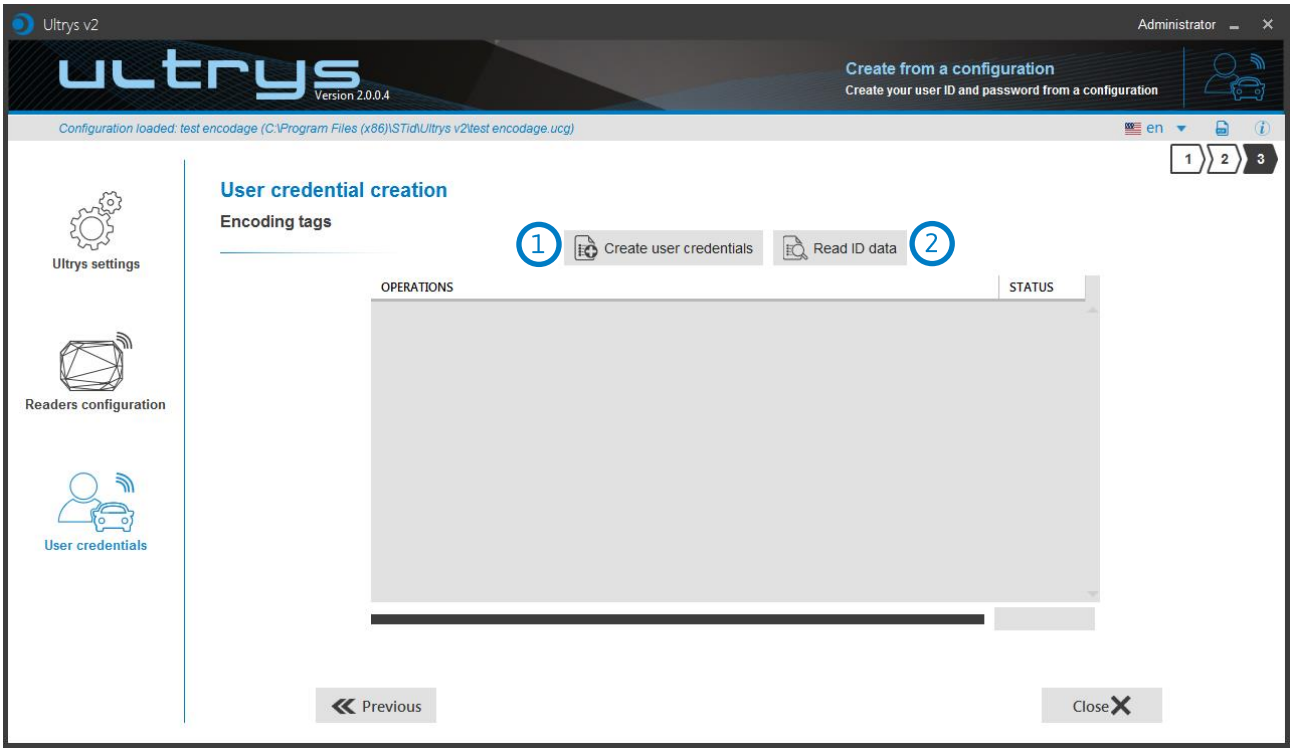




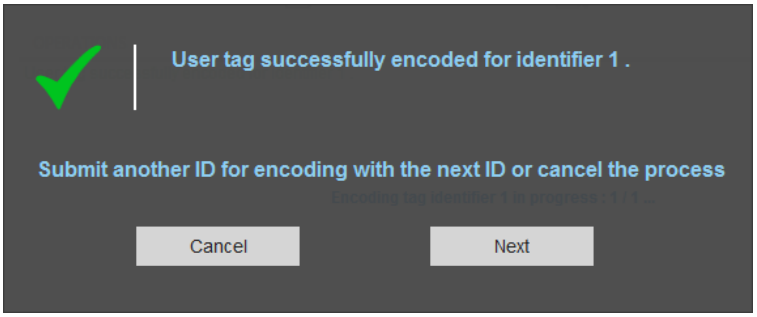
This mode allows you to import lists in Text format to be used for programming the user IDs.

Select the correct Delimiter  or CR/LF.

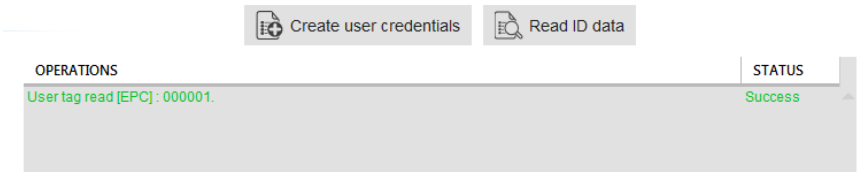
Step 3- Encoding tags



1 Present the user credential which you would like to encode to the encoder and click on this button.



2 The credential data reading is written on Operations windows.

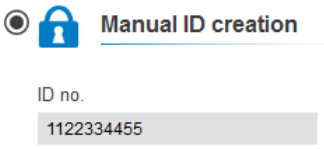


Using the EPC code feedback format and EPC filter

The feedback modes allow the full compatibility with existing credential.

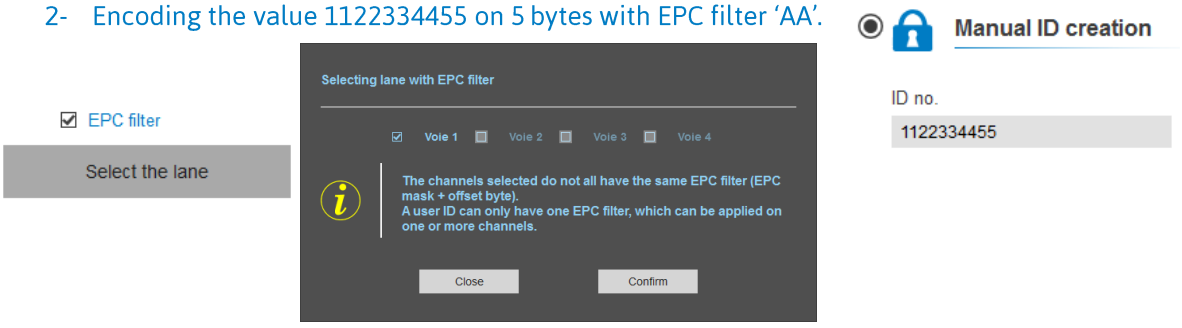
To encode the credential we would prefer standard mode (mode 1).

1- Encoding the value 1122334455 on 5 bytes without EPC filter.



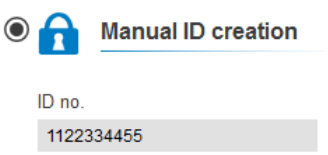
Settings	Value encoded by ULTRYS v2	Value ascended by the SPECTRE
EPC size (bytes) 5 o EPC code feedback format Mode 1 (Standard)	00000000000000001122334455	1122334455
EPC size (bytes) 5 o EPC code feedback format Mode 2 (Standard reversed)	00000000000000001122334455	5544332211
EPC size (bytes) 5 o EPC code feedback format Mode 3	11223344550000000000000	1122334455
EPC size (bytes) 5 o EPC code feedback format Mode 4	11223344550000000000000	5544332211

2- Encoding the value 1122334455 on 5 bytes with EPC filter 'AA'.



Settings	Value encoded by ULTRYS v2	Value ascended by the SPECTRE
EPC mask AA Offset (byte) 0		
EPC size (bytes) 5 EPC code feedback format Mode 1 (Standard)	AA00000000000001122334455	1122334455
EPC size (bytes) 5 EPC code feedback format Mode 2 (Standard reversed)	AA00000000000001122334455	5544332211
EPC size (bytes) 5 EPC code feedback format Mode 3	AA22334455000000000000	AA22334455
EPC size (bytes) 5 EPC code feedback format Mode 4	AA22334455000000000000	55443322AA
EPC mask AA Offset (byte) 7		
EPC size (bytes) 5 EPC code feedback format Mode 1 (Standard)	00000000000000AA22334455	AA22334455
EPC size (bytes) 5 EPC code feedback format Mode 3	11223344550000AA00000000	1122334455

3- Encoding the value 1122334455 on 5 bytes in secure mode



	Encoded value on 16 bytes encrypted.	Value ascended by the SPECTRE
User ID security (EPC) Private key definition (16 bytes) 676AB9819CD0523B1D01BD448545A9E2	789C9B12C733B3657EF030CE17F250BE	1122334455

REVISION

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