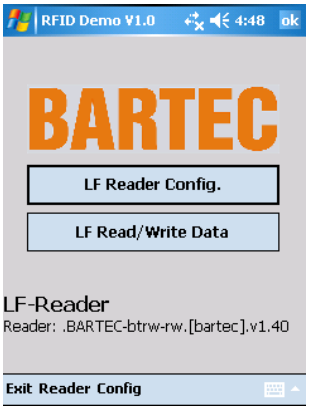
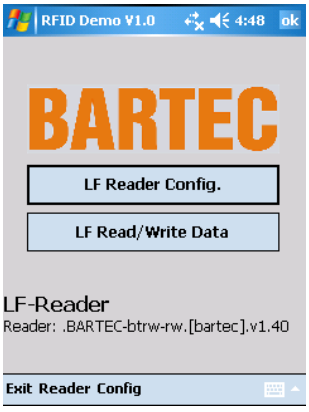
Operating Manual

RFID Demo V.1.0 for Windows Mobile Devices



RFID DemoCE V.1.1 for Windows CE Devices



1. General

Attention!

The RFID Demo software is only running after a correct installation.

The use of the RFID reader is only possible outside of the cradle. The RFID reader is using the same Com 1 interface as it is necessary for establish a communication via cradle.

The RFID Demo allows a test of the BARTEC RFID version of the Mobile Computer.

Supported RFID version:

- LF 125/134 KHz
- HF 13.56 MHz
- UHF 865.6 up to 867.5 MHz
- UHF 902 up to 928 MHz

Note

The software detects automatically the RFID reader in the Mobile Computer.

In the following manual is described the use of the demo software for the LF reader version. The use/functionality for HF and UHF is the same as for the LF reader version.

1.1 System Requirements

- PC with “Active Sync” or “Mobile Device Center”

Note

For PC with Windows XP:

Active Sync 4.5 or higher is needed!

For PC with Vista or Windows 7:

Device Center or Mobile Device Center is needed!

More information about system requirements available on Microsoft homepage.

Supported operating system with RFID Demo V 1.0 on Mobile device:

- Windows Mobile WM5.0
- Windows Mobile WM6.1
- Windows Mobile WM6.5

Supported operating system with RFID DemoCE V 1.1 on Mobile device:

- Windows CE5.0
- Windows CE6.0

The RFID Demo is tested on following Mobile devices:

- MC9090^{ex}
- MC9190^{ex}

1.2 Supported RFID LF standards

This Demo software allows the read and write of the following RFID transponders with 125/134 kHz resonant frequency:

Read-Only transponders

- EM 41xx (UNIQUE)
- FDX-B
- ISO 11784/5
- ISO Animal (ZOODIAC)
- BDE transponders (FDX-B type)
- HDX transponder (RO)

Read-Write transponders

- HITAG S256
- HITAG S2 kbit
- HITAG 1
- HITAG 2
- Q5
- EM 4305
- ATA5567
- EM4450/4550
- HDX (Multipage)

These RFID transponders are grouped in following firmware files:

Firmware version Btrw-rw.V.1.40.frm	Firmware version Btrw-hdx.V.1.40.frm	Firmware version Btrw-ti.V.1.40.frm
HITAG S256	HDX -RO	EM 4450/4550
HITAG S 2 kbit	HDX (Multipage)	EM4xxx(UNIQUE)
HITAG 1	EM4xxx(UNIQUE)	FDX-B
HITAG 2	FDX-B	BDE
Q5	BDE	ISO 11784/5
ATA5567	ISO 117845	ISO Animal
EM4305	ISO Animal	

Note

The Firmwareloader LF enables you to make a firmware update at the LF-reader Instructions therefore can be found in the appropriate manual.

The data will be or can be stored in an internal data base.

The data of the Read-Only transponders will be stored in the data base of the MC 9090 only. The data of the Read-Write transponders are stored in the transponder memory as well. The amount of to be used data with this Demo software is limited and is dependent also form the memory capability of the entire Read-Write transponder.

1.3 Supported RFID HF standards

This Demo software allows the read and write of the following RFID transponders with 13.56 MHz resonant frequency:

Supported standard/s:

- ISO 14443-A
- ISO 14443-B
- ISO 15693

The data will be or can be stored in an internal data base.

The data of the Read-Only transponders will be stored in the data base of the MC 9090 only. The data of the Read-Write transponders are stored in the transponder memory as well. The amount of to be used data with this Demo software is limited and is dependent also form the memory capability of the entire Read-Write transponder.

1.4 Supported RFID UHF standards

This Demo software allows the read and write of the following RFID transponders with UHF version:

- UHF 865.6 up to 867.5 MHz
- UHF 902 up to 928 MHz

Supported standard:

EPC GEN 2

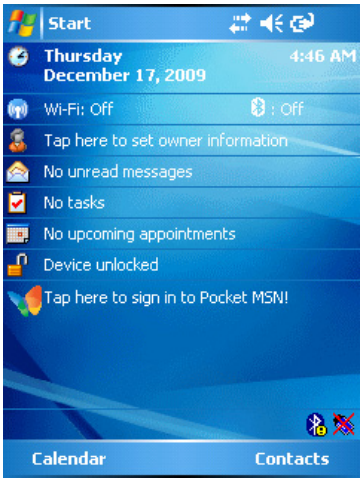
The data will be or can be stored in an internal data base.

The data of the Read-Only transponders will be stored in the data base of the MC 9090 only. The data of the Read-Write transponders are stored in the transponder memory as well. The amount of to be used data with this Demo software is limited and is dependent also form the memory capability of the entire Read-Write transponder.

2. RFID Demo

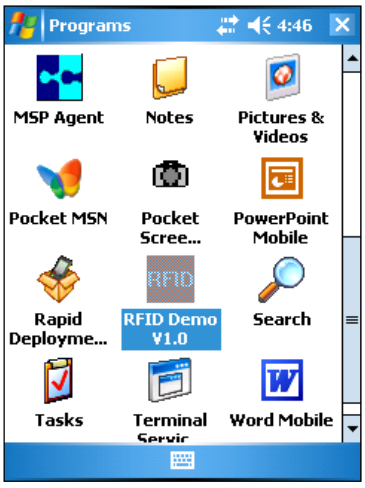
2.1 How to start Demo Software

Tap on the today screen to **Start.**

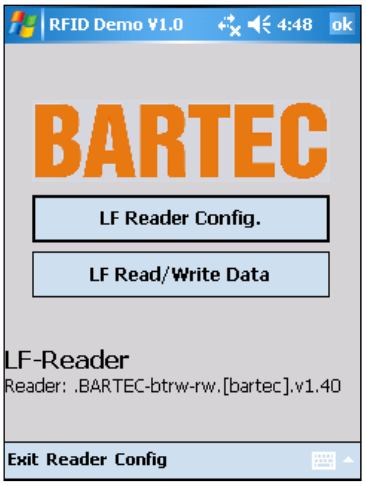


A drop down menu appears. Tab on **Programs**.

Tab in the Program menu to the icon of **RFID Demo V1.0**.

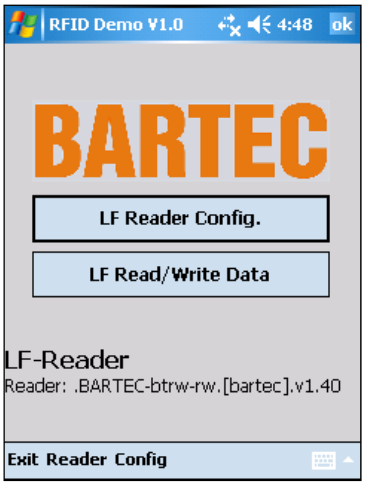


The RFID Demo application is starting in the start screen.



2.2 How to use the Demo Software

After the start of the software "RFID Demo V1.0" the following screen appears:



The following information you can see at the bottom:

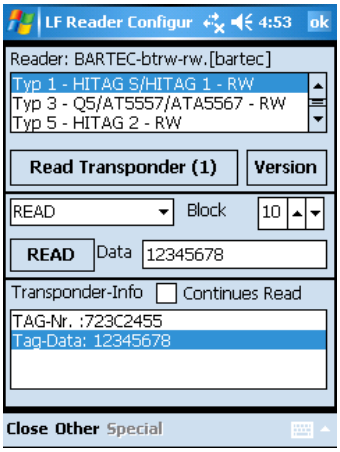
BARTEC-btrw-rw.[bartec].V1.40

This information contains the firmware version of the installed RFID reader in the MC 9090. The displayed firmware version is related to the reader.

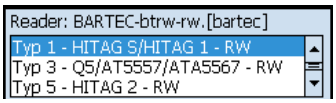
3. Software Description

3.1 Reader Config

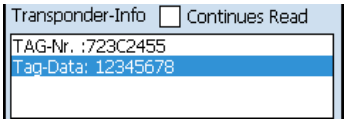
After double click on the "Reader Config." button the configuration window appears:



Please select in the select area the type of transponder which you want to read or write. In the example above the selected type of transponder is HITAG S.



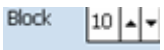
If you have pushed the button „Read Transponder (1)" and in parallel wiped a HITAG S transponder in front of the antenna the information appears as follows:



This is the unique ID number of this transponder.

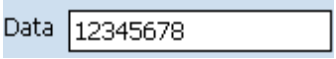
TAG-Nr.: 723C2455

Due to the fact that the HITAG S transponder is a Read-Write transponder where the memory is divided in different memory blocks you can select the available blocks and read these out. To select the block which you want to read please enter the block number



Now wipe the transponder in front of the antenna and push the button "Read"

The content of the selected block appear in the window "Data" and in the bottom window as



TAG-Nr.

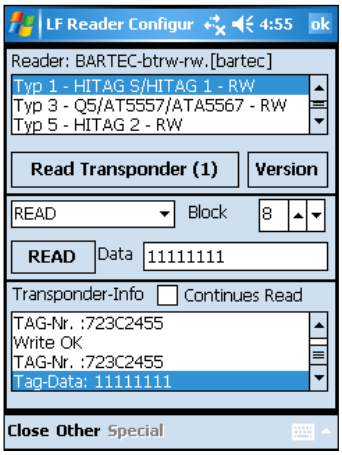
TAG-Data: 12345678

Technical data subject to change without notice.
Issue: Revision 2 / June 2011

To write data into the transponder you have to select the block in the field "Block" and enter the data you want to write in the field "Data" (max. 8 characters are possible).

After this you have to select by scrolling the arrow "Write" and click also the "Write" button.

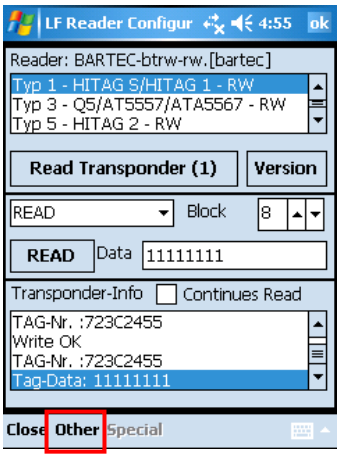
Now the characters which you have entered in "Data" will be written into the transponder memory.



Extended function "Show Events"

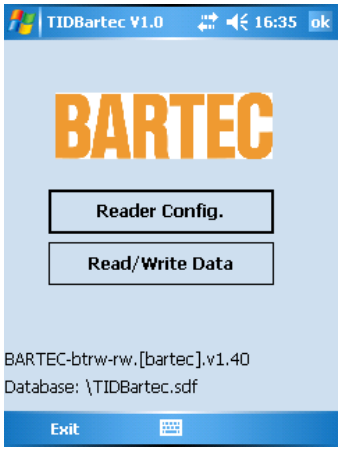
The transmit/or receive data of the reader will appear.

If you want to see the transmit/or receive data in detail please tick (select) in the drop down menu "Other" and "Show Events".

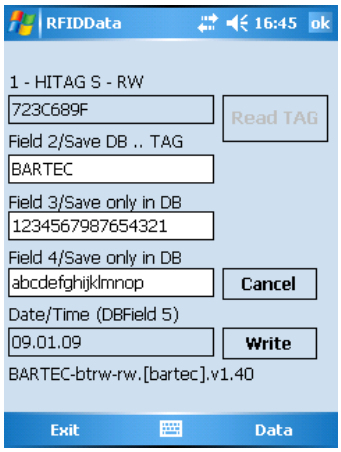


3.2 Read/Write Data

After pushing the button "Read/Write Data" you reach the following menu:

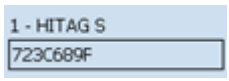


The example shows again the HITAG S transponder which has been read before.



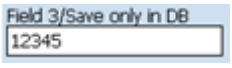
After pushing the button "Read TAG" and successful reading the data like above appear.

Here the descriptions of the different data fields:

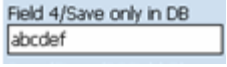


Here the type of transponder and the related ID is shown.

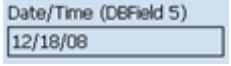
The example data of "Field 2" (bartec) are stored in the internal data base **and** in the transponder, too.



The example data of "Field 3" (12345) are stored in the internal data base only.



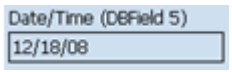
The same is valid for the example data of "Field 4" (abcdf) also these are stored in the internal data base only.



The system time and date are stored in (DBField5).

3.3 Change and store of "new" data

Now you can enter for example new data in "Field2". In this demo version the number of possible data to be entered is limited to max. 8 characters.



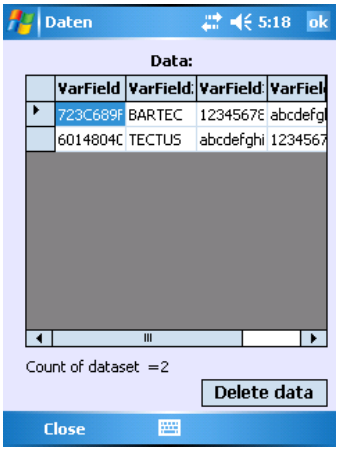
The data of this field will be stored in the internal data base and in the transponder as well. After pushing the button “Write” the data is stored as described before. After the write ("schreiben2") it is recommended to check if the write was successful by reading the data again

3.3.1 Database

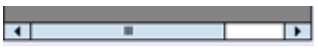
To view the data in the internal database push "Data"

The single data records of the database appear:

Here the entire fields and the content of data are displayed:



By "scrolling" you can reach to the "end" of the fields.

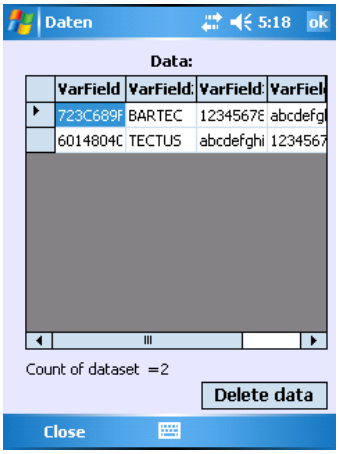


This information shows the number of stored data records.

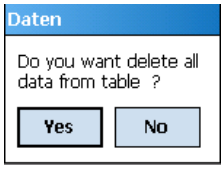
By pushing you get back to the main window:

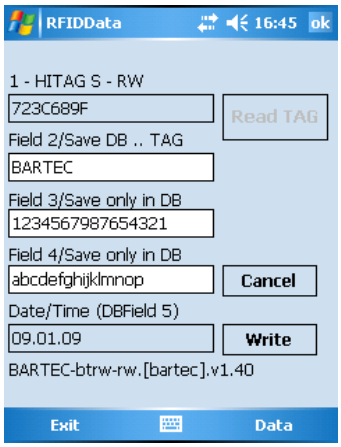
Due to the fact that the HITAG S transponder is a Read-Write transponder where the memory is divided in different memory blocks you can select the available blocks and read these out. To select the block which you want to read please enter the block number

You have to confirm the delete function again:

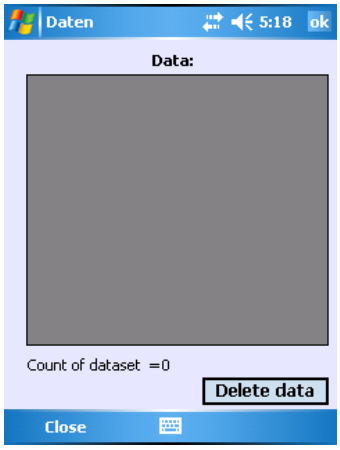


After confirmation by pushing "Yes" the data will be deleted and this window appears:



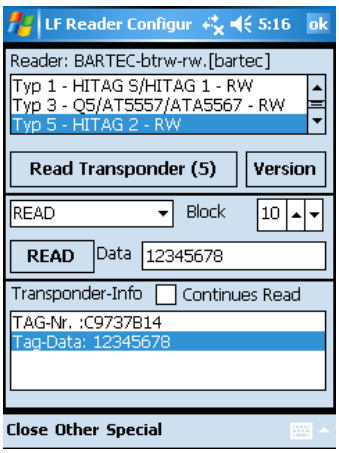


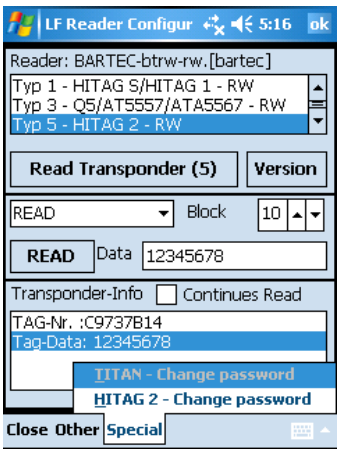
3.4 Delete complete Database



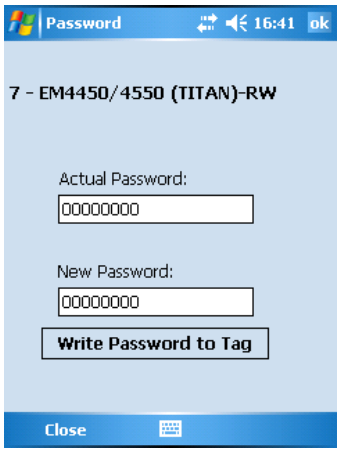
3.5 Password for EM4450/4550 and HITAG 2

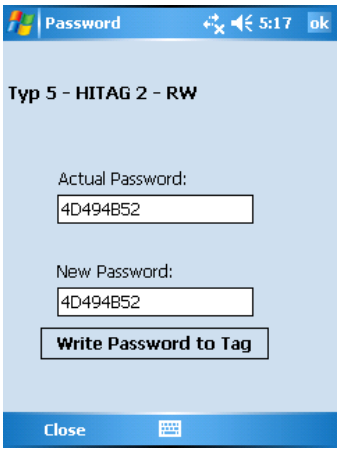
After reading of the transponder you can chose the option "Change password"





Depending on the type of transponder the following window appears:





Please enter the valid (old) Password and the new Password and confirm this by pushing the button "Write Password to Tag".

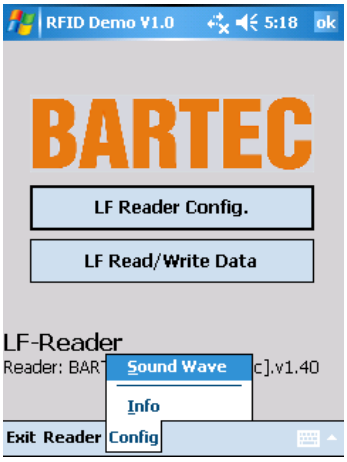
The standard passwords for HITAG 2 is

4D494B52 and for EM4450 it is the Password 00000000.

To read a transponder which has no standard password you have to change after read of the "Actual Password" and enter the valid standard Password. After this you close the form by clicking "Close".

3.6 Software version

By pushing in the drop down menu of Config "Info" the information about the valid Software version and the version of the used DLL.



3.7 Termination of software

By clicking "Exit" you can terminate the software at anytime you want.