SIEMENS

SIMATIC Ident

**RFID systems
SIMATIC RF350M**

Operating Instructions

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

DANGER
indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING
indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION
indicates that minor personal injury can result if proper precautions are not taken.

NOTICE
indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Table of contents

Introduction 1

Purpose of this document

These operating instructions contain information required for commissioning and using the SIMATIC RF350M device.

The documentation is intended for commissioning engineers and machine operators who start up the application themselves and it describes the functions of the software.

Scope of validity of this document

This documentation is valid for the SIMATIC RF350M mobile reader and describes the delivery status as of 11/2015.

Registered trademarks

SIMATIC®, SIMATIC NET®, SIMATIC RF® and MOBY® are registered trademarks of Siemens AG.

Naming conventions

The following terms/abbreviations are used synonymously in this document:

Mobile reader	Reader, read/write device (SLG), hand terminal, handheld
Transponder	Tag, mobile data storage (MDS), data carrier

History

Previous editions of these operating instructions:

Edition	Note
11/2015	First edition

Safety notes

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SIMATIC RFID products comply with the salient safety specifications to VDE/DIN, IEC, EN, UL and CSA. If you have questions about the validity of the installation in the planned environment, please contact your service representative.

NOTICE
Forfeiture of approvals and guarantees
Alterations to the devices are not permitted.
Failure to observe this requirement shall constitute a revocation of the radio equipment approval, CE approval and manufacturer's warranty.

Repairs

⚠ WARNING
Repairs only by authorized qualified personnel
Unauthorized opening of and improper repairs to the device may result in substantial damage to equipment or danger. Repairs may only be carried out by authorized qualified personnel.

Description 3

SIMATIC RF350M expands the RF200 and RF600 identification systems with a powerful mobile reader for applications in the areas of production and service. In addition, it is an indispensable aid for startup and testing.

3.1 Field of application and features

Device variants for different frequency ranges

The SIMATIC RF350M device is available in the following variants:

- with internal antenna
- with connector for external antennas

Implementation environment, field of application and features

- **Field of application**

  The SIMATIC RF350M mobile reader can be used in a harsh environment. The device is extremely rugged and protected against spray water. The backlit display is easy to read even under unfavorable lighting conditions.

- **RFID system**

  The SIMATIC RF350M mobile reader is intended specifically for the SIMATIC RF200 and RF300 RFID systems. The device can be used to process all RF300 transponders and ISO transponders compatible with it.

- **Transponder standards**

  The device supports the following transponder standards

  - RF300
  - ISO 15693

- **Software**

  The "RF350M" software is stored in non-volatile memory on an integrated flash disk and permits user-friendly, distributed reading and writing of all transponders named above.

Functions of the RF550M

You can perform the following functions with the SIMATIC RF350M mobile reader:

● Read tag ID (UID)

● Read data from the transponder

● Write data to the transponder

● Represent and edit the data in hexadecimal and ASCII format

● Save and load transponder data to and from a file

● Inventory log file for UID

● Menu prompting in English and German (switchable)

● Password protection for writing transponders and ending the program (parameters can be assigned)

For more information, refer to the section "The functions in the "Tag Editor" menu (Page 45)".

Accessories

The charging station for recharging the batteries and the connection to PCs via a USB interface or Ethernet must be ordered separately. This station has a charging bay for an additional spare battery. You will find more information on this subject in the section "Ordering data (Page 59)".

3.2 Keyboard overview

Table 3- 1   Keypad overview of the SIMATIC RF350M

SIMATIC RF350M	Pos.	Key label
	①	LED charge indicator
	②	Activator key (OK)
	③	Tab key
	④	Circle key
	⑤	123 key
	⑥	Shift key
	⑦	Alt key
	⑧	Scan key
	⑨	Delete key
	⑩	Cancel / Esc key
	⑪	Cursor keys
	⑫	Screen key
	⑬	F key
	⑭	Abc key
	⑮	Alphanumeric keypad / function keys
	⑯	On / Off key

3.3 Antenna and antenna field

Read head with integrated antenna (6GT2803-1BA00)

The antenna is housed in the read head ① under a cover.

Figure 3-1   Read head with integrated antenna

Direction of propagation of the radio frequency field

The read/write area for transponders is above and below the front part of the housing. Transponders cannot be processed from the front end.

The figure below shows the direction of propagation of the RF field of the antenna.
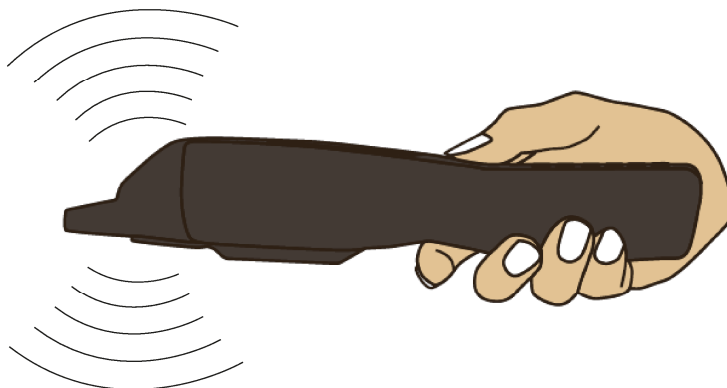
Figure 3-2   Propagation of the RF field

Read head with the option of connecting an external antenna (6GT2803-1BA10)

The external antenna is connected via the antenna connector ② on the read head ①.

Figure 3-3   Read head with the option of connecting an external antenna

The following antennas can be connected to the RF350M reader with integrated RFID write/read unit and external antenna connector using an antenna connecting cable:

● ANT 3

● ANT 8

● ANT 12

● ANT 18

● ANT 30

You will find detailed information on the antennas and the write/read ranges of the antennas in the RF300 system manual.

Commissioning

<div style="text-align: right; font-size: 2em;">4</div>

4.1 Power supply

4.1.1 Inserting the battery

The battery of the SIMATIC RF350M is located on the rear of the device. The following instructions describe inserting the battery in the device

Table 4- 1   Inserting the battery

Step	Picture	Description
1.		Release the hook and loop fastener on the battery cover on the rear of the device and open the screw below.
2.		Raise the battery cover on the screw side and remove the cover.
3.		Insert the battery. Make sure that you insert the battery at an angle so that the contact side of the battery is inserted into the battery compartment first.
4.		Hook the battery cover and close it. Secure the the battery cover with the screw and close the hook and loop fastener.

4.1.2 Connecting the charging/docking station

Close the charging/docking station as shown in the following figure.

①   Power supply (5 VDC)
②   Ethernet
③   Mini-USB

Figure 4-1   Connecting the charging station of the RF350M

You can use charging/docking station to:

● charge the SIMATIC RF350M mobile reader,

● charge a spare battery and

● connect the reader to the PC.

4.1.3   Charging the device

Complete charging of an empty battery takes approximately 5 hours.

Starting the charging operation

The charging operation is started as soon as you insert the mobile reader into the charging station.

> ⚠ **WARNING**
>
> **Explosion hazard when using a different charging station**
>
> Use only the original charging station. Use of another charging station can result in explosions and serious personal injury.

Detecting the level of charge

When the mobile reader is in the charging station, the charging status of the device is indicated by the LED charging display of the reader:

①   LED charge indicator

Figure 4-2   LED display of the reader

Table 4- 2   LED charge indicator

LED color		Meaning
🟥	red	Charge level ≤ 90%; charging active
🟧	Orange	Charge level ≥ 90%; charging active
🟩	Green	Charge level = 100%

With the charging station, you can also charge a spare battery.

The LED charging display of the charging station indicates the charge status of the spare battery.

①   LED charge indicator

Figure 4-3   LED display of the charging station

4.1.4 The backup battery

The backup battery in the SIMATIC RF350M is used to retain the application data when the main battery is empty. It is a rechargeable battery that is charged along with the main battery.

Please note that the backup battery (in the case of an empty or removed main battery) can only retain the data for a few minutes. It cannot be replaced because it is permanently connected to the device.

4.2 Scope of delivery handheld

When supplied, the SIMATIC RF350M comprises the following components:

● SIMATIC RF350M mobile reader

● Battery

● Hand strap

● Input stylus as an aid to navigation on the touchscreen

4.3 Components of the charging/docking station

The charging and docking station is made up of the following components:

● Charging and docking station

● Power supply unit including various connecting cables for EU / UK / US

● USB cable

4.4 Switching the device On and Off

Requirements for startup

The battery of the reader is charged and inserted as described in the section "Power supply (Page 15)".

Note

Keep to the minimum charging time

Before switching the device on for the first time, you must insert the reader into the charging unit and charge it for approximately five hours.

Switching the device on/off

To switch the reader on or off, press the On/Off button ⊙. After switching on, the power-up takes a few seconds.

Automatic shutdown of the device

The RF350M mobile reader has an automatic suspend mode to save energy. With this, the reader is changed to the following power statuses step-by-step:

Table 4- 3   Factory settings: Power statuses of the reader

Power status	Mains power operation:	Battery operation
User Idle	1 minute	1 minute
System Idle	5 minutes	2 minutes
Suspend	--	5 minutes

After being switched on again, the reader starts in the last active menu entry.

You can manage the energy statuses with "Start > Settings > Control Panel > Power". For a detailed description of the power statuses, refer to the section "Power Management (PM) (Page 31)".

4.5 Basic settings in the operating system

As the operating system the RF350M mobile reader uses "Microsoft Windows CE V6.0". The following sections describe the setting options of the operating system.

4.5.1 Control Panel

4.5.1.1 Control Panel

The Control Panel contains a collection of applets to be able to access the settings of various system properties, to configure these properties, to change their performance characteristics and to enable or disable them.

4.5.1.2 Accessing the Control Panel

You can access the Control Panel either via the keyboard or using the touchscreen. The following instructions relate to access via the keyboard. Before you begin close all application windows on the screen.

To open the Control Panel, follow the steps below:

1. Press the Tab key so that the input focus is set on the start menu symbol to the left in the taskbar in the lower left area of the screen.
2. Press the Activator button to open the start menu.
3. Select the menu command "Settings" with the cursor keys.
4. Press the right arrow of the cursor keys ring to open the "Settings" submenu.
5. Select the menu command "Control Panel" with the cursor keys.
6. Press the Activator key to open the Control Panel.

4.5.1.3 Opening/closing applets

Opening applets

To open applets, follow the steps below:

1. Select the required applet using the cursor keys.
2. Press the activator button to open the applet.

Closing applets

To close the applet and its window, you have two options:

● If you want to discard changes made to the configuration, press the Cancel/Esc key.
● If you want to adopt changes you have made, press the activator key.

> **Note**
>
> **Exceptions when closing applets**
>
> There are exceptions to the procedure outlined, such as the applet for network connections.

4.5.1.4 Closing the Control Panel

Follow the steps below to close the Control Panel:

1. Press the F / Mode key and then the Alt key. Following this, the "File" menu is opened in the Control Panel.

2. Using the arrow down cursor key select the menu entry "Close".

3. Press the activator key to close the Control Panel.

4.5.1.5 Control Panel applets

Display

With the Display applet, you can change the representation of the window elements on the screen and the desktop background picture.

Owner

This applet is mainly for information in conjunction with user identification. To enter user information, the following tabs are available.

● Identification

Here you can specify general information (name, company and address) about the owner of the device.

● Network ID

This user information is required for access to network resources.

ClearType

Windows Embedded CE supports three types of text display technology. On of these is ClearType. A ClearType applet refers to the text display technologies as "font antialiasing". One of the font anti-aliasing methods is a 'No Anti-Aliasing'. With the ClearType applet, from these three text display technologies you can select the best possible look for a font on the display. In addition, the applet gives you the option of fine-tuning the rendering method to improve the rendering of your chosen font even further.

Note that the font rendering technology of your choice is enabled for all fonts in the system, the look of one font may improve but the look of another on the display may not when text is rendered using different fonts with the same text display technology.

Date/Time

In addition to the date and time settings, with the Date/Time applet you can change to time zone of your device and enable or disable the automatic daylight saving time switchover.

Input area

With this applet you can change the appearance of the screen keyboard.

Error Reporting

Windows Embedded CE provides numerous technologies for calling up device status information at the time of a program crash. You can enable or disable this system property with the Error Reporting applet. You can also choose how much memory the Error Reporting system may use for the report file.

Internet Options

This is a utility for configuration of the Internet Explorer. The Internet options can also be called up using the "View" menu in the Internet Explorer.

Password

If you want to protect the reader from unauthorized access to the background system of the RF350M mobile reader by third parties, you can protect the device with a password using the Password applet. Password protection is enabled when the system is turned on or the blank screen is reactivated. Both situations relate to the transition from a status with low power consumption to the status with the highest possible power consumption; in other words the "On" status. If you "enable password protection for screen saver" in the Password applet and the blank screen (or the entire device) is turned on again due to user or system activity, you will be prompted to enter your password to be able to use the system again.

To enter your password use the screen keypad to be sure of the characters that make up your password. Entering the password using the keypad may prove difficult if, for example you mix numbers, lowercase and uppercase characters. Note that you can also enter the password when you log on using the screen keypad.

Country and language settings

The "Regional Settings" applet includes the settings for supporting the national language (NLS) in Windows Embedded CE and in particular the NLS implementation on the RF350M mobile reader. NLS is responsible for date, time, calendar, numerical and currency formats. The applet also provides options for selecting the user interface and input language. Support of these functions by the mobile reader may be restricted.

Note

Saving changes permanently on the reader

To save changes to the regional settings permanently on the reader so that any changes made are still active when you restart the device, you need to make a "Registry Backup" ("Start > Programs > Advanced settings > Registry Backup").

Volume and Sounds

Windows Embedded CE uses sound effects to make the user aware of certain events. These events are divided into five categories:

● Application sounds

● System events and warnings

● Alarms and reminders

● Key strokes

● Touchscreen actions

The "Volume & Sounds" applet describes system events and warnings as "events" and alarms and reminders as "notifications". Keystrokes are referred to as "key clicks". Using the applet, you can allow or prevent the sound effects depending on the source. The sound effects of the keystrokes and touchscreen taps have a control for setting three volume levels. If you disable the sound effects, you mute the sound.

The "Volume & Sounds" applet also provides the option for volume control of a loudspeaker that affects all sounds generated by the system. In the "Sound" tab you can enable or disable the event sources and the sound effects assigned to them. The tab also supports you when selecting a sound effect for a particular event by allowing you to listen to the available sounds using the relevant option. When you have selected the enabled event sources and their corresponding sounds, you can save your selection as a scheme file.

Network connections

The applet lists all communications methods that can either establish a connection or that have already established a connection. As default, the applet shows the symbols "USB" and "NXPWLAN1" that stand for the USB interface or for the 802.11b/c compliant wireless receiver in the RF350M mobile reader. When you place the device in the charging station, the symbol "AX887721" is displayed in the applet window. This stands for the Ethernet interface of the charging station. Apart from the symbols mentioned above, the symbol "COM6" is also displayed if the USB cable of the charging station is connected to a PC, assuming that the PC is turned on.

Note

Display of the interface symbols

Note that the interface symbols "AX887721" and "COM6" are only displayed in the applet window when the charging station is connected to the power line.

The configuration options that provide various media symbols by tapping on them twice apply to IP network information with the exception of the "USB" symbol. The symbol begins either when a connection is established or allows this connection to be terminated assuming it is connected. If you select the USB symbol and then select the menu element "Properties" in the "Connection" menu of the applet window, you obtain access to its properties.

In practice, where you require the "Network Connections" applet to assign static IP address information to the interfaces "NXPWLAN1" and "AX887721", DHCP is set as default on the interfaces. With the "New…" option, the applet also provides the option of establishing a new connection (e.g. VPN or a point-to-point connection).

Note

Access to the submenu

Note that you can also access this applet using the "Settings" submenu in the "Start" menu.

NID AutoStartSettings

Using this applet, you can enable or disable the service that controls the system when the device is started up after being switched on. The purpose of the service is to start your business application after the network connection has been established and to maintain user-friendliness by both hiding unnecessary information on the screen and by preventing the user from interfering in the connection establishment phase by pressing keys or touching the screen. The applet has a help that informs you about the use of the applet.

NID Backlight

Using the applet for the NID Backlight, you can set the brightness of the screen and the keyboard background lighting in different power statuses.

NID Indicators

A NID indicator provides two measuring bars on the screen. One bar shows the charge remaining in the battery. The other bar displays the signal strength with which the mobile reader communicates with the connected wireless LAN access point. The applet also provides for options for arranging the bars on the display.

NID Keypad

With the NID Keypad applet, you can assign functions to certain keys:

● Changing a key function

● Enabling/disabling the scan key

● Default mode of the alphanumeric keypad, in other words numeric mode, lowercase or uppercase writing

● Enabling/disabling the keylock

NID Link Watchdog

With this applet, you can put a service into operation for monitoring connectivity via wireless LAN (WLAN) or by USB. This service informs the user about an interruption of the connection by sounding a warning signal and displaying a corresponding message on the screen. As soon as a functional communications channel is available again, the message window disappears from the screen and a connected signal sounds.

The purpose of this service is to improve the user-friendliness of the device particularly in the WLAN environment where an interruption of the connection can occur daily. One reason for this may be that the device is outside the range of the WLAN coverage or there is a longer bad signal transmission. The user therefore receives information about an interruption of the WLAN connection that may be difficult to recognize when there are other problems. This allows suitable measures to be taken immediately after interruption of the WLAN connection.

The Link Watchdog service can only be used when the computer can be reached via the cable backbone network of the WLAN infrastructure. The monitoring does not require any special software on this computer. Only its IP address and the TCP port number for sending "polls" need to be set in the applet. Polling does, however, require an open TCP port on the computer. In addition to this, the computer must also react to TCP connection initiations. An alternative to the end device for monitoring connectivity is a Web server running on the computer.

NOTICE
Blocking by firewall and NAT device
If there is a firewall, a NAT device or both between the RF350M mobile reader and the computer sending the polls, it is possible that the service for monitoring the NAT connection does not work if no changes to the configuration are made on the NAT device and on the firewall.

NID Menu

The NID Menu is a support application that helps you with your work. With the NID Menu, a number of applications can be selected and added to a menu displayed via the desktop. The NID Menu provides the option of completely blocking access to the Windows desktop when necessary.

In the "Settings" tab, you can specify the content of the NID Menu, add new programs and delete programs that are not required. You can change the order in which the programs in the NID Menu are displayed using the cursor keys.

Select the "Enable Startup Menu" check box to start the NID Menu after starting up. You can also specify an "Unlock Password" that is required by the user to exit the NID Menu. With these settings, following startup the user only has access to the NID Menu and the programs it contains.

You can add new programs with the "Add" button. The "New Entry" tab is opened. In this tab, you can search for and name the exe file for starting the program. You can also assign arguments for the program and specify a picture for the start button. The picture must exist in png format and can have a maximum size of 48 x 48 pixels.

"Search" tab

Table 4- 4   Setting options of the "Search" tab

Characteristic	Description
Program Path	Path of the program file
Programm Arguments	Path of the argument
Menu Title	Title of the menu
Picture Path	Path of the symbol graphic
Dependent on Network Connection	Select this check box to only allow the application to start when a network connection exists. Select this option only when a network connection is absolutely necessary (e.g. browser-based applications). If the application has an offline mode, this option should not be selected.
Program has Custom Keymap	Select this check box if the keyboard is adapted for the specific user using the MHL (Multiple Hardware Layer service / Nordic ID API) in your application. This setting saves the current key assignment for all open applications. This allows the correct use of the application at all times. If the program uses a user-specific key assignment and this check box is not selected, problems will occur in other applications.
Program Customizes Scanner Config	Select this check box when the application sets up scanner applications for a specific user using the MHL (Multiple Hardware Layer service / Nordic ID API). Otherwise the scanner may not function correctly for the other NID Menu applications.
Force Fullscreen	This option is only intended for applications that do not have integrated full-screen functions. Select the check box to remove the bar of the NID Menu from the screen when the application starts.
AutoStart Program	Select this check box to start the selected program automatically after the device starts up.
Start Topmost	Select this check box to place the application window in the foreground in front of any other open windows.

NID OTF Backup

The "NID-OTF-Backup" applet was developed to ensure the persistency of registry settings. In this applet, you can specify intervals at which the device makes an automatic backup of the registry.

NID Power Button

Using the "NID On/Off button" you can assign the various on/off functions to key of the virtual keypad.

As default, when you press the On/Off button, the "Reboot.exe" file executes. You can save changes to the keypad assignment in profiles.

NID SNTP Service

If your business application requires that the RF350M mobile reader is synchronized with the time of day of your server, you can use the "NID SNTP Service" applet to make an SNTP client (Simple Network Time Protocol) available on the mobile reader. The SNTP client can obtain a time value from a source. Apart from the address of a time server, you can specify a destination port on which the service is available when necessary.

To implement the SNTP client, polling parameters are also necessary. On the "Settings" tab of the applet, you can adapt the following parameters:

● Update Interval

Specifies how often the client checks the time (in minutes or hours).

● Timeout

Specifies how long the client waits for a server response before sending the time check request again.

● Retries

Specifies how often the attempt is repeated per update interval.

This applet also provides the option of adjusting the system time of the device. For time queries, you can link the user dialog utility "AskTime" to the SNTP queries. To customize (localize) text boxes of the user interface of AskTime, there are two tabs in the applet.

Apart from using AskTime, you are also instructed to start the SNTP client in the "Settings" tab.

NOTICE
Saving the system time
The mobile reader is equipped with a real-time clock chip. This is supplied by the rechargeable backup battery so that the system time is not lost during a restart.

NID Touch Screen

With this applet you can activate/deactivate the touchscreen.

PC Connection

With this applet you can enable or disable the PC connection that is based on the Microsoft ActiveSync technology. The ActiveSync connection via USB is the standard medium on the RF350M mobile reader.

The ActiveSync connection is only possible if you have installed Microsoft ActiveSync and the USB driver for the ActiveSync connection provided by Siemens on your Windows PC. The PC connection established via USB should then run in plug and play mode. Remember that you cannot connect the USB cable directly to the device. Instead, connect the USB cable to the charging station of the mobile reader (you will find more information on the charging station and USB connection in the operating instructions of the charging station).

Power

This applet is for the control of power status changes of the system from maximum to minimum power consumption. The actual control is based on the adaptation of three timeout periods. With all periods, the system must remain idle until the transition to a power status with lower power consumption is possible. After three successive idle periods, the system stops itself. Apart from controlling the power management of the device, the "Power" applet provides information on the battery status and the power status of subsystems (e.g. the wireless LAN adapter, audio system, barcode scanner).

The power statuses are described in the section "Power Management (PM) (Page 31)".

Storage Manager

This applet is used to manage the non-volatile memory ("DSK1:") on the device. The storage space can be repartitioned using the applet. You can also format the entire volume after dismounting it and delete all the existing partitions. Or you delete just one partition in permanent storage.

Stylus

As the name "Stylus" implies, the applet makes the interfaces available for adapting your interaction with the touchscreen. You can calibrate the touchscreen so that it not only processes the double tap interaction, but also when you touch the screen with the stylus.

System

The "System" applet has two informative tabs. "General" and "Copyright". As well as these informative tabs, the applet also has two further tabs "Memory" and "Device Name". In the "Memory" tab, there is a trackbar slider that regulates the usage of the RAM memory between program execution and storage capacity of the RAM-based file system on the device. The default position of the slider is suitable in normal operation. Nevertheless, situations may occur in which certain maintenance operations fail unexpectedly. In this case, adjusting the use of the RAM between the storage space of the file system and the execution storage space can help.

Windows Embedded CE supports dynamic name registration on a WINS server (Windows Internet Naming Service). For the registration, the device needs to have a unique name in the network. You can specify the device name in the "Device Name" tab.

Keypad

With the help of this applet, the auto-repeat property of the keys on the keyboard can be enabled or disabled. You can also adjust the following parameters of the auto-repeat function: Auto-repeat delay and auto-repeat rate.

USB Profile

The "USB Profile" applet can be considered as a selector with which you can choose an operating mode of the device via the USB connection. You can put the RF350M mobile reader into operation via USB as follows:

● ActiveSync

● Mass Storage

● RNDIS

● Serial Port

● Disable

ActiveSync

As default, the mobile reader is operated via the USB cable in ActiveSync mode. This mode is used to synchronize data between a local Windows desktop PC and a Windows CE device via a USB connection. The mode also depends on the enable/disable parameter that you can specify in the "PC Connection" applet of the Control Panel.

Note that data synchronization on computers with Windows Vista is not known as "ActiveSync", however this data synchronization technology is part of a WMDC software package (Windows Mobile Device Center) of Windows Vista systems.

Mass Storage

If you select the "Mass Storage" option, the mobile reader is treated as a USB mass storage device by Windows when the reader is connected to the USB port of the computer. On the Windows computer, the "Flash" folder of the root directory of the Windows CE file system of the mobile reader is displayed. In this mode you can use the device or the flash folder of the device as a USB drive.

RNDIS

RNDIS (Remote Network Driver Interface Specification) is the protocol on which ActiveSync communication is based since publication of version 4.0. The RNDIS mode on the device combined with ActiveSync on the local Windows PC allow an IP connection via the serial USB port.

Serial Port

If you select the option "Serial Port", the computer recognizes the device as a virtual serial port.

Disable

The USB function of the device is disabled.

If you require a cable IP connection to synchronize data between the application host system and the mobile reader, the use of the Ethernet interface on the charging station of the mobile reader is recommended instead of the USB interface and your own synchronization software instead of the RNDIS option of the mobile reader. One reason for this is the complexity of the ActiveSync technology and that its remote synchronization function can conceal security risks.

USB switch

With the aid of the "USB Switch" applet, you can set the mode of the USB interface. We recommend that you do not change the setting. The following modes exist:

● Automatic

● Force client

● Force host

● Disable

Dialing

Due to the current communications options of the RF350M mobile reader , the "Dialing" applet is not necessary. The applet may be useful with future models. Currently, however, it is not possible to set dialing properties for the communications options of the device.

Certificates

Windows Embedded CE provides a certificate store (this means three logical stores) for keeping and managing certificates. With the aid of the store and its application programming interface, Embedded CE applications can verify, list, call up, save and delete certificates. For example a configuration-free wireless subsystem when acting as supplicant uses the store when EAP-TLS is selected as the authentication method for wireless access. This means that the Certificate applet is an instrument for the following:

● Viewing certificates and their contents in the store

● Deleting certificates from the store

● Adding certificates to the store

4.5.1.6 Power Management (PM)

In the RF350M mobile reader, settings relevant to power are controlled by the power management. (PM). One of the tasks of the PM is to save battery power by reducing the power consumption. The reason for reducing power consumption is the inactivity of the user or the system. For example as default, the PM reduces the screen brightness when there is neither input by pressing keys or using the stylus on the screen for a specified period of time. When, however, there is user action the PM activates the system. If, for example, if the screen is turned off, the PM instructs the system to turn on the screen with the adjusted maximum brightness if a key is pressed or the screen is touched.

The PM is controlled by the Control Panel applet "Power (Page 28)".

Power statuses

The RF350M mobile reader has two essential power statuses; in other words it is either on or off. It can also be operated with alternating current or with a battery. From the user's point of view, the system has four different power statuses:

● On

● User Idle (display is darkened)

● System Idle (power saving mode)

● Suspend (standby)

NOTICE

Definition of the "Off" status

In this manual, "Suspend" and "Idle" relate to the "Off" status of the device; in other words when the mobile reader is turned off.

When the mobile reader is in the idle status for a longer period of time, as default it changes via "User Idle" and "System Idle" to the "Suspend" status. For the transition from the "On" status to the "Suspend" status, the PM uses three inactivity timers. As soon as all three timers have expired, the PM stops the mobile reader. The device can therefore not only be stopped using the "Shutdown" dialog window that is called with the

On/Off button. By default, the PM tends to change the device to the "Suspend" status to save power when it is running on the battery. If the battery cover is removed, the mobile reader changes automatically to the "Suspend" status. You can also turn off the Mobile reader using the "Shutdown" dialog window regardless of the active power status; in other words, it does not matter whether the device is in the "On" status or in a transitional status.

Power status "On"

When you use the mobile reader actively, it is in the "On" status. If the device is in a different status from the "On" status, the PM changes the system to the "On" status as soon as you start to use the device and, for example turn on the stopped device. You can recognize the "On" status because the screen is turned on with the adjusted maximum brightness.

The device exits this status if you turn it off or a "User Idle" timer expires. When the timer expires, the system changes to the power status "User Idle". If the setting "Never" is enabled, the timer does not expire. The device remains in the "On" status until it is turned off.

Power status "User Idle"

"User Idle" is a transitional status. This status serves only to reduce power consumption. At the same time, the device gives the impression of being still turned on. Normally the transition to the "Idle" status can be recognized because the screen brightness is reduced.

You can return the device to the "On" status by touching the screen or pressing a key. Otherwise, after a specified timeout the device changes to the "System Idle" status in which the device uses less power because it switches off the screen. If, however, an application is running on the device for which the system needs to remain in the current power status, PM does not change the power status to "System Idle".

Power status "System Idle"

"System Idle" is a transitional status. Changing to this status is only possible when the system idle timer has expired. The system idle timer also has the setting "Never". If this is set, the system does not change to the "System Idle" status but remains in the "User Idle" status until the user performs an action on the device.

Under certain circumstances, the statuses "System Idle" and "Suspend" may be difficult to distinguish since the power statuses appear similar from the outside. If the device appears to be turned off, the best thing is to press the On/Off button to change it to the "On" status. If the "Shutdown" dialog window appears on the screen, press the On/Off button to close the window. When the dialog window "Shutdown" is displayed, this indicates that the device was in the "System Idle" power status.

The device remains in the "System Idle" power status and waits for the timeout of the Suspend timer as long as no system or user activity occurs. As soon as the Suspend timer expires, the device is stopped by the PM.

Power status "Suspend"

When the reader is switched off, it is suspended. This is for the simple reason that the device cannot be turned off completely. Instead, the critical parts of the system's electronics remain powered after turning off the device. If the device changes via the "Shutdown" dialog window to "Sleep", it is suspended.

The PM stops the device as soon as the "System Idle" status is reached and a Suspend timer has expired. If you set the value "Never" for the suspend timer the PM does not stop the mobile reader.
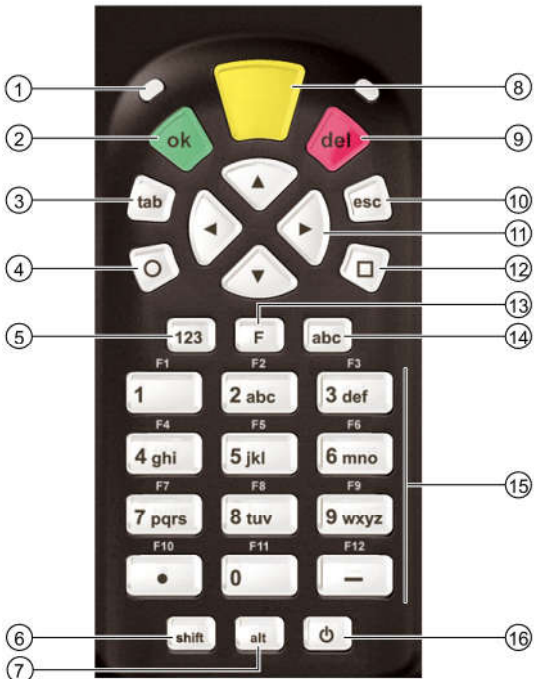
You can recognize the suspended status by the blank screen and that the device does not react when a key is pressed. The exception to this is pressing the En/Off button that turns on the screen. The device therefore only exits this status when the On/Off button is pressed.

When the device is operated with alternating current, it cannot be changed to the suspended status.

Operation

5

5.1 The keypad

Table 5- 1   Keypad overview of the SIMATIC RF350M

SIMATIC RF350M	Pos.	Key label
	①	LED charge indicator
	②	Activator key (OK)
	③	Tab key
	④	Circle key
	⑤	123 key
	⑥	Shift key
	⑦	Alt key
	⑧	Scan key
	⑨	Delete key
	⑩	Cancel / Esc key
	⑪	Cursor keys
	⑫	Screen key
	⑬	F key
	⑭	Abc key
	⑮	Alphanumeric keypad / function keys
	⑯	On / Off key

Basic functions when navigating with the keypad

Using the keypad or the touchscreen, you can navigate within the operating system and the "RF350" software.

The following keys handle the most important basic functions when navigating in the user interface:

● With the Activator key, you open the selected menu or program.

● With the Tab key, you change between the taskbar and desktop in the operating system.

● You can assign the circle key individually with the NID keypad.

● With the Screen key, you hide or show the screen keyboard.

● With the cursor keys you navigate through the user interface.

● With the Cancel / Esc key you return to the higher-level menu/menu command.

The following sections describe the functions of all keys in detail.

5.1.1 Activator key (OK)

With the Activator key, an operation is accepted or activated. In the conventional sense it provides the same function as the Enter key. For example, the key moves the cursor to the next line when writing.

5.1.2 Cursor keys

The cursor keys control cursor movements in editing mode and control the selection of entries grouped together by window elements (e.g. menus, lists or desktop icons representing applications or utilities). The function of the four keys can be compared to that of the arrow keys on a PC keyboard.

5.1.3 Tab key

Normally, the Tab key moves the cursor a preset number of spaces or to the next tab stop in text to be edited. The Tab key also has navigation properties by controlling the input focus movements in window elements. Input focus means that the window element with the input focus is enabled to receive messages from the user pressing the keys.

5.1.4 Alt key

The Alt key is often pressed in combination with other keys (Alt + key combination) and the action that results depends on the application. By pressing the Alt key various window menus can be called up.

5.1.5 Delete key

By pressing the Delete key, the character directly in front of the cursor is deleted. If you hold down the Delete key, several characters are deleted. Note that the key retains its delete function regardless of the mode of the alphanumeric keypad.

5.1.6 Cancel / Esc key

In general, the Cancel / Esc key cancels the selection or the currently running operation like an Esc key on a conventional PC keyboard.

5.1.7 Scan key

Pressing the Scan key enables the scan function of the reader. All the transponders in the antenna field are scanned and displayed.

5.1.8 Alphanumeric keypad / function keys

Alphanumeric keypad

Modes of the alphanumeric keypad

An alphanumeric keypad can be used in four different modes: You can change between the keypad modes by pressing the 123 key, the Abc key or the F key. The key of the currently selected mode is lit white.

In the table below, the key combinations for changing between the modes are listed.

Keypad mode	Key combination
Numeric mode	123 key
Lower-case letter mode	Abc key
Upper-case letter mode [1)]	Abc key (press twice)
Function key mode	F key

[1)]   The Abc key is lit brighter when the upper-case letter mode is active.

Function keys

On the keypad of the RF350M mobile reader there are the function keys F1 to F12. After pressing the F key, every key of the alphanumeric keypad functions as a function key. The function keys can be accessed regardless of the mode of the alphanumeric keypad.

5.1.9 On / Off key

Turning the device on

To turn the device on, press the On/Off button. The system is ready for operation without rebooting. The first time the device is uses is, however, an exception to the turn on procedure described here since the mobile reader initially runs a system start after pressing the On/Off button.

Turning the device off

Requirements: The mobile reader is battery-operated and the operating system is running.

Follow the steps below to turn the device off:

1. Press the On/Off button.

   However, do not hold the button pressed down. The "Shutdown" dialog window is then displayed on the screen of the device.

2. Press the Activator key. The system changes to the idle mode.

The "Shutdown" window provides more options than simply shutting down the device. The default option changes the mobile reader to a status in which power consumption is at its lowest (idle mode). The key sequence "On/Off button" and "Activator key" is adequate to turn off the device.

Table 5- 2   Shutdown options of the reader

Options	Description	Remark
Sleep [1]	The device changes to the idle mode. After exiting the idle mode, the reader starts in the last active menu entry before the On/Off button was pressed.	Note 1: The power management in the Control Panel influences the depth of the idle mode. For more information, refer to the section "Power Management (PM) (Page 31)". Note 2: The device does not change to the idle mode when it is in the docking station.
Warm Boot [2]	The content of memory and unsaved registry contents are retained (including RAM memory). All unsaved data in all running programs is lost.	Note 1: The device retains all settings also those that have not been saved. Windows CE is simply restarted. Note 2: Some applications/functionalities need to be restarted so that the new settings are valid. Note 3: Do not reopen the PAK files.
Cold Boot	The content of the RAM memory is deleted and the device is reset to its initial status. All unsaved registry entries are lost.	Note 1: Restart Windows CE and delete all the settings that have not been saved. Note 2: Open all PAK files.

Options	Description	Remark
Reload Windows CE	RAM is deleted and the device is reset to its initial status. All un-saved registry entries are lost. The device loads Windows CE from the flash memory into RAM.	Note 1: Load Windows from the flash and then perform a "Cold Boot".
Power Off	The device is completely turned off. Select this option if you need to store the device for a longer period of time without loading it.	Note 1: Mode for long-term storage to protect the battery from total drainage. Note 2: Wakes up "Reload Windows CE".

1) Default when the mobile reader is not in the charging station.
2) Default when the mobile reader is in the charging station.

5.2 The touchscreen

The display of the SIMATIC RF350M is designed as a touchscreen. You can easily enter commands by touching it with the stylus.

5.2.1 Stylus and touchscreen

The simplest option for navigating through the Windows CE desktop and the window of the auxiliary programs is to navigate using the touchscreen. To allow you to navigate using the touchscreen, the RF350M mobile reader is equipped with a stylus.

The stylus and touchscreen can be used in much the same way as a mouse. By pressing the stylus on the touchscreen, the same result is achieved as when clicking with the left mouse button on a Windows PC. Clicking with the right mouse button, on the other hand, is not as obvious. In the Windows CE desktop window, you click with the right mouse button by tapping and holding with the stylus. This procedure does not have the same effect with the taskbar. To "right click" the taskbar, you need to hold down the "Alt" key and tap on the taskbar at the same time. It therefore depends on the Windows CE application which sequence is selected for a right click.

5.2.2   Screen keypad

Windows CE provides a control element that simulates the keypad on the touchscreen. With the key sequence F / Mode key and the Activator key, the screen keypad is displayed (and hidden). Characters are entered by tapping on the screen keys and appear in the input box in just the same way as when entering using the alphanumeric keypad.

Note

Enabling/disabling the screen keypad

Note that the availability of the screen keypad is indicated by a corresponding icon in the taskbar. By tapping on the icon, the screen keypad is turned on or off.

"RF350M" software 6

6.1 Starting "RF350M" software

After you turn on the RF350M mobile reader the first time, the "RF350M" software is started automatically. When you exit the "RF350M" software, you can call it up again via the desktop or the Start menu.

You can access the software either using the keypad or the touchscreen. The following instructions relate to access via the keyboard.

Starting the software using the desktop

Follow the steps below to start the "RF350M" software using the desktop:

1. Press the Tab key so that the input focus is set on one of the desktop icons.

2. Select the icon the RF350M with the cursor keys.

3. Press the activator key to start the software.

Starting the software using the Start menu

Follow the steps below to start the "RF350M" software using the Start menu:

1. Press the Alt key so that the input focus is set on the start menu symbol to the left in the taskbar in the lower left area of the screen.

2. Press the Activator button to open the start menu.

3. Select the menu item "Programs" with the cursor keys.

4. Press the right arrow of the cursor keys ring to open the "Programs" submenu.

5. Select the menu command "RFID" with the cursor keys.

6. Press the right arrow of the cursor keys to open the "RFID" submenu.

7. Press the right arrow of the cursor keys to select the menu entry "RF350M".

8. Press the activator key to start the software.

6.2   Menu overview and functions

After the "RF350M" software has been started, the "Main Menu 1" is displayed. The main menu is divided into "Main Menu 1" and "Main Menu 2".
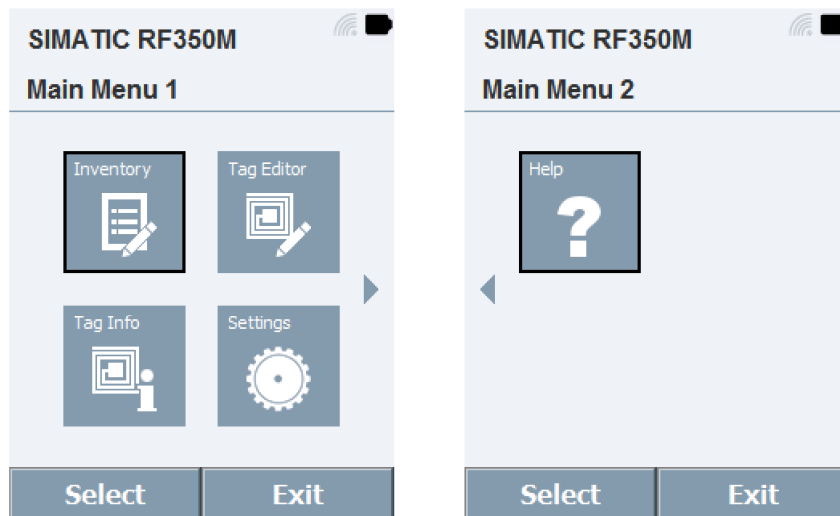

Figure 6-1   "Main Menu 1" and "Main Menu 2"

Table 6- 1   The menus of the "RF350M" software

Menu	Description
Inventory	• Starting/stopping scanning • Overview of the identified transponders
Tag Editor	• Starting/stopping scanning • Reading and writing transponder data • Setting the OTP function (only for RF300 transponders) • Initializing transponders
Tag Info	• Starting/stopping scanning • Information on the memory configuration and content of the transponder and the transponder type
Settings	• Adaptations and settings for the "RF350M" software
Help	• Contact data for Siemens Support • Reference to the manual in the device

Click the "Select" button to open the selected menu. Click on "Exit" to end the "RF350M" software and to return to the operating system.

6.3   The functions in the "Inventory" menu

In the "Inventory" menu, transponders can be identified in the antenna field of the RF350M and when necessary also saved in a file.

Tag Data

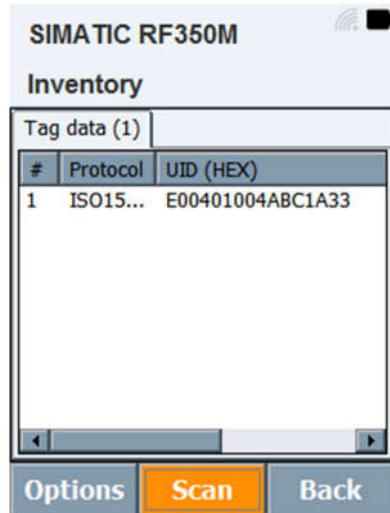The "Tag Data" tab shows you the identified transponders.

Figure 6-2   "Tag Data" tab in the "Inventory" menu

Table 6- 2   Properties of the tag list

Characteristic	Description
#	Numbering of the transponders in the order in which the transponders were identified.
Protocol	Differentiation of transponder families/protocols • RF300 • RF200 / ISO 15693
UID	Unique identifier of the transponder

Buttons of the menu

The "Inventory" menu contains the following buttons:

● Options

   Opens the Options menu.

● Scan

   Starts/stops scanning.
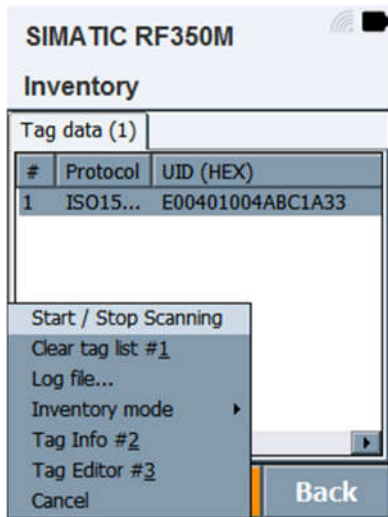
● Back

   Returns to the main menu.

Options

Figure 6-3   Options in the "Inventory" menu

Table 6- 3   Options of the "Inventory" menu

Options	Description
Start / Stop Scanning	Starts/stops scanning.
Clear the tag list	Deletes all the transponders in the transponder list.
Log file	Opens the "Log file" submenu. In the submenu, you can specify the properties for saving the log files.
Inventory mode	Specifies the inventory mode. • Normal: Counting the transponders always starts at "0". • Incremental: Counting the transponders starts continuing from the last count action.
Tag Info	Direct link to the "Tag Info" menu
Tag Editor	Direct link to the "Tag Editor" menu
Cancel	Closes the Options menu.

6.4   The functions in the "Tag Editor" menu

In the "Tag Editor" menu, you can read data from a target transponder, change this and write to the target transponder. With RF300 transponders the configuration memory area can also be read and the OTP function used.

All transponders can be initialized. During initialization the entire memory can be preset with value entered.

File

In the "File" tab, you can save read or set transponder data in the flash memory of the RF350M.
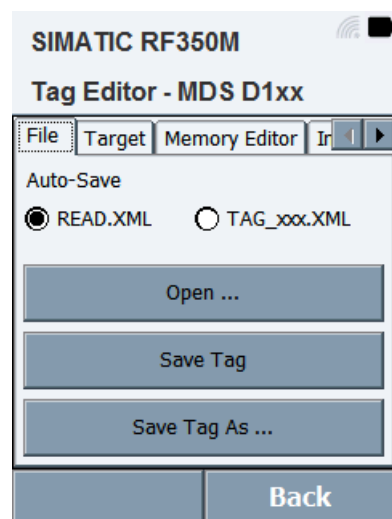

Figure 6-4   "File" tab in the "Tag Editor" menu

The following options are available in the "File" tab:

● Auto-Save

● Open

● Save Tag

● Save Tag As

Auto-Save

In the "Auto-Save" tab, you can specify in which file read or set transponder data ("Memory Editor" is saved automatically in the flash memory of the RF350M.

The file "READ.XML" is a preset XML file in which the data of every read transponder is saved. Existing transponder data is overwritten by new read actions. If the file "TAG_xxx.XML" is selected, a separate XML file is created for every transponder. The value "xxx" is replaced by the UID of the transponder in question.

Open

Click the "Open" button to load an XML file. The content of the opened file is displayed in the Memory Editor. With the aid of this function and the "Memory Editor" you can for example transfer data from one transponder to other transponders

Save Tag/Save Tag As

Click the button "Save Tag/Save Tag As", to save data currently displayed in the editor of the RF350M to a directory on the RF350M. If you select "Save Tag", the current "READ.XML" file will be replaced or a new "TAG_xxx.XML" will be created. If you select "Save Tag As", you can select a new directory or a new file name.

Target

In the "Target" tab, you can scan the antenna field of the RF350M for transponders. If a scan has been made, the transponder type of the identifies transponder is displayed. As an alternative, you can select the transponder type manually. With the aid of this function and the "Memory Editor" you can for example transfer data from one transponder to other transponders

All the functions/setting described in the following tabs only affect the transponders of the transponder type selected here.

Note: The memory size of the transponder memory is shown in hexadecimal or decimal in the "User Memory" box. Click in front of the rectangular box to change the displayed format.

Figure 6-5   "Target" tab in the "Tag Editor" menu

Memory Editor

In the "Memory Editor" tab, you can read and write the memory area of the transponder.
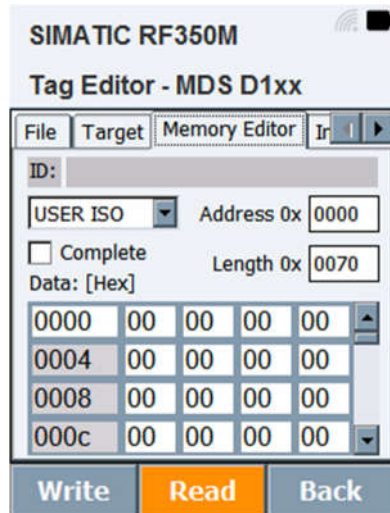

Figure 6-6   "Memory Editor" tab in the "Tag Editor" menu

Note: You can have the "Address" and "Length" displayed in hexadecimal or decimal notation. Click in front of the relevant rectangular box or on the box title, to change the displayed format. You can display the "Data" in hexadecimal, decimal, ASCII or binary format. Click on the box title, the change the displayed format.

Table 6- 4   Parameters of the "Memory Editor" tab

Parameter	Setting options	Default value	Description
ID	--	--	UID of the transponder
Memory area	• USER • OTP [1)] • CONFIG [1)]	USER	Selection of the memory area from which data is read out or to which data is written.
Complete	/		Check box to read or to write to the complete memory area.
Address	0 ... 255 0 ... 0xFF	0	Start address in bytes from which data is read/written. The maximum value depends on the memory size of the tran-sponder.
Length	0 ... 65535 0 ... 0xFFFF	[2)]	Number of bytes to be read or written starting at the start ad-dress. The maximum value depends on the memory size of the tran-sponder.

Parameter	Setting options	Default value	Description
Data	• Hex • Dec • ASCII • Binary	Hex	Representation of the data in hexadecimal, decimal, ASCII or binary format.
Write	--	--	Writes the displayed data to the transponder located in the antenna field.
Read	--	--	Reads the data from the transponder located in the antenna field.
Back	--	--	Returns to the main menu.

[1]   Only with RF300 transponders

[2]   Depends on the read transponder type.

Init Tag

In the "Init Tag" tab, you can specify a value with which the entire transponder memory can be written.
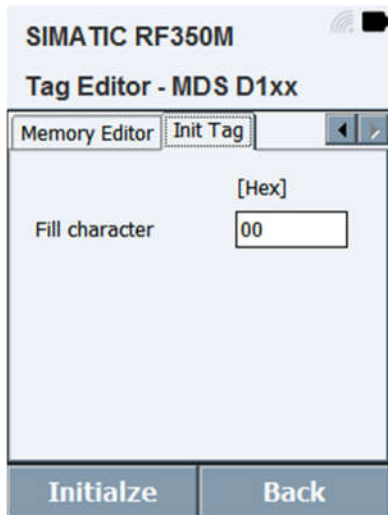

Figure 6-7   "Init Tag" tab in the "Tag Editor" menu

Note: You can enter "Fill characters" in hexadecimal, decimal, ASCII or binary format. Click on the bracket above the rectangular box to change the display format.

Parameter	Setting options	Default value	Description
Fill characters	0 … 65535 0 … 0xFFFF	00	Byte value in hexadecimal, decimal, ASCII or binary format.
Initialize	--	--	Execution of the Init command.
Back	--	--	Returns to the main menu.

6.5 The functions in the "Tag Info" menu

The "Tag Info" menu reads and displays information on the memory configuration and content of the transponder and the transponder type. Since the reading all memory areas can take several seconds, you must make sure that the transponder remains permanently in the antenna field of the reader while reading. Make sure that during scanning, only one transponder is located in the antenna field.

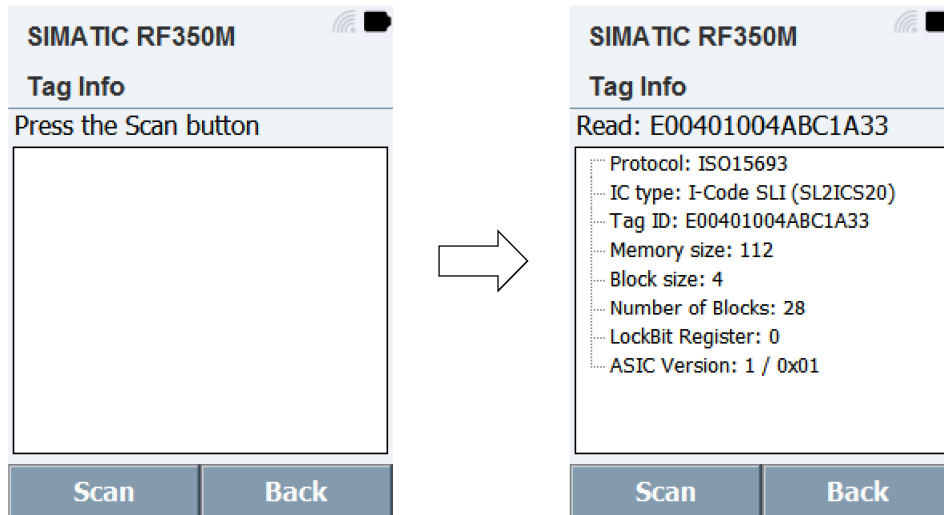The data read out and its meaning are displayed.

Figure 6-8   "Tag Info" menu

6.6 The functions in the "Settings" menu

In the "Settings" menu, you can adapt and make settings for the "RF350M" software.

Inventory

In the "Inventory" tab, you can preselect which transponder families will be identified by the SIMATIC RF350M reader. This function makes it easier for you to work if you use both transponder families, but currently only want tp process one transponder of a protocol type.

Figure 6-9   "Inventory" tab in the "Settings" menu

Click on one of the check boxes if you want to enable or disable the corresponding protocol type.

Editor

In the "Editor"tab you can specify the display formats in which the data is displayed in the tag editor.
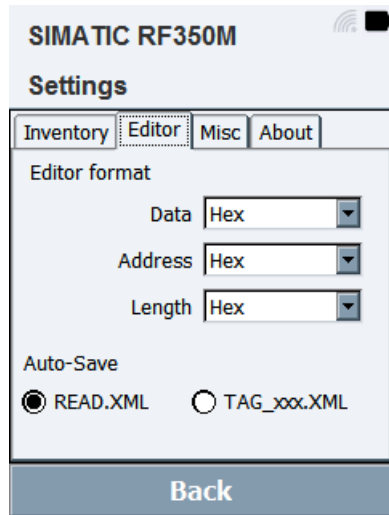
Figure 6-10   "Editor" tab in the "Settings" menu

Table 6- 5   Parameters of the "Editor" tab

Parameter	Setting options	Default value	Description
Data	• Hex • Dec • ASCII • Binary	Hex	Default format for representing the transponder data
Address	• Hex • Dec	Hex	Default format for representing the address information
Length	• Hex • Dec	Hex	Default format for representing the length information
Auto-Save	• READ.XML • TAG_xxx.XML	READ.XML	Default of the Auto-Save function

Misc

In the "Misc" tab, you can set a password. adapt settings for acoustic signals and specify the language of the "RF350M" software.
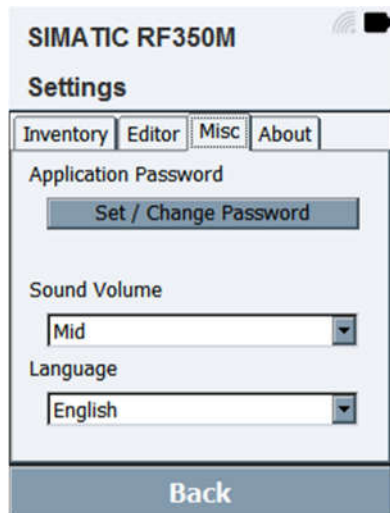
Figure 6-11   "Misc" tab in the "Settings" menu

Table 6- 6   Parameters of the "Misc" tab

Options / pa-rameters	Setting options	Default value	Description
Passwort der Applikation	--	--	Assigning a password If a password is assigned, you need to enter this to write data, to initialize the transponder and to exit the "RF350M2 software. To disable the password, enter the previous password in the "Old Password" box and leave the boxes "New Password" and "Confirm Password" empty.
Volume	• High • Mid • Low • Off	Mid	Selection of the volume of the generated acoustic signal.
Language	• English • German	English	Selection of the user interface language of the "RF350M" software.

About

The "About" tab contains information about the versions of the "RF350M" firmware and software.
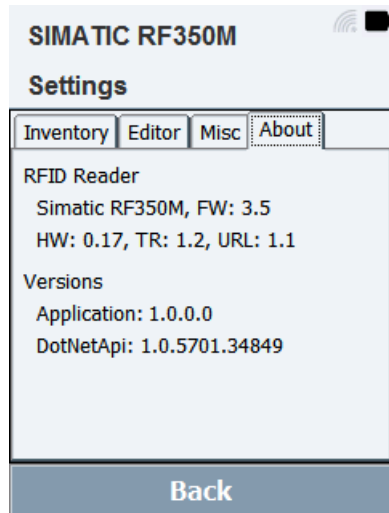
Figure 6-12   "About" tab in the "Settings" menu

6.7 The "Help" menu

In the "Help" menu, you will find further information about Siemens Support and the manual of the RF350M.

Figure 6-13   "Help" menu

The operating instructions of the RF350M mobile reader are stored on the reader in PDF format. Note that you cannot display the manual via the mobile reader.

To open the manual, you require a computer with Acrobat Reader. You can download the manual via the "Siemens Industry Online Support (https://support.industry.siemens.com/cs/ww/en/ps/21696/man)". If the mobile reader is connected to the computer via the docking station, you can also copy the manual to your computer (path: "SIMATIC RF350M¥Flash¥Manuals").

Advanced functions

<div style="text-align: right; font-size: 3em;">7</div>

7.1 Saving identified transponders

Storage of the identified transponders in the "Inventory" menu

You can save the transponders identified in the "Inventory" menu and the inventory statistics in a file. In the options menu under "Log file", you can specify the file name and location of the file.
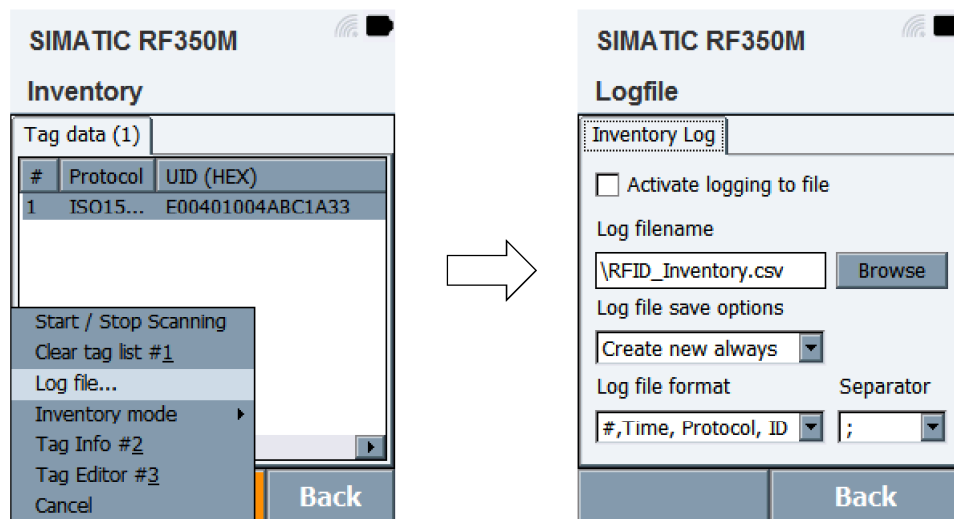

Figure 7-1   "Log file" options menu

Representation of the transponder data in csv format

The following table shows an example of how the stored transponder data is represented in csv format.

Table 7- 1   Example of saved transponder data in csv format

#	Date	Protocol	ID
1	7/30/2015 10:50:21 AM	ISO15693	E00401004ABC1A33
2	7/30/2015 10:50:31 AM	ISO15693	E00780ABDE528560
3	7/30/2015 10:50:38 AM	ISO15693	E005000002D91E7D
4	7/30/2015 10:50:45 AM	ISO15693	E00801D7E5462A6F
5	7/30/2015 10:50:50 AM	RF300	0000000055A757D9
6	7/30/2015 10:50:53 AM	RF300	00000000955555FF
7	7/30/2015 10:51:00 AM	RF300	00000000557677FF
8	7/30/2015 10:51:06 AM	RF300	0000000055766FFE
9	7/30/2015 10:51:10 AM	RF300	0000000055BBDBFB
10	7/30/2015 10:51:15 AM	RF300	00000000557759E9
11	7/30/2015 10:51:18 AM	RF300	000000005576EA67

7.2 Data transfer between the PC and mobile reader

7.2.1 Prerequisites

If you want to access the supplied files and documentation, note the following requirements:

● The SIMATIC RF350M is connected to the computer in the charging/docking station and via the USB cable. The USB cable ships with the charging/docking station.

7.2.2 Windows Mobile Device Center

In Windows 7, the Windows Mobile Device Center opens automatically when a connection has been established via a USB cable between the RF350M and the computer. With older operating systems up to and including Windows XP, you also require the "ActiveSync" software.

In the "File Management" menu item, you can exchange files between the RF350M and the computer.

Technical data

8

Table 8- 1   Technical specifications

	6GT2803-1BA00 6GT2803-1BA10
Product type designation	SIMATIC RF350M
Radio frequency	
Operating frequency	13.56 MHz
Electrical data	
Write/read range	max. 80 mm; depending on transponder type
Protocol for wireless transmission	RF300-specific; ISO 15693, ISO 18000-3
Product property, multitag capability	No
Power supply	Battery operation or line power operation via a power supply unit or docking station (24 VDC)
Battery	Lithium-ion battery (7.4 V; 2600 mAh)
Charging time	
• 0 to 90%	2.5 hours
• 0 ... 100%	5 hours
Backup battery	
• Storage time for RAM	8 hours
• Storage time for real-time clock	200 days
User program	RF350M.exe
Operating system	Microsoft Windows Embedded CE 6.0
Interfaces	
Communication with PC	• USB via charging/docking station • LAN via charging/docking station • WLAN integrated in the device

	6GT2803-1BA00
	6GT2803-1BA10

Hardware

Processor	ARM11, 532 MHz
RAM	256 MB
Flash memory	256 MB
Display	Touchscreen 3.5 ", 240 x 320 pixels
Keypad	29 keys
Sound	Loudspeaker

Mechanical specifications

Weight (incl. battery)	
• Reader incl. battery	500 g
• Loading/docking station	375 g
Dimensions (L x W x H)	
• Reader	250 x 90 x 47 mm
• Loading/docking station	170 x 110 x 140 mm
Degree of protection	IP54
Material	Plastic
Color	Black
MTBF	

Permitted ambient conditions

Ambient temperature	
• During operation	-20 ⋯ +55 ° C
• During transportation and storage	-20 to +60 ° C (without battery)
• during charging	0 ... +40 ° C
Relative humidity	10 to 95%, non-condensing
Maximum drop height	1.0 m

Ordering data

<div style="text-align: right; font-size: 2em;">9</div>

Table 9- 1   Ordering data RF350M

	Article number
SIMATIC RF350M mobile reader with internal antenna	6GT2803-1BA00
SIMATIC RF350M mobile reader for external antennas	6GT2803-1BA10

Table 9- 2   Ordering data for RF350M accessories

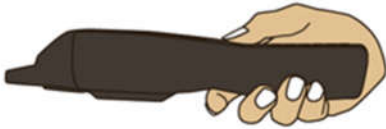|	Article number
SIMATIC RF350M charging/docking station incl. USB cable and power supply unit	6GT2803-0BM00
Spare battery RF350M Lithium-ion battery (7.4 V; 2600 mAh)	6GT2803-0CA00

Appendix A

A.1 Certificates and approvals

Table A- 1   Certificates and approvals for SIMATIC RF350M

Certificates and approvals	Description
$\mathsf{C}\mathsf{E}$	CE approval to R&TTE
FCC Federal Communications Commission	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. **Caution** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the hand-held equipment. The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems. **Note** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: • Reorient or relocate the receiving antenna. • Increase the separation between the equipment and receiver. • Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. • Consult the dealer or an experienced radio/TV technician for help.

Certificates and approvals	Description
RF Radio frequency	This equipment complies with EU and FCC RF radiation exposure limits set forth for an uncontrolled environment under the following conditions: 1. This equipment should be installed and operated such that a minimum separation distance of 20 cm is maintained between the antenna an user`s/nearby person`s body at all times. 2. This equipment must not be co-located or operating in conjunction with any other antenna or transmitter. THE PICTURE SHOWS THE SAFE WAY TO HANDLE THE DEVICE.

Certificates and approvals	Description
Radio modules	The device contains an approved radio module. This module is identified below. Module: SDC-SSD40NBT FCC ID: TWG-SDCSSD40NBT
IC Industry Canada	This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : 1) l'appareil ne doit pas produire de brouillage; 2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement. This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada. The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems. Les dispositifs fonctionnant dans la bande de 5 150 à 5 250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.
Radio modules	The device contains an approved radio module. This module is identified below. Module: SDC-SSD40NBT IC ID: 6616A- SDCSSD40NBT
ETL Electrical safety listing	ETL listed, Intertek 4004039 Conforms to UL STD 60950-1

A.2 Service & Support

Technical Support

You can reach technical support for all PD projects as follows:

● Phone: + 49 (0) 911 895 7222

● Fax: + 49 (0) 911 895 7223

● E-mail (mailto:support.automation@siemens.com)

● Internet: Web form for support request
(https://support.industry.siemens.com/My/ww/en/requests)

Contacts

If you have any further questions on the use of our products, please contact one of our representatives at your local Siemens office.

The addresses are found on the following pages:

● On the Internet (http://w3.siemens.com/aspa_app)

● In Catalog CA 01

● In the catalog ID 10 specially for Industrial Identification Systems

Service & Support for Process Industries and Drives

On the Internet, on the Support home page
(https://support.industry.siemens.com/cs/de/en/) of Process Industries and Drives (PD), you will find various services.

There you will find the following information, for example:

● Our newsletter containing up-to-date information on your products.

● Relevant documentation for your application, which you can access via the search function in "Product Support".

● A forum for global information exchange by users and specialists.

● Your local contact for PD.

● Information about on-site service, repairs, and spare parts. Much more can be found under "Our service offer".

RFID homepage

For general information about our identification systems, visit RFID home page
(http://w3.siemens.com/mcms/identification-systems/).

Online catalog and ordering system

The online catalog and the online ordering system can also be found on the Industry Mall home page (https://mall.industry.siemens.com).

Training center

We offer appropriate courses to get you started. Please contact your local training center or the central training center in

D-90327 Nuremberg.

Phone: +49 (0) 180 523 56 11
(€ 0.14 /min. from the German landline network, deviating mobile communications prices are possible)

For information about courses, see the SITRAIN home page (http://sitrain.automation.siemens.com/sitrainworld/).