

RFID OsiSense® XG

XGST2020 Handheld Terminal

Software Guide

Original instructions



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Table of Contents

Safety Information.....	5
About the Book	6
General Information	8
General Description	8
Function Description	9
Navigation	11
Home Screen.....	11
Navigation Buttons.....	13
Function Access.....	14
Data Edition	15
Function Description	18
Tag Tools Category	18
Tag Reading/Writing Using Address	18
Copy Tag.....	21
Tag Initialization	24
Verify Tag Presence.....	26
Tag Identification.....	27
Configuration Category.....	28
Update Terminal.....	28
Manufacturer Information	32
Terminal Parameters.....	33
Mapping Management.....	35
Set Date / Time	36
Language Setting	37
Reader Tools Using Network	37
Mapping Management Category	39
Mapping Description	39
Mapping Management.....	42
How to Use Mappings	49
Favorite Mapping Definition	51
Export/Import of Mapping Files.....	52
Index	58

Safety Information

Important Information

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER
DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING
WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION
CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE
NOTICE is used to address practices not related to physical injury.

Please Note

Our product should be installed, operated and maintained only by qualified personnel. Neither TMSS France nor any of its subsidiaries or other affiliated companies shall be responsible or liable for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

About the Book

Document Scope

This manual describes how to use the embedded software functions of the XGST2020 handheld terminal.


Validity Note

The technical characteristics of the devices described in this manual also appear online. To access this information online:

Step	Action
1	Go to the Telemecanique Sensors home page www.telemecaniquesensors.com .
2	In the Search box type the model number of a product or the name of a product range. Do not include blank spaces in the model number/product range. To get information on grouping similar modules, use asterisks (*).
3	If you entered a model number, go to the Product datasheets search results and click on the model number that interests you. If you entered the name of a product range, go to the Product Ranges search results and click on the product range that interests you
4	If more than one model number appears in the Products search results, click on the model number that interests you.
5	Depending on the size of your screen, you may need to scroll down to see the data sheet.
6	To save or print a data sheet as a .pdf file, click Download XXX product datasheet .

The characteristics that are described in the present document should be the same as those characteristics that appear online. In line with our policy of constant improvement, we may revise content over time to improve clarity and accuracy. If you see a difference between the document and online information, use the online information as your reference.

Product Related Information

 WARNING
<p>UNINTENDED EQUIPMENT OPERATION</p> <ul style="list-style-type: none"> • The application of this product requires expertise in the design and programming of control systems. Only persons with such expertise must be allowed to program, install, alter, and apply this product. • Follow all local and national safety codes and standards. <p>Failure to follow these instructions can result in injury or equipment damage.</p>

Related Documents

Title of documentation	Reference number
XGST2020 Terminal XG - Quick Start Guide	HRB34094

You can download these technical publications and other technical information from our website at www.telemecaniquesensors.com.

QR Code

A QR code including the Telemecanique Sensors web address is present on the XGST2020 handheld terminal label. Technical documents are available in various languages in this website.



User Comments

We welcome your comments about this document. You can reach us through the customer support page on your local TeSensors website.

General Information

Overview

This chapter presents the embedded software functions of the XGST2020 handheld terminal.

General Description

Introduction

This manual describes the embedded software functions of the XGST2020 handheld terminal.

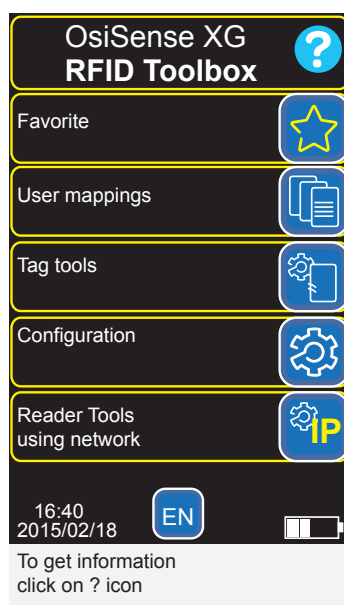
The XGST2020 handheld terminal helps you during commissioning, operation, and maintenance of RFID system of the OsiSense XG product range.

Function Categories

The embedded software functions of the XGST2020 handheld terminal are organized in three categories:

- Direct operation on RFID tags: identification, copy, formatting,...
- Mapping: a mapping is a list of variables, stored permanently in the terminal memory for quick and simple access by the operators.
- Configuration: configuration of the terminal parameters and mapping configuration.

This illustration presents the home screen of the terminal, allowing access to the software functions:



Function Description

Description

This table describes the functions of each category:

Category	Function	Description
Direct processing of RFID tags (Tag tools)	Read/Write words, page 18	Groups containing up to 254 words can be read/written from a given start address. Data can be displayed in different formats (decimal, signed decimal, binary, decimal IP, hexadecimal, or ASCII).
	Tag Copy, page 21	Tag copy from 1 tag to another. The whole tag memory or part of it can be copied.
	Tag Initialization, page 24	The whole tag memory or a defined part of it can be written with a value chosen by the operator.
	Tag Presence, page 26	Cyclic test for presence of the tag in front of the Smart Antenna connected to the terminal. An indicator light and a bargraph provide information regarding the test results.
	Tag Identification, page 27	The terminal displays the RFID protocol, unique ID, and the memory size of a tag.
Mapping	Mapping, page 49	<p>A mapping is a list of variables, stored permanently in the terminal memory for quick and simple access by the operators.</p> <p>Each mapping variable is associated with a name and displayed in a format selected from numerous possibilities, in read only or read/write mode.</p> <p>Creation, modification and backup tools are embedded in the handheld terminal software.</p> <p>Up to 256 mappings can be stored in the memory (each being identifiable by a number and a name). Each mapping can contain up to 256 variables.</p> <p>Each variable is defined by its position within the tag memory, its size, and its type (word or byte) and its display format on screen.</p> <p>The data displayed on a mapping can be stored in the terminal memory or written to an RFID tag.</p> <p>A backup of each mapping or all mappings can be stored on a USB memory key inserted in the USB socket of the handheld terminal.</p>

Category	Function	Description
Configuration	Update the Terminal, page 28	This function is password-protected and allows to: <ul style="list-style-type: none"> • Update the terminal firmware. • Update the Smart Antenna linked to the handheld terminal. • Restore the handheld terminal to factory settings. • Changing the password.
	Manufacturer Information, page 32	This function displays the following information: <ul style="list-style-type: none"> • Terminal hardware version • Terminal firmware version • Smart Antenna firmware version • Terminal temperature • Battery voltage
	Terminal Parameters, page 33	This function is used to configure: <ul style="list-style-type: none"> • Screen localization • Shutdown delay • Favorite mapping number • Ethernet port gateway and IP address • Backlight level • Data mode • RS485 link • TAG presence • Auto read mapping • Boot screen picture (upload from the USB memory key)
	Mapping Management, page 35	This function is used to access to the following elements: <ul style="list-style-type: none"> • Backup and restoration of all user mappings from and to the USB memory key. • Export and import a user mapping from and to the USB memory key. • Creation, modification, copying, and deletion of mappings. Each mapping is password-protected.
	Set Date / Time, page 35	Configuration of the terminal date and time.
	Reader Tools Using Network, page 37	Configuration of the Ethernet parameters of the Smart Antennas (IP address, gateway address, and subnet mask).

Navigation

Overview

This chapter presents the navigation principle of the XGST2020 handheld terminal.

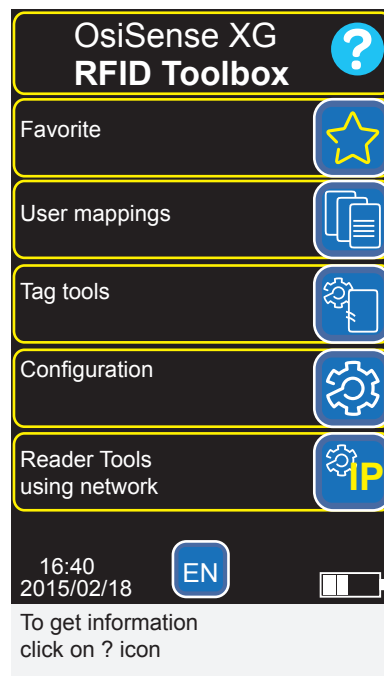
Home Screen



Introduction






The home screen allows you to access to all the terminal functions.

Description

This illustration describes the home screen of the terminal:












Button or icon	Description
Favorite	Access to the Favorite Mapping, page 51 .
User mappings	Access to the User mappings, page 49 .
Tag tools	Access to the functions of the Tag Tools Category, page 18 .
Configuration	Access to the functions of the Configuration Category, page 28 .
Reader Tools using network	Access to the configuration screen of the Ethernet parameters of the XGCS850C201 Smart Antennas, page 37 .
	Access to the contextual help of the home screen.
	Temporarily change the Language Setting, page 37 .

Button or icon	Description
	<p>Battery level indicator:</p> <ul style="list-style-type: none"> • Battery fully charged  • Battery capacity at 75%  • Battery capacity at 50%  • Low battery, connect the charger 

Navigation Buttons

Description
























This table describes the navigation buttons of the terminal:

Button	Description
	Return to the previous screen.
	Validation of the choice or of the entered value.
	Selection of the previous value in a list.
	Selection of the next value in a list.
	Selection of the previous page in a list.
	Selection of the next page in a list.
	Cancel the current function.
	Return to the home screen.
	Access to the contextual help of the current screen.

Function Access

Description

This table describes how to access each function from the home screen:

Category	Function	Button sequence
Direct processing of RFID tags	Read/Write words, page 18	 
	Tag Copy, page 21	 
	Tag Initialization, page 24	 
	Tag Presence, page 26	 
	Tag Identification, page 27	 
User mapping	Mapping, page 49	
	Favorite Mapping, page 51	
Configuration	Update the Terminal, page 28	 
	Manufacturer Information, page 32	 
	Terminal Parameters, page 33	 
	Mapping Management, page 35	 
	Set Date / Time, page 35	 
	Reader Tools Using Network, page 37	

Data Edition

Introduction

Keypads are used to edit field values (parameter, address, value, name...).

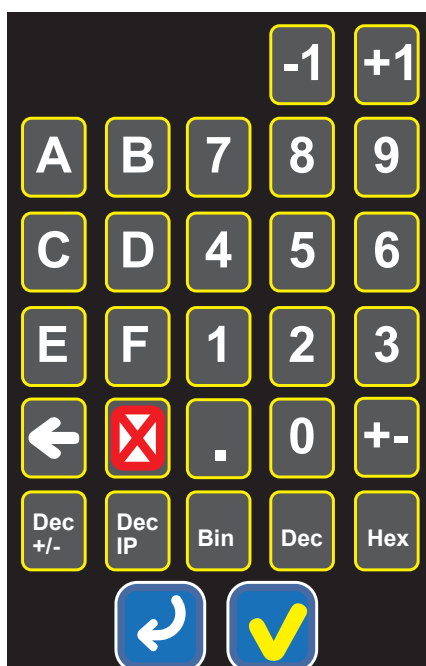
There are two types of keypads:

- Keypad for editing numeric fields
- Keypad for editing alphanumeric fields













The keypad is automatically displayed when a field is selected.

Numeric Keypad

This illustration presents the data editor for numeric data:

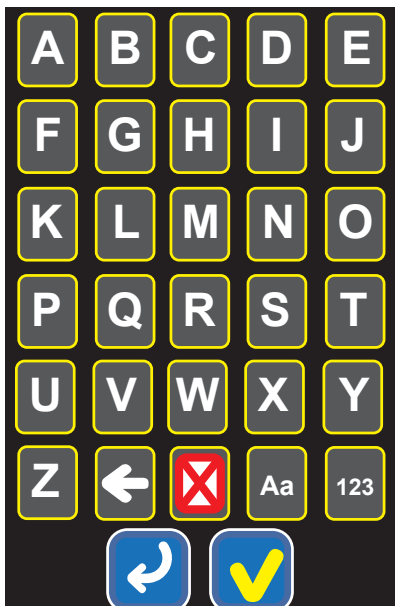


This table describes the data editor buttons:







Button	Description
	This button decreases the current value by 1.
	This button increases the current value by 1.
	If the display format is signed decimal (Dec +/-), this button inverts the sign of the current value.
	The value is displayed in signed decimal representation.
	The value is displayed in IP decimal representation, for example the value FFFF hex is represented 255.255 in this format.
	The value is displayed in binary representation.
	The value is displayed in decimal representation.
	The value is displayed in hexadecimal representation.
	The last digit of the value is erased.
	All the digits of the value are erased.
	This button applies the value to the current field and exits the data editor.
	This button restores the previous value of the field and returns to the previous screen.

Alphanumeric Keypad

This illustration presents the data editor for alphanumeric data:



This table describes the data editor buttons:

Button	Description
	The keypad switches between uppercase to lowercase and conversely.
	The keypad is in numeric format.
	The last character of the field is erased.
	All the characters of the field are erased.
	This button applies the value to the current field and exits the data editor.
	This button restores the previous value of the field and returns to the previous screen.

Data Edition

Proceed as follows to edit a field value:

Step	Action
1	Select the required field.
2	Select the field format.
3	Erase all the field or the last characters.
4	Enter the value with the keypad. NOTE: A long press on a character button repeats the character entry until the button is released.
5	Press the validation button.

Function Description

Overview

This chapter describes the functions of the XGST2020 handheld terminal.



Introduction

This section describes the functions of the **Tag Tools** category.

Tag Reading/Writing Using Address

Function Access




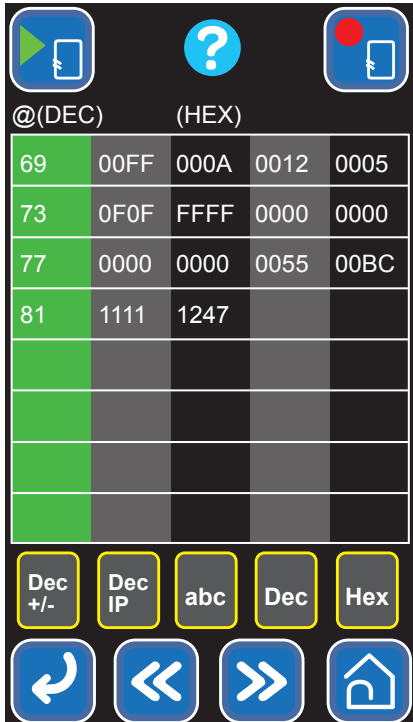
From the home screen, press the following buttons:

Step	Menu or function	Button
1	Tag tools	
2	TAG reading/writing using address	

TAG Reading



Proceed as follows to read a tag:

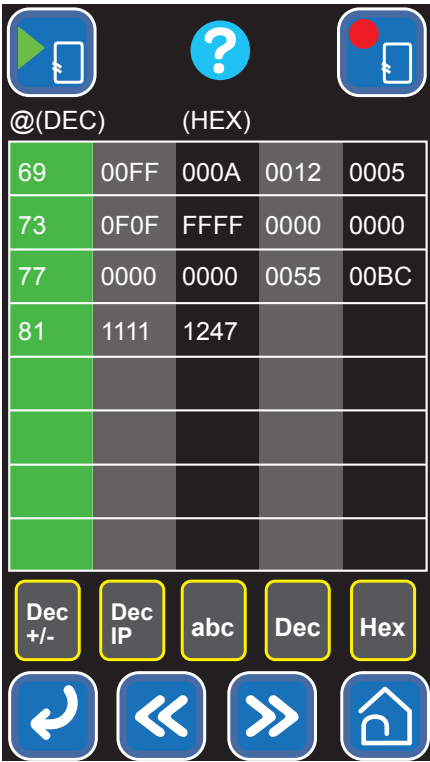

Step	Description
1	Enter the starting address of the area to read (in decimal or hexadecimal).
2	Select the Size (Nb data) field.
3	Enter the number of words to read (in decimal).

Step	Description																																													
4	<p>Validate:</p>  <p>Result: The following screen is displayed.</p>  <table border="1" data-bbox="652 512 1083 943"> <thead> <tr> <th>@(DEC)</th> <th colspan="4">(HEX)</th> </tr> </thead> <tbody> <tr><td>69</td><td>0000</td><td>0000</td><td>0000</td><td>0000</td></tr> <tr><td>73</td><td>0000</td><td>0000</td><td>0000</td><td>0000</td></tr> <tr><td>77</td><td>0000</td><td>0000</td><td>0000</td><td>0000</td></tr> <tr><td>81</td><td>0000</td><td>0000</td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	@(DEC)	(HEX)				69	0000	0000	0000	0000	73	0000	0000	0000	0000	77	0000	0000	0000	0000	81	0000	0000																						
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5	<p>Press the reading button:</p> 																																													
6	<p>The read data of the tag are displayed on the screen with the selected displaying format:</p>  <table border="1" data-bbox="652 1518 1066 1921"> <thead> <tr> <th>@(DEC)</th> <th colspan="4">(HEX)</th> </tr> </thead> <tbody> <tr><td>69</td><td>00FF</td><td>000A</td><td>0012</td><td>0005</td></tr> <tr><td>73</td><td>0F0F</td><td>FFFF</td><td>0000</td><td>0000</td></tr> <tr><td>77</td><td>0000</td><td>0000</td><td>0055</td><td>00BC</td></tr> <tr><td>81</td><td>1111</td><td>1247</td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	@(DEC)	(HEX)				69	00FF	000A	0012	0005	73	0F0F	FFFF	0000	0000	77	0000	0000	0055	00BC	81	1111	1247																						
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77	0000	0000	0055	00BC																																										
81	1111	1247																																												

TAG Writing

Proceed as follows to write in a tag memory:



Step	Description
1	Enter the starting address of the area to write (in decimal or hexadecimal).
2	Select the Size (Nb data) field.
3	Enter the number of words to write (in decimal).
4	<p>Validate:</p>  <p>Result: The following screen is displayed.</p> 

Step	Description
5	<p>Enter the values to write in the table (press the table field to edit the value):</p> 
6	<p>Press the writing button:</p>  <p>Result: The data are written in the tag memory.</p>

Copy Tag

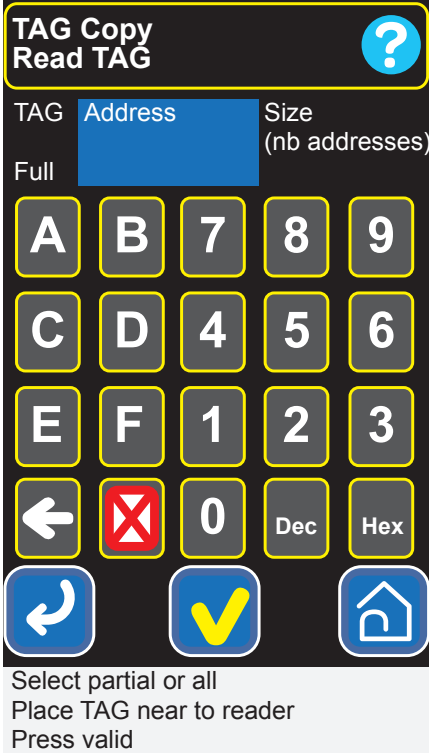




Function Access

From the home screen, press the following buttons:

Step	Menu or function	Button
1	Tag tools	
2	Copy tag	

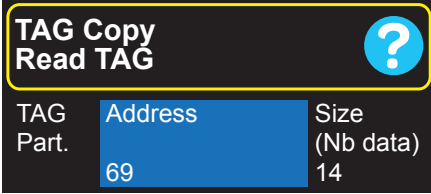




Partial Tag Copy

Proceed as follows to copy an area of a tag memory:

Step	Description
1	<p>Press TAG Full if the terminal is not in TAG Part. mode.</p>  <p>Select partial or all Place TAG near to reader Press valid</p>
2	Enter the starting address of the area to read (in decimal or hexadecimal).
3	Select the Size (nb addresses) field.
4	Enter the number of words to read (in decimal or hexadecimal).
5	<p>Validate:</p> 
6	<p>Validate to continue the sequence:</p>  <p>Result: The data are read and stored in the terminal memory.</p>
7	Replace the source tag by the destination tag.
8	<p>Press the Write in TAG memory button:</p> 
9	<p>Validate to continue the sequence:</p>  <p>Result: The data are written from the terminal memory to the tag memory.</p>

Full Tag Copy



Proceed as follows to copy all the tag memory:

Step	Description
1	<p>Press TAG Part. if the terminal is not in TAG Full mode.</p> 
2	<p>Validate:</p> 
3	<p>Validate to continue the sequence:</p>  <p>Result: The data are read and stored in the terminal memory.</p>
4	<p>Replace the source tag by the destination tag.</p>
5	<p>Press the Write in TAG memory button:</p> 
6	<p>Validate to continue the sequence:</p>  <p>Result: The data are written from the terminal memory to the tag memory.</p>

Tag Initialization

Function Access



From the home screen, press the following buttons:

Step	Menu or function	Button
1	Tag tools	
2	Tag initialization	

Partial Tag Initialization

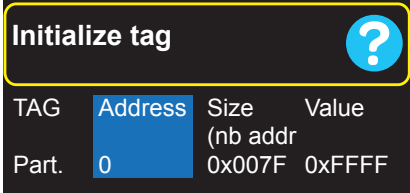


Proceed as follows to initialize an area of a tag memory:

Step	Description
1	<p>Press TAG Full if the terminal is not in TAG Part. mode.</p>  <p>Select partial or all Enter value Press valid</p>
2	Select the Address field.
3	Enter the starting address of the area to initialize (in decimal or hexadecimal).
4	Select the Size (nb addr) field.
5	Enter the number of words to initialize (in decimal or hexadecimal).
6	Select the Value field.
7	Enter the initialization value (in decimal or hexadecimal).

Step	Description
8	Validate: 
9	Validate to continue the sequence:  Result: The initialization value is written in the defined tag memory area.

Full Tag Initialization



Proceed as follows to initialize all the tag memory:

Step	Description
1	Press TAG Part. if the terminal is not in TAG Full mode. 
2	Select the Value field.
3	Enter the initialization value (in decimal or hexadecimal).
4	Validate: 
5	Validate to continue the sequence:  Result: The initialization value is written in all the tag memory.

Verify Tag Presence

Function Access



From the home screen, press the following buttons:

Step	Menu or function	Button
1	Tag tools	
2	Verify TAG presence	

Description

Press **Verify TAG presence** to start a continuous tag detection. Press any area on the screen to stop the tag detection.



The following table describes the function representation according to the tag presence:

Representation	Tag presence in front of the reader
	No
	Yes

Tag Identification

Function Access

From the home screen, press the following buttons:

Step	Menu or function	Button
1	Tag tools	
2	Tag identification	

Description

The **Tag identification** function displays the following information:



Item	Description
Tag protocol	The protocol used by the tag: <ul style="list-style-type: none"> • ISO 15693 • ISO 14443A • ISO 14443B
UID	The identification number of the tag.
Last available address	The last available address of the tag (in hexadecimal).
Memory size	The memory size of the tag (in bytes).

Configuration Category



Introduction

This section describes the functions of the **Configuration** category.


Update Terminal

Function Access

From the home screen, press the following buttons:

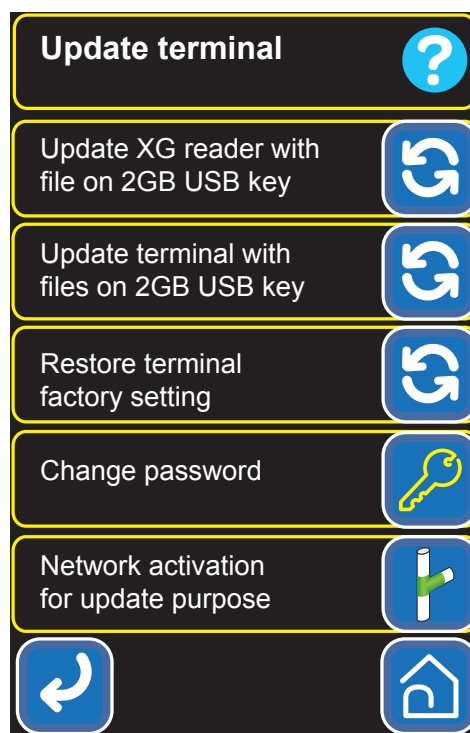
Step	Menu or function	Button
1	Configuration	
2	Update Terminal	

NOTE: This page is protected by a password. The default password is **0000**.

 CAUTION
EQUIPMENT DAMAGE
The terminal battery must be fully charged or connected to the charger before starting a firmware update.
Failure to follow these instructions can result in injury or equipment damage.

Description




This illustration presents the **Update terminal** screen:



Function	Description
Update XG reader with file on 2GB USB key	This function updates the Smart Antenna connected to the terminal with firmware provided on an external USB memory key.
Update terminal with files on 2GB USB key	This function updates the terminal firmware with firmware provided on an external USB memory key.
Restore terminal factory settings	This function restores the terminal with initial factory settings. NOTE: Your mapping files stored in the terminal are also deleted.
Change password	This function allows you to change the password to access this page.
Network activation for update purpose	Not used




Reader Firmware Update

Proceed as follows to update the reader firmware:

Step	Description
1	Copy the firmware file (*.hex) on the USB memory key. NOTE: The USB memory key must be formatted in FAT16.
2	Press the Update XG reader with file on 2GB USB key button 
3	Connect the USB memory key to the terminal.
4	Validate: 
5	Select the firmware file in the list.
6	Validate to continue the sequence:  Result: The firmware update starts (approximately 1 min).When the firmware update is finished, the terminal displays the home screen.



Terminal Firmware Update

Proceed as follows to update the terminal firmware:

Step	Description
1	Copy the firmware file (*.hex) on the USB memory key. NOTE: The USB memory key must be formatted in FAT16.
2	Press the Update terminal with files on 2GB USB key button 
3	Connect the USB memory key to the terminal.
4	Validate: 
5	Select the firmware file in the list.
6	Validate to continue the sequence:  Result: The firmware update starts. NOTE: When the firmware update is finished, the terminal displays the home screen.




Restore Terminal Factory Settings

Proceed as follows to restore the terminal factory settings:

Step	Description
1	If you want to keep your mapping files, back up the mapping files to the USB memory key (refer to Backup of All Mappings, page 52).
2	Press the Restore terminal factory settings button: 
3	Validate:  Result: The factory settings are applied.

Change Password



Proceed as follows to change the password:

Step	Description
1	Press Change password : 
2	Enter the new password (ASCII string of four characters).
3	Validate: 
4	Validate to confirm the new password:  Result: The new password is applied.

Manufacturer Information

Function Access

From the home screen, press the following buttons:

Step	Menu or function	Button
1	Configuration	
2	Manufacturer information	

Description

The **Manufacturer information** function displays the following information:





Item	Description
XG Pocket HW	Hardware version of the terminal
XG Pocket Firmware	Firmware version of the terminal
XG Reader Firmware	Firmware version of the Smart Antenna (reader)
Terminal temperature	Terminal temperature (in °C)
Battery voltage	Battery voltage (in mV)

Terminal Parameters

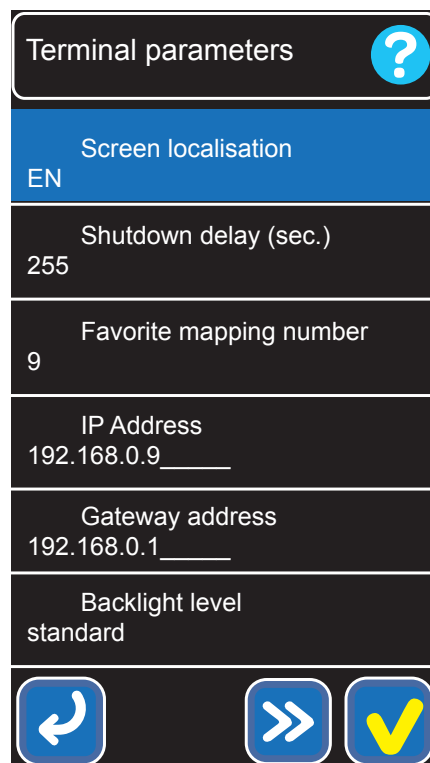
Function Access

From the home screen, press the following buttons:

Step	Menu or function	Button
1	Configuration	
2	Terminal parameters	

Description

The **Terminal parameters** screen displays the following information:



Parameter	Value	Description
Screen localization	EN FR	Defines the terminal localization.
Shutdown delay (sec.)	20...254	Defines the shutdown delay in seconds in case of inactivity. NOTE: After a restart the terminal displays the screen displayed before the extinction.
	255	The shutdown delay is disabled.
Favorite mapping number	-	Defines the favorite mapping number accessible from the home screen.
IP Address	-	Defines the IP address of the terminal.
Gateway address	-	Defines the gateway address of the terminal.



Parameter	Value	Description
Backlight level	standard eco	Defines the screen backlight level.
Selected data mode	standard byte mode reverse mode	Defines the data mode.
Modbus server address	0...254	Defines the Modbus address.
RS485 speed	9600 19200 38400 57600 115200	Defines the RS485 link speed in bauds.
RS485 nb bits	5 bits 6 bits 7 bits 8 bits	Defines the number of data bits of the RS485 link.
RS485 nb stops	1 bit 2 bits	Defines the number of stop bits of the RS485 link.
RS485 parity	none odd even	Defines the parity of the RS485 link.
Check TAG presence	ON OFF	Enables/disables the automatic check of the tag presence before launching a read/write request. NOTE: For example set the parameter to OFF if you want to access to the Smart Antenna system area without the presence of a tag.
Mapping : auto read	ON OFF	If enabled, when a user mapping is selected the terminal automatically reads the tag.
Change boot screen	-	Allows you to change the boot screen from the USB memory key (*.bmp). NOTE: The size of the BMP file must be 272 (width) x 480 (height) pixels.

NOTE: The new parameter values are applied after a terminal restart.

Mapping Management

Function Access

From the home screen, press the following buttons:



Step	Menu or function	Button
1	Configuration	
2	Mapping management	

For more information about mapping management, refer to [Mapping Management Category, page 39](#).

Set Date / Time

Function Access

From the home screen, press the following buttons:

Step	Menu or function	Button
1	Configuration	
2	Set date / time	

Description

Proceed as follows to set the date and time:

Step	Action
1	Erase the field or the last characters:  or 
2	Enter the date and time with the following format: YYYY/MM/DD HH:MM: 
3	Validate: 
4	Validate to apply: 

Language Setting



Description

The language setting of the terminal can be change:

- temporarily from the home screen (after a restart the previous language is used)
- permanently from the [Terminal Parameters](#), page 33.

Temporarily Language Setting


Proceed as follows to change temporarily the language setting:

Step	Action
1	Go to the home screen: 
2	Press the language button:  NOTE: The text localizations are loaded.

Reader Tools Using Network

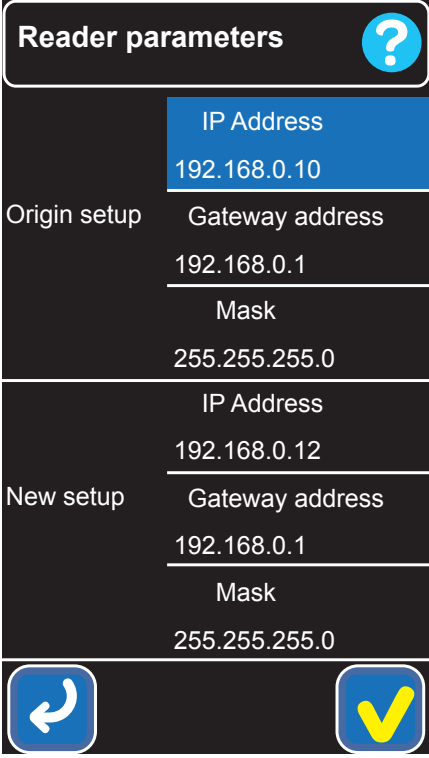


Function Access

From the home screen, press the following buttons:

Step	Menu or function	Button
1	Reader Tools using network	

Description

Proceed as follows to change the Ethernet parameters of a XGCS850C201 Smart Antenna:

Step	Action
1	Select the IP Address field of the Origin setup area: 
2	Enter the current IP address of the Smart Antenna .
3	Select the Gateway Address field of the Origin setup area.
4	Enter the current gateway address of the Smart Antenna.
5	Select the Mask field of the Origin setup area.
6	Enter the current mask of the Smart Antenna.
7	Select the IP Address field of the New setup area.
8	Enter the new IP address of the Smart Antenna.
9	Select the Gateway Address field of the New setup area.
10	Enter the new gateway address of the Smart Antenna.
11	Select the Mask field of the New setup area.
12	Enter the new mask of the Smart Antenna.
13	Validate: 
14	Verify that the terminal and the Smart Antenna are connected to the Ethernet network.
15	Validate to continue the sequence:  NOTE: The terminal restarts and applies the new parameters to the Smart Antenna.

Mapping Management Category

Introduction

This section describes the functions of the **Mapping Management** category.

Mapping Description

Introduction

A mapping is a list of variables, stored permanently in the terminal memory for quick and simple access by the operators.

Each mapping variable is associated with a name and displayed in a format selected from numerous possibilities, in read only or read/write mode.

Creation, modification and backup tools are embedded in the terminal software.

Up to 256 mappings can be stored in the memory (each being identifiable by a number and a name).





Each mapping can contain up to 256 variables. Each variable is defined by its position within the tag memory, its size, and its type (word or byte) and its display format on screen.

The data displayed on a mapping can be stored in the terminal memory (model) or written to a tag.

A backup of each mapping or all mappings can be stored on a USB memory stick inserted in the USB socket of the handheld terminal.

Mapping Editor Description

This table describes the buttons of the **Mapping Management**, **Field list**, and **Values list** screens:

Button	Description
	Creation of a new mapping or a new field in a mapping, or a new value in a list.
	Modification of an existing mapping or an existing field in a mapping, or a value in a list.
	Duplication of an existing mapping or an existing field in a mapping, or a value in a list.
	Suppression of a mapping or a field in a mapping, or a value in a list.

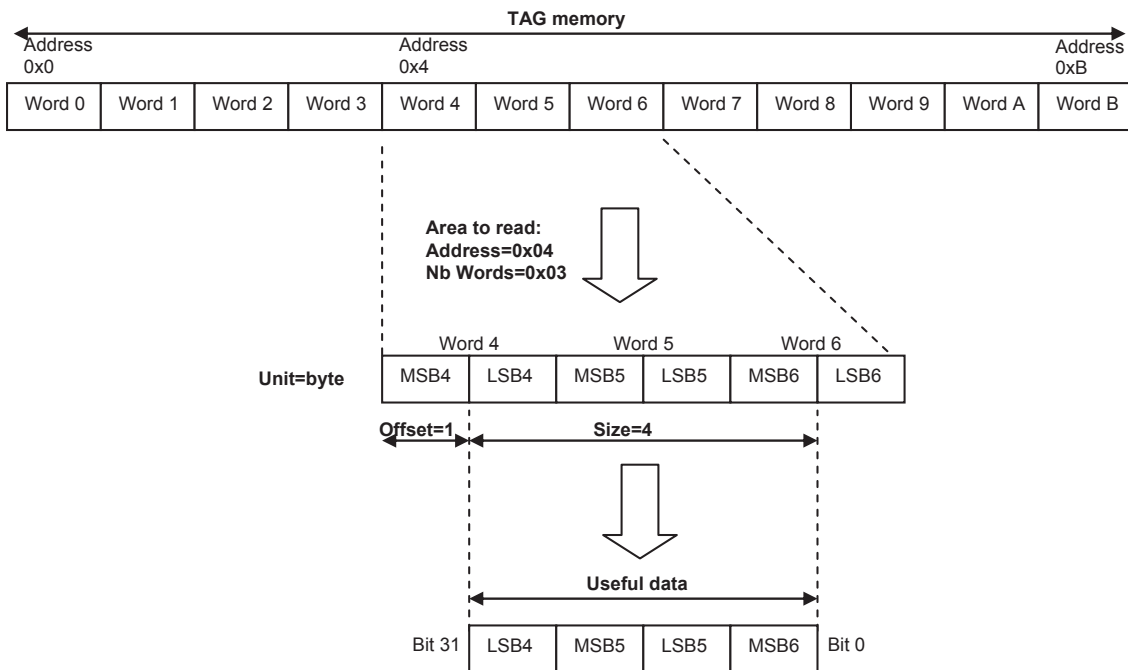
Mapping Field Parameters

The table describes the parameters of the mapping fields:

Parameters	Value	Description
Name	-	Mapping name, ASCII string of 24 characters maximum.
Address	0...65535	Address of the first word to read in the tag.
Nb word to read	1...255	Number of words to read.
Unit	BYTEWORD	The unit of the field parameters Offset and Size .
Offset (Nb Unit)	1...255	The offset (in number of units from the Address) indicates where the useful data begins in the area.
Size (Nb Unit)	1...255	The size (in number of units) of the useful data.
Display	Display Format, page 41	Defines the format used to display the data. The value must be consistent with the parameters Unit and Size .
Properties	Read/Write Read/Only	Indicates the field access, read only or read/write.
Bit #	0...15	This parameter indicates the bit number if the Display parameter is defined as BOOL .

For example, if the parameters are defined with the following values:

- **Address** = 0x04
- **Nb word to read** = 3
- **Unit** = BYTE
- **Offset** = 1
- **Size** = 4



Display Format




The terminal supports the following display formats:

Name	Description	Value
DEC	Decimal (1 word)	0...65535
	Decimal (1 byte)	0...255
DEC+-	Signed decimal (1 byte)	-128...127
DEC IP	Decimal IP (2 words)	0.0.0.0...255.255.255.255
HEXA	Hexadecimal (4 bytes)	0000...FFFF
BOOL	Boolean bit (1 bit)	Check box
BIN	Binary (1 byte)	00000000...11111111
LIST	List (1 byte), page 47	0...15. A string associated with each byte value is displayed on screen in place of the byte value.
ASCII STRING	ASCII string	1...21 characters
HEX STRING	Hexadecimal string	2...30 hexadecimal characters (1...15 bytes)
DATE	Date (8 bytes)	YYYY/MM/DD
TIME	Time (2 bytes)	HH:MM

Mapping Management



Function Access

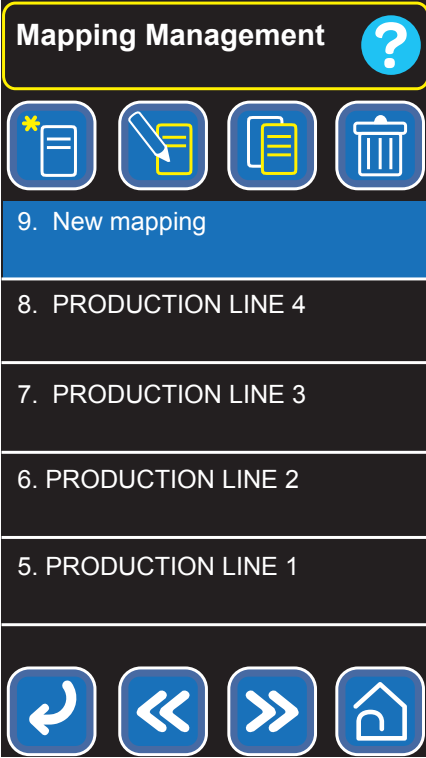



From the home screen, press the following buttons:


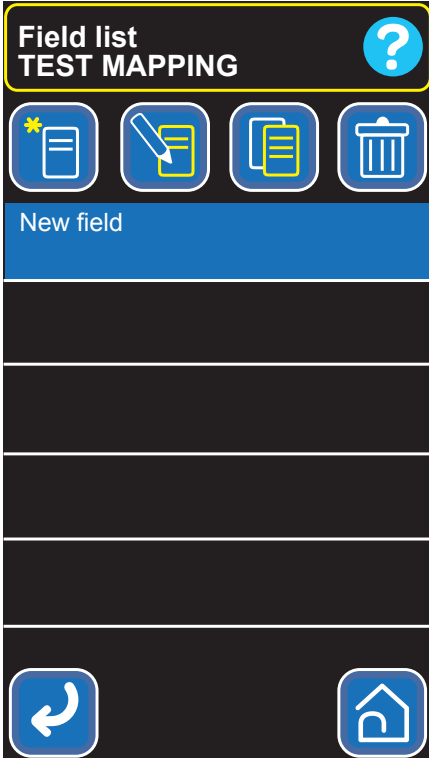





Step	Menu or function	Button
1	Configuration	
2	Mapping management	
3	Mapping management	



Mapping Creation

Proceed as follows to create a mapping:

Step	Action
1	Press the new mapping button: 
2	Validate:  Result: A mapping named New mapping is added in the mapping list.

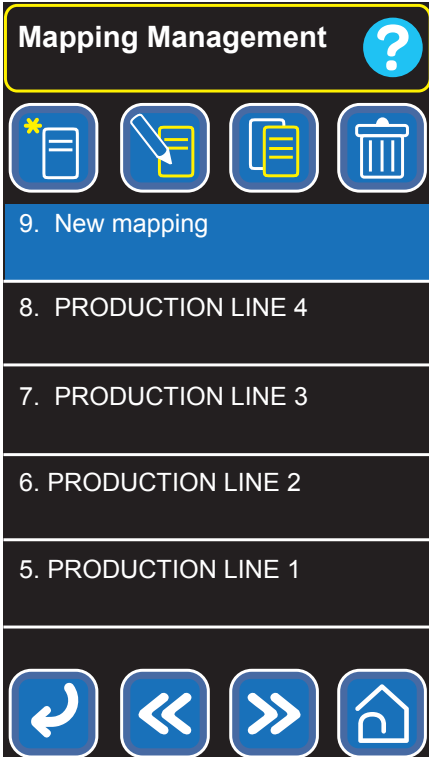

Step	Action
3	Select the New mapping in the list: 
4	Press the edition button: 
5	Enter the password (by default 0000).
6	Select the Name field to rename the mapping.
7	Validate: 
8	Select the Password field to modify the mapping password.
9	Validate: 


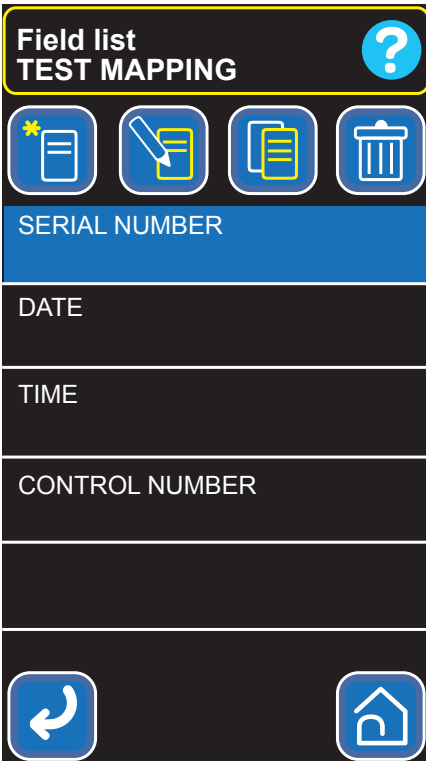


Step	Action
10	<p>Validate:</p>  <p>Result: The Field list screen opens:</p> 
11	<p>Press the edition button to modify the New field:</p> 
12	<p>Press the parameters to configure their values. Refer to Mapping Field Parameters, page 40.</p>
13	<p>Validate:</p> 
14	<p>Press the button to add a new field:</p>  <p>NOTE: You can duplicate an existing field with the button:</p> 
15	<p>Validate:</p> 

Step	Action
16	Press the edition button to modify the New field : 
17	Press the parameters to configure their values. Refer to Mapping Field Parameters, page 40 .
18	Validate: 
19	Repeat the steps 14 to 18 for each required field.

Mapping Modification

Proceed as follows to modify a mapping:

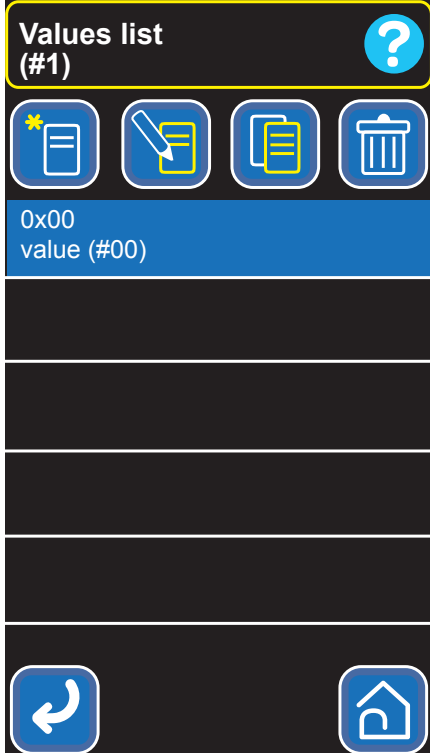





Step	Action
1	Select the mapping to modify in the list: 
2	Press the edition button: 
3	Enter the mapping password.


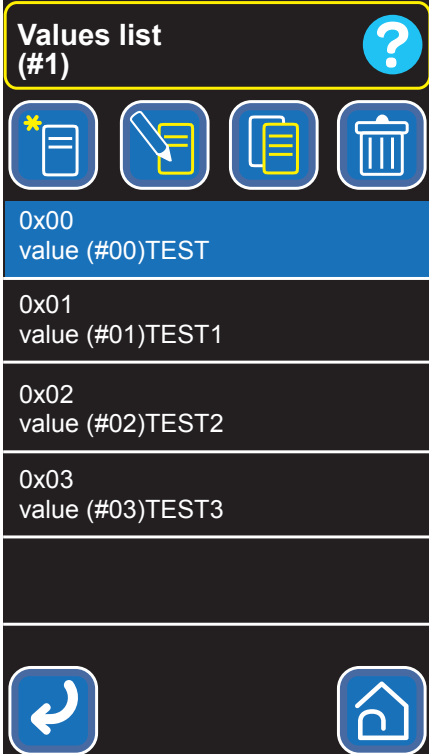

Step	Action
4	Validate:  Result: The Field list screen opens: 
5	Select the field to modify in the list.
6	Press the edition button to modify the field: 
7	Press the parameters to configure their values. Refer to Mapping Field Parameters, page 40 .
8	Validate: 
9	Repeat the steps 5 to 8 for each field to modify.

List Creation

If the **LIST** format is used for the displaying format of a field, the **Values list** screen opens automatically after the parameter configuration.

Proceed as follows to configure the list values:


Step	Action
1	By default the first value of the list is created: 
2	Press the edition button: 
3	Enter the string associated to the value 0.
4	Validate: 
5	Press the following button to add a new value in the list:  <p>NOTE: You can duplicate an existing value with the button:</p>  <p>The value is automatically incremented when a new value is added.</p>
6	Press the edition button to modify the list value: 

Step	Action
7	Enter the string associated to the new value.
8	Validate: 
9	Repeat the steps 5 to 7 for each required value. Result: The list is defined with the string associated with each value: 
10	Press the following button to return to the Field list screen: 

How to Use Mappings

Function Access

From the home screen, press the following buttons:

Step	Menu or function	Button
1	User mappings	

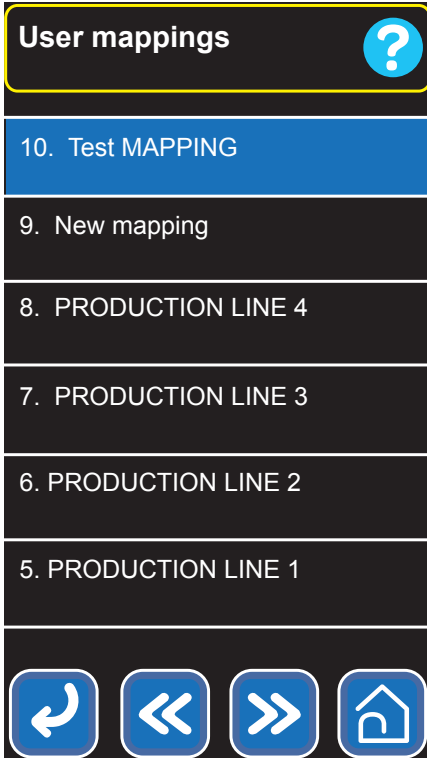
NOTE:

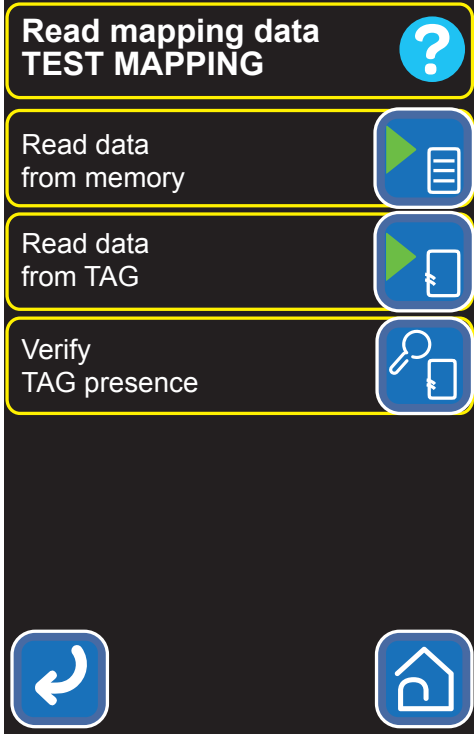

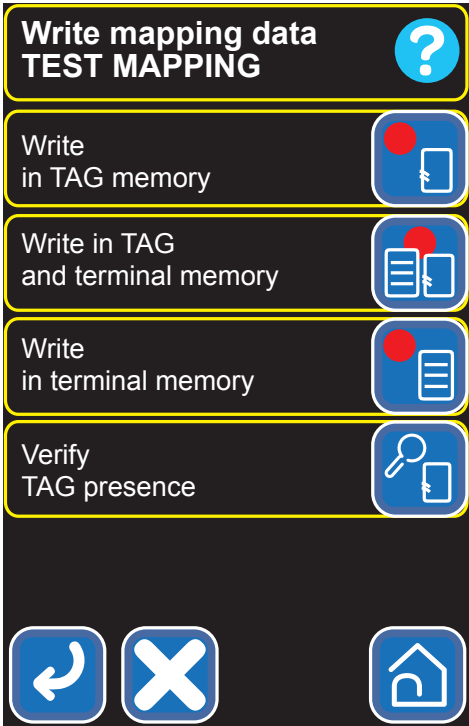
You can also access to your favorite mapping from the home screen:



Description

Proceed as follows to use a mapping:



Step	Action
1	<p>Select the mapping in the list:</p>  <p>Result: The Read mapping data screen opens.</p>

Step	Action
2	<p>Press the Read data from TAG button:</p>  <p>Result: The terminal displays the mapping fields and their associated values.</p>
3	<p>Modify the field values if needed (press the field to open the data editor).</p>
4	<p>Validate:</p>  <p>Result: The Write mapping data screen opens.</p>
5	<p>You can write the previously defined data:</p> <ul style="list-style-type: none"> • in the tag memory • in the tag memory and the terminal memory • in the terminal memory  <p>NOTE: When the data are stored in the terminal memory, a model is created. Only one model per mapping can be stored in the terminal.</p>

Favorite Mapping Definition

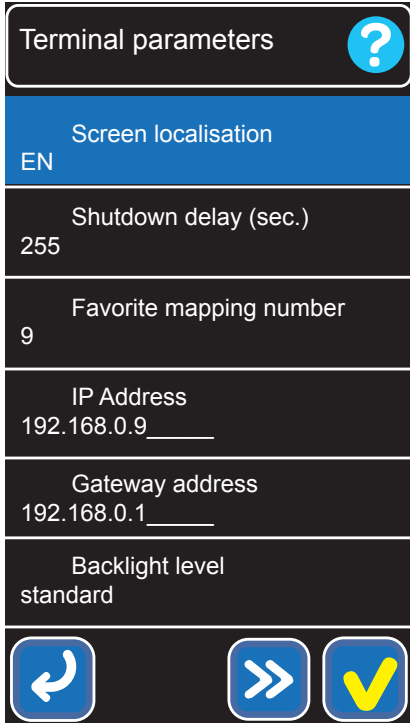



Function Access

From the home screen, press the following buttons:

Step	Menu or function	Button
1	Configuration	
2	Terminal parameters	

Favorite Mapping Definition



Proceed as follows to define your favorite mapping:

Step	Action
1	<p>Select the Favorite mapping number parameter in the list:</p> 
2	Enter your favorite mapping number.
3	<p>Validate:</p> 
4	<p>Validate the new parameters:</p> 
5	<p>Validate:</p>  <p>Result: The new favorite mapping will be taken into account after a terminal restart.</p>

Export/Import of Mapping Files

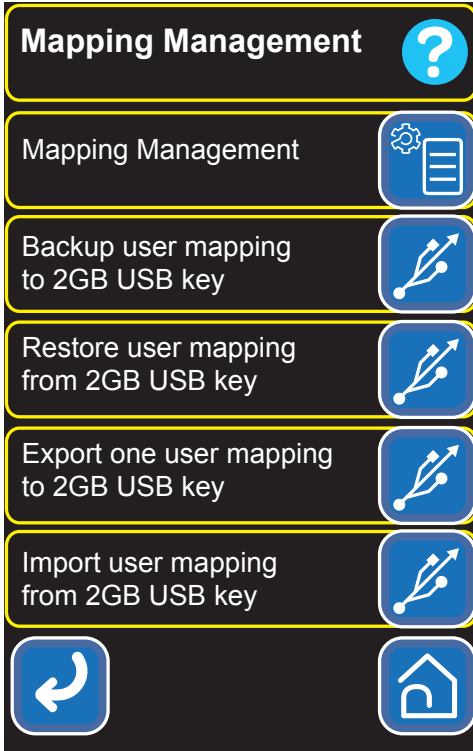

Function Access

From the home screen, press the following buttons:

Step	Menu or function	Button
1	Mapping Management	
2	Backup user mapping to 2GB USB key or Restore user mapping from 2GB USB key or Export one user mapping to 2GB USB key or Import user mapping from 2GB USB key	




Backup of All Mappings

Proceed as follows to export all mappings in one file:

Step	Action
1	<p>Press the Backup user mapping to 2GB USB key button:</p> 
2	Connect the USB memory key to the terminal.
3	<p>Validate:</p>  <p>Result: The mapping file (<code>MAPPING.CSV</code>) is exported to the root folder of the USB memory key.</p>



One Mapping Export

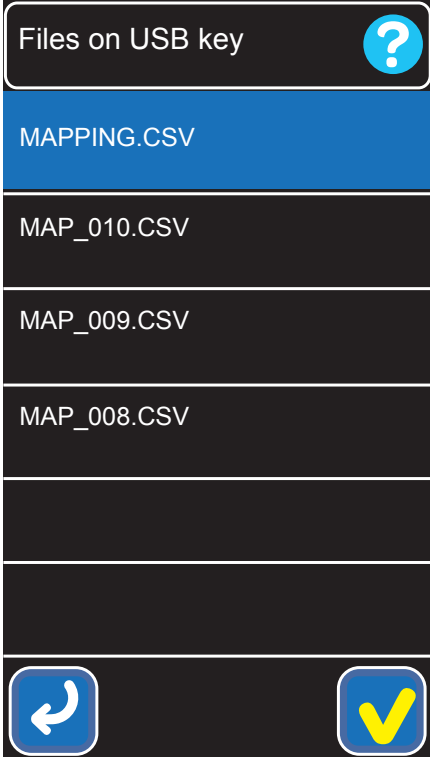

Proceed as follows to export one mapping:

Step	Action
1	<p>Press the Export one user mapping to 2GB USB key:</p> 
2	Select the mapping to export in the list.
3	<p>Validate:</p> 
4	Connect the USB memory key to the terminal.
5	<p>Validate:</p>  <p>Result: The mapping file (MAP_<mapping number>.CSV) is exported in the root folder of the USB memory key.</p>

Restoration of All Mappings

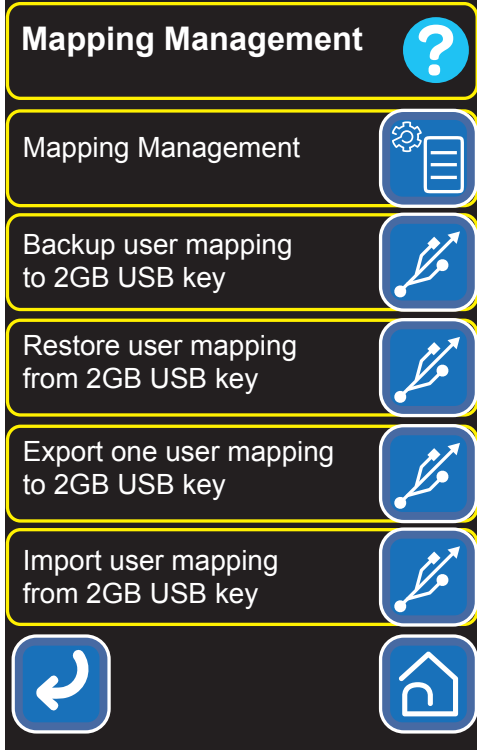

Proceed as follows to restore all mappings:

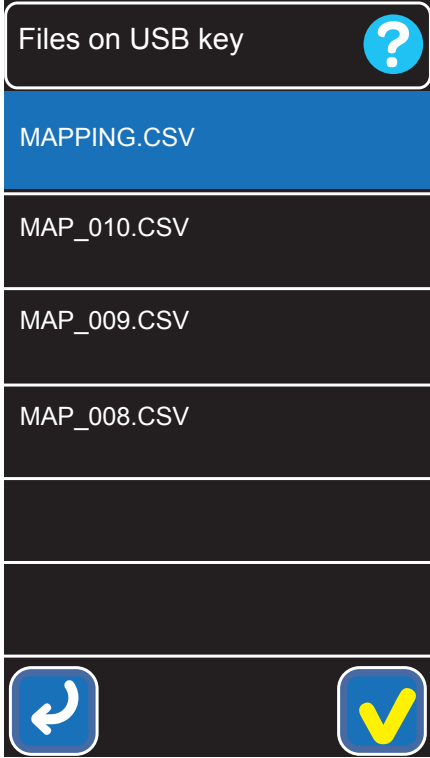

Step	Action
1	Verify that the backup file (MAPPING.CSV) is into the root folder of the USB memory key.
2	<p>Press the Restore user mapping from 2GB USB key button:</p>  <p>The screenshot shows a 'Mapping Management' menu with a question mark icon. The menu items are: 'Mapping Management' (with a gear icon), 'Backup user mapping to 2GB USB key' (with a USB icon), 'Restore user mapping from 2GB USB key' (with a USB icon), 'Export one user mapping to 2GB USB key' (with a USB icon), and 'Import user mapping from 2GB USB key' (with a USB icon). At the bottom, there are two icons: a circular arrow and a house icon.</p>
3	Connect the USB memory key to the terminal.
4	<p>Validate:</p> 

Step	Action
5	<p>Select the backup file (MAPPING.CSV) in the list:</p> 
6	<p>Validate:</p>  <p>Result: The mappings are restored in the terminal memory from the backup file.</p>

One Mapping Import

Proceed as follows to restore all mappings:

Step	Action
1	Verify that the mapping file (MAP_<mapping number>.CSV) is into the root folder of the USB memory key.
2	<p>Press the Import user mapping from 2GB USB key button:</p> 
3	Connect the USB memory key to the terminal.
4	<p>Validate:</p> 

Step	Action
5	<p>Select the mapping file (MAP_xxx.CSV) in the list:</p> 
6	<p>Validate:</p>  <p>Result: The mapping is imported into the terminal memory from the mapping file.</p>

Index

C		U	
configuration category functions.....	28	Update Terminal	28
Copy Tag	21	V	
D		Verify Tag Presence	26
Data Edition	15		
E			
Embedded functions list	9		
Export/Import of Mapping Files	52		
F			
Favorite Mapping Definition	51		
Function Access	14		
Function Description	9, 18		
functions			
Configuration category	28		
Mapping Management category	39		
Tag Tools category	18		
H			
How to Use Mappings	49		
L			
Language Setting	37		
M			
Manufacturer Information	32		
Mapping Description	39		
Mapping Management	35, 42		
Mapping Management category functions	39		
N			
Navigation	11		
Navigation Buttons	13		
R			
Reader Tools Using Network	37		
S			
Set Date / Time	36		
T			
Tag Identification	27		
Tag Initialization	24		
Tag Reading/Writing Using Address	18		
Tag Tools Category Functions	18		
Terminal Parameters	33		

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