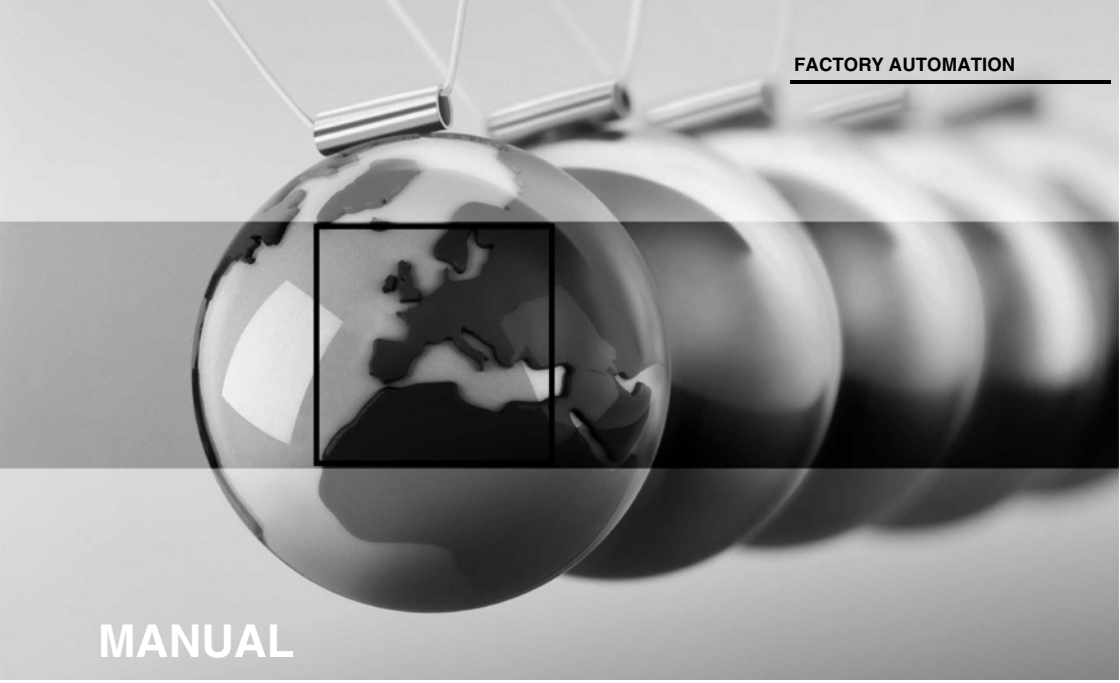


MANUAL

IPT-HH20

HANDHELD (125 KHZ)

CE

PEPPERL+FUCHS
SENSING YOUR NEEDS

1 Introduction

Congratulations

You have chosen a device manufactured by Pepperl+Fuchs. Pepperl+Fuchs develops, produces and distributes electronic sensors and interface modules for the market of automation technology on a worldwide scale.

Symbols used

This manual contains different symbols that draw your attention to information or instructions.

Note!

This symbol brings important information to your attention.

Action

This symbol marks an acting paragraph.

The following chapters contain the most important instructions:

- Basic operation: see chapter 6.2
- Description of the most important tasks: see chapter 7
- Complete description of all menu entries: see chapter 9

If you have any queries regarding the device, accessories or advanced functions, please contact:

Pepperl+Fuchs GmbH
Königsberger Allee 87
D-68307 Mannheim
Telephone: 0621 776-1111
Fax: 0621 776-271111
e-mail: fa-info@de.pepperl-fuchs.com

205269 2007-12

PEPPERL+FUCHS

2 Declaration of Conformity

This product has been developed and manufactured in accordance with applicable European standards and directives.

Note!

A Declaration of Conformity can be requested from the manufacturer.

The manufacturer of this product, Pepperl+Fuchs GmbH, in D-68307 Mannheim, Germany, has a certified quality management system in accordance with ISO 9001.

ISO**9001**

2.1 Declaration of Conformity

The device has been tested for compliance with FCC regulations Tests confirmed that all valid FCC rules and regulations have been complied with.

Note!

The device may not be used in the vicinity or in combination with another antenna or a transmitter in order to meet the requirements stipulated in FCC RF exposure guidelines.

205269 2007-12

3 Safety

3.1 Symbols relevant to safety

Danger!
This symbol indicates a warning about a possible danger.

In the event the warning is ignored, the consequences may range from personal injury to death.

Warning!
This symbol indicates a warning about a possible fault or danger.

In the event the warning is ignored, the consequences may course personal injury or heaviest property damage.

Caution!
This symbol warns of a possible fault.

Failure to observe the instructions given in this warning may result in the devices and any connected facilities or systems develop a fault or fail completely.

3.2 Intended use

The Handheld was designed for identifying RFID code and data carriers within a defined frequency range and should be used for this purpose only. Examples of device applications include manual quality control and verifying maintenance work.

Operating the Handheld in a way different from that described in these instructions may have a negative effect on the reliability and function of the device and connected systems. Protection of operating personnel and the overall system is no longer guaranteed if the device is not used as specified.

Caution!
Modified or separate JavaScript programs

Data reading and writing processes may be influenced or disrupted.

- Do not modify the JavaScript programs provided by the manufacturer.
- Check whether the identification function of self-configured JavaScript programs is affected.

205269 2007-12

3.3 General notes on safety

Installation and commissioning of all devices must be performed by a trained professional only.

When packing the device for storage or transport, use materials that will protect the device from bumps and impacts and protect against moisture. The original packaging provides the best protection. Also take into account the permitted ambient conditions.

Do not open, burn or short-circuit the battery. The battery may ignite, explode, leak or heat up and become irreparably damaged.

Always charge the battery using approved cables.

The Handheld supports different interfaces such as Bluetooth, USB, RS 232 or PS/2. Always use correctly configured devices and the recommended original accessories to ensure reliable communication.

The operating company bears responsibility for observing locally applicable safety regulations.

Independent interventions and separate modifications are dangerous and will void the warranty and exclude the manufacturer from any liability. If serious faults occur, stop using the device. Secure the device against inadvertent operation. In the event of repairs, send the device to Pepperl+Fuchs.

Do not dispose of storage batteries with the household refuse.

Consumers are obliged by law to dispose of used storage batteries in accordance with regulations. You can hand in your used batteries at public collection points in your area or sales points where batteries of that particular kind are sold. You can also send your used batteries directly to us for disposal. Please remember that this service is only available within the scope of normal use. If you wish to send back your used batteries, please affix sufficient postage stamps and send to our address. There are no extra charges for disposal.

205269 2007-12

4 Product description IPT-HH20

4.1 Use and application

Handheld

IDENTControl by Pepperl+Fuchs is a proven system designed for stationary RFID applications. A portable device for process monitoring (reading/writing functions, data carrier initialization) is provided with this Handheld.

One new feature is the cellphone design with keypad and display for intuitive operation. Frequently recurring actions can be performed by pressing one of two configurable keys. JavaScript provides a familiar cross platform programming language to enhance system functionality for the user.

In addition to a lithium ion storage battery, a large permanent memory and the option of 2.45 GHz band wireless communication based on the Bluetooth standard ensure maximum mobility.

Code/Data carrier 125 kHz (inductive)

Code and data carriers for this frequency range are available in a variety of designs from small glass tubes with dimensions of 3 mm x 3 mm x 15 mm to transponders 100 mm in diameter. Data carriers in chemical resistant housings designed for installation in metal components and temperatures up to 300 °C (max. 5 min.) are available with degree of protection IP68/IP69K. Code carriers IPC02-... offer a 40 bit fix code. Data carriers IPC03-... have a 928 bit programmable memory and a permanent fix code of 32 bits. Code carriers IPC11-... can be used to generate modifiable 40 bit fix codes that can be defined as permanent fix codes or redefined an infinite number of times. The IPC12 data carrier with 64 kBit FRAM memory and 32 bit fix code is designed for larger quantities of data.

205269 2007-12

4.2 LED indicators and control keys

The device has the following LED indicators and control keys:

1 Status LED
2 LC display
3 Softkeys
4 Navigation keys
5 Trigger keys
6 Keypad
7 Interface
8 Battery compartment
9 Read/write head

205269 2007-12

4.2.1 Status LED

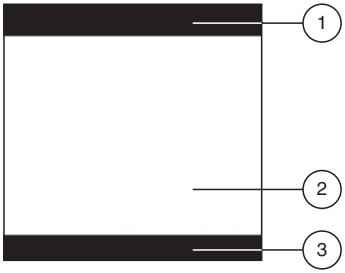
The status LED indicates the following states:

Meaning of the status LED

Status	Description
Lights up green	• The Handheld has been switched on. • The interface has been modified. • Data has been read or written.
Flashing yellow	The Handheld has successfully completed a read or write command.
Red flashing	The Handheld has unsuccessfully completed a read or write command and reports an error.
Off	Read/Write head is inactive

4.2.2 Display

The display on the device is divided into different areas:



1 Toolbar

2 Display

3 Softkey bar

205269 2007-12

The following table lists all the symbols on the toolbar and the functions they perform:

Symbols in the toolbar

Symbol	Description
Charging status	
	The capacity of the battery is between 50 % and 100 %.
	The capacity of the battery is between 20 % and 50 %.
	The capacity of the battery is between 0 % and 20 %. Recharge the battery.
	Battery is charged.
Connection status	
	The Handheld is connected to an interface.
	RS 232 is selected as the active interface.
	PS/2 is selected as the active interface.
	USB is selected as the active interface.
	Bluetooth is selected as the active interface.
Data transfer	
	Data transfer in one direction: data is transferred from the Handheld to the connected computer. A response from the computer is not required.
	Data transfer in two directions: data is transferred from the Handheld to the connected computer. The Handheld then waits for a response from the computer.
	Keyboard mode: the Handheld is connected to the computer via a USB or PS/2 interface.
	Virtual COM port mode: the Handheld emulates an RS 232 interface via the USB interface allowing communication from the computer to the Handheld. A response from the computer is not required.
Memory status	
	0 % to 25 % of the internal memory is occupied.
	25 % to 50 % of the internal memory is occupied.
	50 % to 75 % of the internal memory is occupied.
	75 % to 100 % of the internal memory is occupied.
	The internal memory is full. You can no longer store data on the internal memory.
	Batch mode inactive. Data is not buffered in the internal memory.

205269 2007-12

Symbol	Description
Input mode	
	Numerical input mode - data entered using the keys appears in the form of numbers.
	Alphabetical input mode - data entered using the keys appears in the form of letters.
	Alphabetical input mode - data entered using the keys appears in the form of lower case letters.
	Symbol input mode - data entered using the keys appears in the form of symbols.

4.2.3 Key overview

The following table lists all keys on the device and the functions they perform:

Softkeys

Keys	Designation
	Left softkey
	Right softkey

Navigation keys

Keys	Designation
	Up navigation key
	Down navigation key
	Left navigation key
	Right navigation key
	Enter navigation key

205269 2007-12

Trigger key

Keys	Description
	Left trigger key
	Right trigger key

Input keys

Keys	"Numerical" mode	"Alphanumerical upper case" mode	"Alphanumerical lower case" mode	"Symbols" mode
SHIFT	Switches between "Numerical", "Alphanumerical upper case", "Alphanumerical lower case" and "Symbols" mode.			
1 space	1	Space, 1	Space, 1	Space) < _
2 ABC	2	A, B, C, 2	a, b, c, 2	! * = `
3 DEF	3	D, E, F, 3	d, e, f, 3	" + > {
4 GHI	4	G, H, I, 4	g, h, i, 4	# , ? |
5 JKL	5	J, K, L, 5	j, k, l, 5	$ - @ }
6 MNO	6	M, N, O, 6	m, n, o, 6	% . [~
7 PQRS	7	P, Q, R, S, 7	p, q, r, s, 7	& / \ Space
8 TUV	8	T, U, V, 8	t, u, v, 8	' :] Space
9 WXYZ	9	W, X, Y, Z	w, x, y, z	(; ^ Space
0	0	0	0	Scrolls through the different symbol pages
CLEAR	For data input fields: delete the last character. Otherwise: ESC function (exits the menu without adopting the current settings.)			

205269 2007-12

4.3 Interfaces

The Handheld has the following interfaces:

1 8-pin connecting socket

4.4 Scope of supply

The scope of supply includes:

- Handheld without storage battery or battery compartment cover
- CD with documentation (manual)

Note!

You will require other components in addition to the Handheld included in the scope of supply to complete assembly of the device. The basic equipment includes: Handheld, battery and charging station. Missing components can be ordered from Pepperl + Fuchs.

205269 2007-12

4.5 Accessories

Different connection cables, handles, mounts, storage batteries and a range of accessories for chargers and interfaces are available for this Handheld.

4.5.1 Connecting cable

The following connecting cables are available as an option:

Designation	Description
ODZ-MAH-CAB-B14	Connecting cable USB interface, length approx. 180 cm
ODZ-MAH-CAB-R2	Connecting cable RS 232 interface, length approx. 120 cm
ODZ-MAH-CAB-R6	Connecting cable PS/2 interface, length approx. 120 cm

4.5.2 Accessories for interfaces

The following interfaces are available as optional accessories:

Designation	Description
ODZ-MAH-B15	Bluetooth modem (without cable), preset to USB
ODZ-MAH-B15-R2	Bluetooth modem (without cable), preset to RS232
ODZ-MAH-B15-R6	Bluetooth modem (without cable), preset to PS/2

4.5.3 Handles

The following handles are available as an optional accessory:

Designation	Description
ODZ-MAH-GRIP1	Handle, without battery
ODZ-MAH-GRIP2	Handle, with integrated lithium ion battery, capacity 1950 mAh
ODZ-MAH-GRIP3	Handle, with integrated lithium ion battery, capacity 3900 mAh

4.5.4 Storage batteries

The following batteries are available as an optional accessory:

Designation	Description
ODZ-MAH-BAT	Lithium ion battery, capacity 1950 mAh
ODZ-MAH-BLANK	Battery blank (for cable operation)

205269 2007-12

4.5.5 Chargers

The following chargers are available as an optional accessory:

Designation	Description
ODZ-MAH200-CHARGER	Charger for 2 lithium ion storage batteries
ODZ-MAH-CHARGER	Battery charging tray for handles with integrated lithium ion storage battery
ODZ-MAH200-SUPPLY + ODZ-MAH-CAB-CHARGE	Plug supply unit with cable for direct connection of the Handheld
ODZ-MAH-CHARGER-SINGLE	Charger for I*T-HH20 with integrated battery ODZ-MAH-BAT

4.5.6 Brackets

The following brackets are available as an option:

Designation	Description
ODZ-MAH300-BRACKET	Table bracket for Handhelds with display

205269 2007-12

5 Installation

5.1 Preparation

Unpacking the unit

1. Check that all package contents are present and undamaged.

   If anything is damaged, inform the shipper and contact the supplier.

2. Check that all items are present and correct based on your order and the shipping documents.

   If you have any questions, please contact Pepperl+Fuchs.

3. Keep the original packing material in case you need to store or ship the unit at a later time.

Fitting the battery

Fit the battery as follows:

1. Turn the battery so that you can remove it as shown in the illustration.

2. Slide the plastic tab on the battery into the corresponding recess on the Handheld.

205269 2007-12

3. Push the locking device upwards and push in the battery.

4. Push the battery in the Handheld, hold in position and release the locking device so that the battery engages.

Charging battery

Charge the battery as follows:

1. Connect the Handheld, including battery, to an interface cable.
2. Connect the interface cable to the switched-on computer.

   When the Handheld is switched on, the symbols displayed in the toolbar indicate the charging status of the Handheld. Overviewview table "Symbols in the toolbar" on page 13

Note!

If you are operating the handheld via an RS 232 interface, connect the RS 232 interface power supply unit to the socket to charge the battery.

Note!

Completely discharged storage batteries

If the storage battery is completely discharged, you will have to wait at least 10 minutes before the Handheld is ready for operation again.

205269 2007-12

5.2 Handle installation

Fitting the standard handle

Fit the handle to the Handheld as follows:

1. Insert the Handheld including battery in the mount on the handle.

2. Push the Handheld back until the plug on the handle enters the cable connection socket on the Handheld.
3. Press the Handheld firmly onto the plug until it is flush with the handle.

The Handheld is now fitted to the handle.

205269 2007-12

Fitting a handle with cable connection

Fit the handle to the Handheld as follows:

1. Remove the battery from the battery compartment of the Handheld if necessary.
2. Carefully pull the rear, flexible part of the handle attached to the plug downwards.
3. Attach the cable connection socket on the Handheld to the plug on the handle.
4. Slide the plastic tab on the battery into the corresponding recess on the Handheld.

The Handheld is now fitted to the handle.

5. Push down the Handheld carefully until the locking device on the Handheld engages in the handle.
6. Connect the interface cable to the cable connection socket underneath the handle.

The Handheld is now ready for operation.

Fitting a handle with integrated storage battery

A handle with integrated battery is also available for this Handheld as an optional accessory. Fit the handle to the Handheld as follows:

1. Remove the battery from the battery compartment of the Handheld if necessary.
2. Slide the plastic tab on the battery into the corresponding recess on the Handheld.
3. Push down the Handheld carefully until the locking device on the Handheld engages in the handle.

The Handheld is now fitted to the handle.

205269 2007-12

Securing the interface cable against accidental removal

You have the option of fitting a protective cap in order to secure the interface cable against accidental removal. To do so, proceed as follows:

1. Connect the interface cable to the cable connection socket on the handle.
2. Guide the cable into the slot on the protective cap and push the protective cap towards the cable connection socket.
3. Ensure that you push the protective cap in the correct position over the interface cable.
4. Screw the protective cap to the handle using the screws supplied.

The interface cable is now secured against accidental removal.

Note!

For secure mounting of the Handheld, we recommend that you secure the Handheld using the screws supplied. Two holes have been drilled on the lower section of the handle for this purpose (see illustration).

205269 2007-12

Removing the handle

Remove the handle as follows:

1. If you have secured the handheld with screws on the handle, remove the screws.
2. Push the locking device in the direction of the arrow and press the handheld out of the retainer.

The handle is removed.

6 Commissioning

6.1 Switching on and off

Switching on the handheld

Switch on the Handheld as follows:

Press either the left trigger key () or the right trigger key () and hold for approx. 1 second.

The Handheld switches on.

Note!

The Handheld automatically switches to standby mode approx. 2 minutes after the key is last pressed.

Note!

The device switches on automatically when connected to the USB or PS/2 interface on your computer.

Switching off the Handheld

The Handheld switches off automatically if it remains idle for more than 2 hours.

205269 2007-12

6.2 Basic operation

6.2.1 Navigation through menus

Key	Function
Up navigation key ()	Browse upwards in different menus and submenus
Down navigation key ()	Browse downwards in different menus and submenus
Enter navigation key ()	Select menus, submenus and individual menu entries
Left softkey ()	Function depends on the menu. You can usually use this key to confirm a command (e.g. OK) or execute a command (e.g. read).
Right softkey ()	Function depends on the menu. You can usually use this key to terminate or abort a command (e.g. ESC).

Activating/Deactivating menu entries

Activate/Deactivate a menu entry follows:

1. Press the up navigation key () or the down navigation key () to browse to the required menu entry.

   The menu entry currently selected is highlighted in black.

2. Press the Enter navigation key () to activate the menu entry.

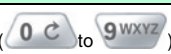
   An asterisk appears in front of the activated menu entry.

3. Press the Enter navigation key again () to deactivate the menu entry.

   The asterisk in front of the deactivated menu entry disappears.

4. Press the left softkey () to confirm your selection.

6.2.2 Data entry

Keys	Function
Input keys 0 to 9 ()	Entering numbers or letters (depending on the mode selected).
SHIFT input key ()	Switching between the different input modes. (The selected mode appears on the left of the toolbar on the Handheld.)
CLEAR input key ()	For data input fields: delete the last character entered. Within menus: exit menu.

205269 2007-12

6.3 Operating modes

Caution!
Data loss

An incorrectly preset interface may lead to data loss.

Make sure that the Handheld is connected to the interface (USB, RS 232, Bluetooth) preset in the Handheld. If necessary, use another interface cable or modify the settings in the Handheld.

6.3.1 Wireless operation (batch mode)

For certain applications, wireless operation of the Handheld is recommended. As soon as you remove the interface cable (USB, RS 232 cable), or you are outside the range of a Bluetooth connection, the Handheld switches automatically to "Batch mode": In this mode, the data read is buffered in the internal memory of the Handheld. This allows you to transfer the data saved in the Handheld to a computer at a later time.

Note!

Using batteries

You will require a battery or a handle with integral battery to use the Handheld without a cable as well as for cable operation with RS232.

A battery is not usually required for cable mode via USB. However, this depends on the strength of the current supplied from the USB connection on the computer. If the computer does not supply sufficient current to the USB connection, you will require a USB hub with separate bulk power supply or a battery for the Handheld.

This optional accessory (see chapter 4.5) is available from Pepperl+Fuchs.

6.3.2 Cable operation: RS 232

Adjusting the settings for the RS 232 interface on the Handheld

Adjust the settings for the RS 232 communication interface on the Handheld as follows:

1. Select **Settings** > **Communication**
2. Activate the interface **RS232**.
   The **RS232** submenu opens.
3. Configure the relevant parameters.
4. Press the left softkey () to confirm your entries.
   The interface is now activated.
5. Press the right softkey () to exit the menu.

Tip

Further information on interface settings see chapter 9.3.8

205269 20

Connecting the interface cable to the Handheld

To connect the interface cable to the Handheld, proceed as follows:

1. Turn the 8-pin DIN plug so that the arrows on the plug are pointing downwards.
2. Hold the Handheld in your hand with the controls facing upwards.
3. Insert the plug into the corresponding cable connection socket on the Handheld.
4. Press the plug firmly into the cable connection socket until the locking device audibly engages.

   The interface cable is now connected to the Handheld.

Note!

Connection cable with fitted grip

If you have mounted the Handheld to the optional grip, connect the interface cable to the cable connection socket on the grip.

Connecting the Handheld to the computer via the RS 232 interface cable

Connect the Handheld to the computer as follows:

1. Switch off the computer.
2. Connect the RS 232 plug on the interface cable to the RS 232 interface on the computer.
3. Connect the low-voltage plug on the power supply unit to the low-voltage socket on the RS 232 interface cable.
4. Connect the power supply unit to the mains power supply.
5. Switch on the computer.

   The Handheld switches on automatically once you have connected it to the computer. The symbols  and  are displayed in the toolbar.

205269 2007-12

6.3.3 Cable operation: PS/2

Adjusting the settings for the PS/2 interface on the Handheld

Adjust the settings for the PS/2 communication interface on the Handheld as follows:

1. Select **Settings > Communication**
2. Activate the **PS2** interface.

   A prompt appears asking you whether you wish to use the Handheld in PS2 mode.
3. Press the left softkey () to confirm your selection.
   The interface is now activated.
4. Press the right softkey () to exit the menu.

Note!

Required PS/2 interface cable

You will require a PS/2 interface cable with the following connectors to connect the Handheld to the computer:

- **8-pin DIN connector** for connection to the Handheld.
- **PS/2 socket** for connecting an external keyboard.
- **PS/2 connector** for connection to the computer.

Connecting the interface cable to the Handheld

To connect the interface cable to the Handheld, proceed as follows:

1. Turn the 8-pin DIN plug so that the arrows on the plug are pointing downwards.
2. Hold the Handheld in your hand with the controls facing upwards.
3. Insert the plug into the corresponding cable connection socket on the Handheld.
4. Press the plug firmly into the cable connection socket until the locking device audibly engages.

   The interface cable is now connected to the Handheld.

Connecting the Handheld to the computer via the PS/2 interface cable

Connect the Handheld to the computer as follows:

1. Switch off the computer.
2. If an external keyboard is connected to the computer, disconnect it.
3. If you are using a USB keyboard, connect the keyboard to the PS/2 socket on the interface cable using a suitable adapter. If you are using a keyboard with PS/2 plug, insert the plug directly into the PS/2 socket on the interface cable.
4. Connect the PS/2 plug on the interface cable to the keyboard port on the computer.
5. Switch on the computer.

   The Handheld switches on automatically once you have connected it to the computer. The symbols  and  are displayed in the toolbar.

Voltage is supplied to the Handheld via the PS/2 interface. An additional power supply unit is therefore not necessary.

205269 2007-12

6.3.4 Cable operation: USB

Adjusting the USB interface settings on the Handheld

Adjust the settings for the USB communication interface on the Handheld as follows:

1. Select **Settings > Communication**
2. Activate the interface **USB**.
   The **USB** submenu opens.
3. Press the Enter navigation key () to activate the desired mode.
4. Press the left softkey () to confirm your entries.
   The interface is now activated.
5. Press the right softkey () to exit the menu.

Tip

Further information on interface settings see chapter 9.3.8

Connecting the interface cable to the Handheld

To connect the interface cable to the Handheld, proceed as follows:

1. Turn the 8-pin DIN plug so that the arrows on the plug are pointing downwards.
2. Hold the Handheld in your hand with the controls facing upwards.
3. Insert the plug into the corresponding cable connection socket on the Handheld.
4. Press the plug firmly into the cable connection socket until the locking device audibly engages.
   The interface cable is now connected to the Handheld.

Note!

Connection cable with fitted grip

If you have mounted the Handheld to the optional grip, connect the interface cable to the cable connection socket on the grip.

Connecting the Handheld to the computer via the USB interface cable

Connect the Handheld to the computer as follows:

Insert the USB plug on the interface cable into a free USB port on the computer. It does not matter whether the computer is switched on or off.

The Handheld switches on automatically once you have connected it to the computer. The symbols  and  are displayed in the toolbar.

205269 2007-12

6.3.5 Operating with Bluetooth

This Handheld has a wireless Bluetooth interface with a class 1 radio device that enables wireless point-to-point communication with other Bluetooth-compatible devices. If the other Bluetooth-compatible device also has a class 1 radio device, this results in a range of approx. 100 m in free field. The ranges of connections with a Bluetooth-compatible class 2 or 3 device are correspondingly shorter.

If the Handheld is outside the range, it saves the read data in the internal memory. The Handheld continues attempting to send the read data until the connection to the Bluetooth-compatible device is restored. As soon as the Handheld sends the data to the Bluetooth-compatible device, the data is deleted automatically from the internal memory.

Note!

You will require a MAC address to establish a connection between the Handheld and a Bluetooth-compatible device. This MAC address is usually printed next to the serial number on the Bluetooth device or in the manual accompanying your Bluetooth device.

Connecting the Handheld via Bluetooth

Establish a connection between the Handheld and a Bluetooth-compatible device (e.g. laptop with corresponding Bluetooth USB dongle) as follows:

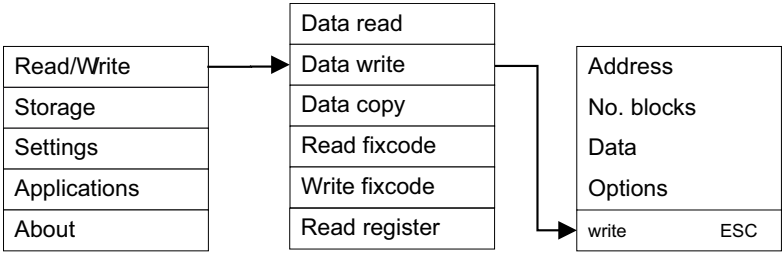
1. Select **Settings > Communication**.
2. Activate the **Bluetooth** interface.
   The **Bluetooth** submenu opens.
3. Press the Enter navigation key () to activate the desired mode.
4. Enter the MAC address in the data input field of menu entry BD_MAC.
5. Press the left softkey () to confirm your entries.
   The connection between the two devices is established. Under certain circumstances, you may have to wait a few moments before the connection is established. The symbols  and  are displayed in the toolbar.

Tip

Further information on interface settings see chapter 9.3.8

7 Operation

7.1 Read data



The Handheld cannot read the data stored on a data carrier until you select the correct setting for the data carrier type, known as the **Tag type**.

The read data is saved in the Handheld or sent to the computer depending on the setting **Settings > Send/Log** (see chapter 6.3).

If you wish to add a time stamp to the read data, activate the menu entry **ON** in the **Settings > Time stamp** menu.

Address

In the data input field of the **Address** menu entry, you have the option of changing the start address.

Start addresses specify the location of the individual data blocks on data carriers. You can read out specific data blocks and transfer data by changing the start address.

Defining a start address

Define the start address as follows:

1. Select **Address**.
2. Enter the start address using the input keys.
3. Press the left softkey ( ) to confirm your entry.

Setting the number of blocks

The number of blocks determines how many data blocks the Handheld reads from the data carrier and how many data blocks can be written to the data carrier. Each block corresponds to 4 bytes.

1. Select **Read/Write > Data read > No. blocks**.
2. Refer to the table to calculate how many blocks you require to enter the relevant data.
3. Press the CLEAR input key ( ) to delete the quantity already entered.
4. Enter the number of blocks using the input keys.
5. Press the left softkey ( ) to conform your entry.

205269 2007-12

Reading data on data carriers

Read data on a data carrier as follows:

1. Select **Read/Write > Data read**.
2. Position the read/write head on the Handheld directly beside the data carrier.
3. Press the left softkey ().

If the read process is successful, the status LED lights up yellow and then green. If you have activated the buzzer and the vibration alarm in the Settings menu, an acoustic signal sounds and the Handheld vibrates. The read data is then displayed in line with the selected data format. If the transfer was unsuccessful, the status LED briefly flashes red and a fault indication is issued. See chapter 8

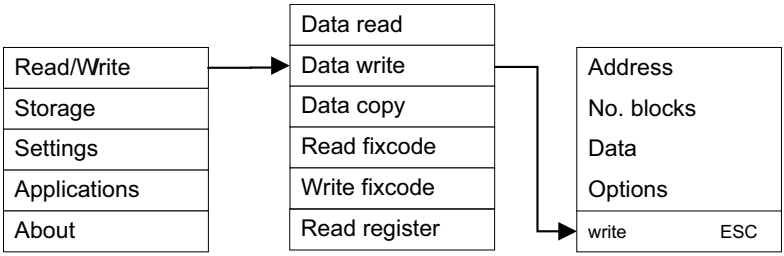
Tip

Other options see chapter 9.1.1

Note!

All data is displayed in the data format (ASCII, HEX, DEC) selected in the Data format submenu.

7.2 Writing data



The following table shows how to enter data into the Handheld.

Data formats

Data format	Notes	Block quantity (maximum 32)	Format	Example
ASCII	In ASCII format, numbers 0 to 9, letters A to Z and special characters stored in the Handheld are available.	01	xxxx	HAND
		02	xxxx xxxx	HAND HELD
		03	...	
HEX (hexadecimal)	In hexadecimal data format, numbers 0 to 9 and letters A to F are available.	01	xx xx xx xx (spaces are not required)	11 22 11 22
		02	xx xx xx xx xx xx xx xx	11 22 11 22 1A 2B 3C 4D
		03	...	
DEC (decimal)	In decimal data format, numbers 0 to 255 are available.	01	xxx xxx xxx xxx (spaces are not required)	111 222 111 222
		02	xxx xxx xxx xxx xxx xxx xxx xxx	111 222 111 222 010 020 030 040
		03	...	

Setting the data format

1. Select **Read/Write > Data write > Options > Data format**.
2. Press the Enter navigation key ( ) to activate the relevant data format.
3. Press the left softkey ( )
4. Press the right softkey ( ) to exit the Options menu.

205269 2007-12

Setting the number of blocks

The number of blocks determines how many data blocks the Handheld reads from the data carrier and how many data blocks can be written to the data carrier. Each block corresponds to 4 bytes.

1. Select **Read/Write > Data read > No. blocks**.
2. Refer to the table to calculate how many blocks you require to enter the relevant data.
3. Press the CLEAR input key (

) to delete the quantity already entered.
4. Enter the number of blocks using the input keys.
5. Press the left softkey () to conform your entry.

Transferring data to data carriers

Transfer data to a data carrier as follows:

1. Select **Write/Read > Write data > Data**.

   One or more data input fields are displayed (the number of data input fields displayed depends on the block quantity.)
2. Press the up navigation key () and the down navigation key () to navigate to the individual data input fields.
3. Enter the relevant data in the correct syntax for the data format selected using the input keys.
4. Press the CLEAR input key (

) to delete individual characters. You can only delete the last character entered, not individual characters within the character string.
5. Press the left softkey () to confirm your entry.

   If the character entered does not correspond with the syntax of the data format, a fault indication is issued and the value is not accepted.
6. Position the read/write head on the handheld directly beside the data carrier.
7. Press the left softkey () to write the data to the data carrier.

   If the write process is successful, "OK" appears on the display and the status LED flashes green. If you have activated the buzzer and the vibration alarm in the Settings menu, an acoustic signal sounds and the handheld vibrates. If the transfer was unsuccessful, the status LED briefly flashes red and a fault indication is issued.

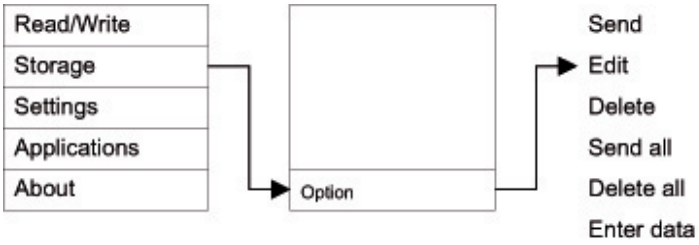
Note!

Observe the input format

Data bytes in hexadecimal data format must always contain 2 characters and data bytes in decimal data format must contain 3 characters.

205269 2007-12

7.3 Editing and entering data manually



Editing data manually

Edit data that has already been entered as follows:

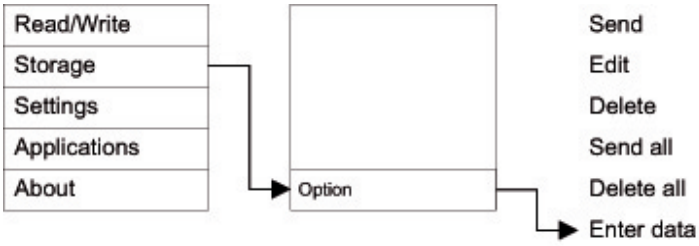
1. Select **Storage**.
2. Press the left navigation key ( ) or right navigation key ( ) to browse to the relevant data record.
3. Press the left softkey ( ) to open the options.
4. Select **Edit**.
5. Press the CLEAR key to delete individual characters. You can only delete the last characters entered, not individual characters within the character string.
6. Enter the required modifications using the input keys.
7. Press the left softkey ( ) to confirm your modification.
   The value in the memory is edited.

Note!

Observe the input format

Data bytes in hexadecimal data format must always contain 2 characters and data bytes in decimal data format must contain 3 characters.

205269 2007-12



Entering data manually

Enter a new value as follows:

1. Select **Storage**.
2. Press the left softkey ( ) to open the options.
3. Select **Enter data**.
4. Enter the data record using the input keys.
5. Press the Enter navigation key ( ) to confirm your entry.
   The value is saved as a new data record.

Note!

Observe the input format

Data bytes in hexadecimal data format must always contain 2 characters and data bytes in decimal data format must contain 3 characters.

8 Troubleshooting

8.1 Error message "no tag"

Possible cause	Fault Rectification
No data carrier within reception range	Position the Handheld correctly or move the data carrier within the reception range.
Incorrect data carrier type setting	Set the correct data carrier type.

8.2 Error message "Connect failed!"

Possible cause	Fault Rectification
Incorrect interface setting	Select the correct interface and configure accordingly
No interface available	Connect the correct interface cable.

205269 2007-12

8.3 Error message "No stored data"

Possible cause	Fault Rectification
All data transferred and "Auto delete" mode active	-
No data in the memory	Read or enter data manually.

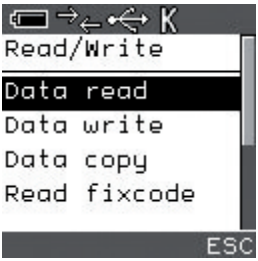
8.4 Error message "No Data to copy"

Possible cause	Fault Rectification
No data has been read in up to now.	Data stored in the memory cannot be copied in the "Copy data" menu. Read in the data in the Copy data menu and copy it directly from the menu.

205269 2007-12

9 Software description PF_Ident

9.1 **Read/Write** menu



The following options are available in the **Read/Write** menu:

- Reading data on data carriers.
- Writing data to data carriers.
- Reading data on one data carrier and copying it to another.
- Reading the fixcode on a data carrier.
- Writing the fixcode to data carriers.
- Reading registers.
- Writing to registers.
- Overwriting data carriers.

Note!

Save energy

More power is required when the read/write head is switched on.

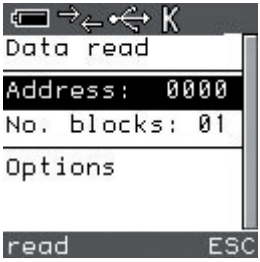
The read/write head on the Handheld switches on as soon as you execute a command in the **Read/Write** menu. This is indicated by the lit green LED. The read/write head is only switched off when you exit the relevant submenu.

205269 2007-12

9.1.1 Read/Write > Data read

In this menu, you have the option of reading data located on a data or code carrier.

Data read menu

	
Submenu	**Options**
Menu entry	Address No. blocks

Description of menu entries

Address

In the data input field of the **Address** menu entry, you have the option of changing the start address.

Start addresses specify the location of the individual data blocks on data carriers. You can read out specific data blocks and transfer data by changing the start address.

Defining a start address

Define the start address as follows:

1. Select **Address**.
2. Enter the start address using the input keys.
3. Press the left softkey () to confirm your entry.

Number of blocks

In the data input field of the **No. blocks** menu entry, you have the option of changing the number of blocks.

The number of blocks determines how many data blocks the Handheld reads from the data carrier and how many data blocks are written to the data carrier. Each address block contains 4 bytes, i.e. in ASCII format, you can enter 4 characters for each block in the data input field of the **Data** menu entry, in hexadecimal data format 8 characters (2 characters each) and in decimal data format 12 characters (3 characters each).

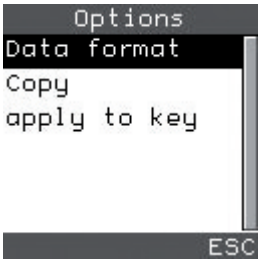
205269 2007-12

Changing the number of blocks

Change the number of blocks as follows:

1. Select **No. blocks**
2. Press the CLEAR input key (CLEAR) to delete the quantity already entered.
3. Enter the number of blocks using the input keys.

Options submenu

	
Submenu	**Data format** **apply to key**
Menu entry	Copy

Description of menu entries

Copy

You can use the **Copy** menu entry to transfer the data currently being read to the **Data write** menu.

Data copy

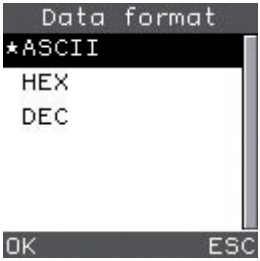
To use this option to copy data, proceed as follows:

1. Read in the data on one or more data carriers.
2. After reading in the last data carrier, press the right softkey ( ) to exit read mode.
3. Select **Options > Copy**.

   If the copy process is successful, "Data assumed" appears on the display and the status LED lights up green. If the copy process fails, a fault indication is issued.
   See see chapter 8

205269 2007-12

Data format submenu

	
Submenu	--
Menu entry	ASCII HEX DEC

Description of the submenu

Data format

In the **Data format** submenu, you have the option of defining the format of data that you intend to read or write.

Description of menu entries

Data formats

Data format	Notes	Format
ASCII	In ASCII format, numbers 0 to 9, letters A to Z and special characters stored in the Handheld are available.	xxxx (per block)
HEX	In hexadecimal data format, numbers 0 to 9 and letters A to F are available.	xx xx xx xx (spaces are not required) (per block)
DEC	In decimal data format, numbers 0 to 255 are available.	xxx xxx xxx xxx (spaces are not required) (per block)

Note!

Changing the data format

Modifications to the data format in this menu change the default setting **Settings > Data format** of the Handheld. The format of the read and written data adopts the data format preset in this menu.

205269 2007-12

apply to key submenu

	
Submenu	--
Menu entry	left right handle

Description of the submenu

apply to key

In the **apply to key** submenu, you have the option of assigning the command from the overriding menu to the trigger keys on the Handheld and the handle.

Important: the trigger key function is blocked when you open the **Settings** menu.

Description of menu entries

Key	Description
left	The command from the overriding menu is assigned to the left trigger key( ).
right	The command from the overriding menu is assigned to the right trigger key( ).
handle	The command from the overriding menu is assigned to the trigger key on the handle.

Instructions on Data read function

Reading data

The entry **read** in the softkey bar prompts the read/write head on the Handheld to execute the **Data read** function. Data located on a data carrier or code carrier is read and either transferred to the Handheld memory or sent directly to a computer depending on the setting.

Detailed instructions see chapter 7.1

205269 2007-12

9.1.2 Read/Write > Data write

In this menu, you have the option of writing data to a data carrier.

Data write menu

	
Submenu	**Options**
Menu entry	Address No. blocks Data

Description of menu entries

Address

In the data input field of the **Address** menu entry, you have the option of changing the start address.

Start addresses specify the location of the individual data blocks on data carriers. You can read out specific data blocks and transfer data by changing the start address.

Defining a start address

Define the start address as follows:

1. Select **Address**.
2. Enter the start address using the input keys.
3. Press the left softkey () to confirm your entry.

Number of blocks

In the data input field of the **No. blocks** menu entry, you have the option of changing the number of blocks.

The number of blocks determines how many data blocks the Handheld reads from the data carrier and how many data blocks are written to the data carrier. Each address block contains 4 bytes, i.e. in ASCII format, you can enter 4 characters for each block in the data input field of the **Data** menu entry, in hexadecimal data format 8 characters (2 characters each) and in decimal data format 12 characters (3 characters each).

205269 2007-12

Changing the number of blocks

Change the number of blocks as follows:

1. Select **No. blocks**
2. Press the CLEAR input key (CLEAR) to delete the quantity already entered.
3. Enter the number of blocks using the input keys.

Data

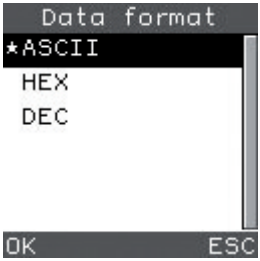
In the data input field of the **Data** menu entry, you have the option of entering data that you wish to write to the data carrier.

Options submenu

	
Submenu	**Data format** **apply to key**
Menu entry	--

205269 2007-12

Data format submenu

	
Submenu	--
Menu entry	ASCII HEX DEC

Description of the submenu

Data format

In the **Data format** submenu, you have the option of defining the format of data that you intend to read or write.

Description of menu entries

Data formats

Data format	Notes	Format
ASCII	In ASCII format, numbers 0 to 9, letters A to Z and special characters stored in the Handheld are available.	xxxx (per block)
HEX	In hexadecimal data format, numbers 0 to 9 and letters A to F are available.	xx xx xx xx (spaces are not required) (per block)
DEC	In decimal data format, numbers 0 to 255 are available.	xxx xxx xxx xxx (spaces are not required) (per block)

Note!

Changing the data format

Modifications to the data format in this menu change the default setting **Settings > Data format** of the Handheld. The format of the read and written data adopts the data format preset in this menu.

205269 2007-12

apply to key submenu

	
Submenu	--
Menu entry	left right handle

Description of the submenu

apply to key

In the **apply to key** submenu, you have the option of assigning the command from the overriding menu to the trigger keys on the Handheld and the handle.

Important: the trigger key function is blocked when you open the **Settings** menu.

Description of menu entries

Key	Description
left	The command from the overriding menu is assigned to the left trigger key( ).
right	The command from the overriding menu is assigned to the right trigger key( ).
handle	The command from the overriding menu is assigned to the trigger key on the handle.

Instructions on Write data function

Writing data

The entry **write** in the softkey bar prompts the read/write head on the Handheld to execute the **Data write** function. The data is written to a data carrier entered in the Handheld beforehand.

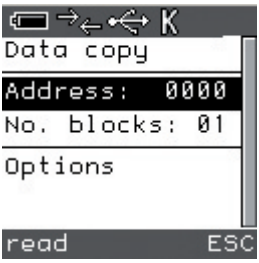
Detailed instructions see chapter 7.2

205269 2007-12

9.1.3 Read/Write > Data copy

In this menu, you have the option of copying a data record that you have just read in to one or more other data carriers

Copy data menu

	
Submenu	**Options**
Menu entry	Address No. blocks

Description of menu entries

Address

In the data input field of the **Address** menu entry, you have the option of changing the start address.

Start addresses specify the location of the individual data blocks on data carriers. You can read out specific data blocks and transfer data by changing the start address.

Defining a start address

Define the start address as follows:

1. Select **Address**.
2. Enter the start address using the input keys.
3. Press the left softkey () to confirm your entry.

Number of blocks

In the data input field of the **No. blocks** menu entry, you have the option of changing the number of blocks.

The number of blocks determines how many data blocks the Handheld reads from the data carrier and how many data blocks are written to the data carrier. Each address block contains 4 bytes, i.e. in ASCII format, you can enter 4 characters for each block in the data input field of the **Data** menu entry, in hexadecimal data format 8 characters (2 characters each) and in decimal data format 12 characters (3 characters each).

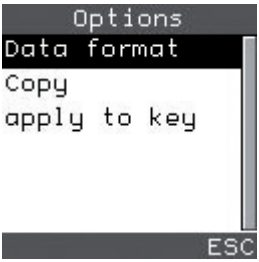
205269 2007-12

Changing the number of blocks

Change the number of blocks as follows:

1. Select **No. blocks**
2. Press the CLEAR input key () to delete the quantity already entered.
3. Enter the number of blocks using the input keys.

Options submenu

	
Submenu	**Data format** **apply to key**
Menu entry	Copy

Description of menu entries

Copy

You can use the **Copy** menu entry to transfer the data currently being read to the **Data write** menu.

Data copy

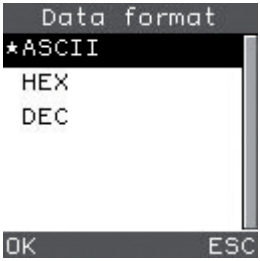
To use this option to copy data, proceed as follows:

1. Read in the data on one or more data carriers.
2. After reading in the last data carrier, press the right softkey () to exit read mode.
3. Select **Options > Copy**.

   If the copy process is successful, "Data assumed" appears on the display and the status LED lights up green. If the copy process fails, a fault indication is issued.
   See see chapter 8.

205269 2007-12

Data format submenu

	
Submenu	--
Menu entry	ASCII HEX DEC

Description of the submenu

Data format

In the **Data format** submenu, you have the option of defining the format of data that you intend to read or write.

Description of menu entries

Data formats

Data format	Notes	Format
ASCII	In ASCII format, numbers 0 to 9, letters A to Z and special characters stored in the Handheld are available.	xxxx (per block)
HEX	In hexadecimal data format, numbers 0 to 9 and letters A to F are available.	xx xx xx xx (spaces are not required) (per block)
DEC	In decimal data format, numbers 0 to 255 are available.	xxx xxx xxx xxx (spaces are not required) (per block)

Note!

Changing the data format

Modifications to the data format in this menu change the default setting **Settings > Data format** of the Handheld. The format of the read and written data adopts the data format preset in this menu.

205269 2007-12

apply to key submenu

	
Submenu	--
Menu entry	left right handle

Description of the submenu

apply to key

In the **apply to key** submenu, you have the option of assigning the command from the overriding menu to the trigger keys on the Handheld and the handle.

Important: the trigger key function is blocked when you open the **Settings** menu.

Description of menu entries

Key	Description
left	The command from the overriding menu is assigned to the left trigger key( ).
right	The command from the overriding menu is assigned to the right trigger key( ).
handle	The command from the overriding menu is assigned to the trigger key on the handle.

Note!

The trigger key configuration depends on which command was executed previously. If you executed a read command before opening the **apply to key** menu, a read command is assigned to the selected key. If you executed a write command, a write command is assigned to the selected key.

205269 2007-12

Instructions on Copy data function

Copying data

Copy a data record from one data carrier to another data carrier as follows:

1. Select **Read/Write > Data copy**.
2. Position the read/write head on the Handheld directly beside the data carrier from which you wish to copy the data record.
3. Press the left softkey ().

   The data record appears on the display.
4. Then position the read/write head on the Handheld directly beside the data carrier to which you wish to copy the data record.
5. Press the right softkey ().

   "OK" appears on the display.
6. Press the CLEAR input key (

) to exit the function.

205269 2007-12

9.1.4 Read/Write > Read fixcode

In this menu, you have the option of reading the fixcode for a data carrier.

Read fixcode menu

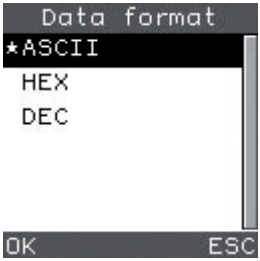
	
Submenu	**Options**
Menu entry	--

Options submenu

	
Submenu	**Data format** **apply to key**
Menu entry	--

205269 2007-12

Data format submenu

	
Submenu	--
Menu entry	ASCII HEX DEC

Description of the submenu

Data format

In the **Data format** submenu, you have the option of defining the format of data that you intend to read or write.

Description of menu entries

Data formats

Data format	Notes	Format
ASCII	In ASCII format, numbers 0 to 9, letters A to Z and special characters stored in the Handheld are available.	xxxx (per block)
HEX	In hexadecimal data format, numbers 0 to 9 and letters A to F are available.	xx xx xx xx (spaces are not required) (per block)
DEC	In decimal data format, numbers 0 to 255 are available.	xxx xxx xxx xxx (spaces are not required) (per block)

Note!

Changing the data format

Modifications to the data format in this menu change the default setting **Settings > Data format** of the Handheld. The format of the read and written data adopts the data format preset in this menu.

205269 2007-12

apply to key submenu

	
Submenu	--
Menu entry	left right handle

Description of the submenu

apply to key

In the **apply to key** submenu, you have the option of assigning the command from the overriding menu to the trigger keys on the Handheld and the handle.

Important: the trigger key function is blocked when you open the **Settings** menu.

Description of menu entries

Key	Description
left	The command from the overriding menu is assigned to the left trigger key( ).
right	The command from the overriding menu is assigned to the right trigger key( ).
handle	The command from the overriding menu is assigned to the trigger key on the handle.

205269 2007-12

Instructions on Read fixcode function

Read fixcode

Read the fixcode from a data carrier as follows:

1. Select **Read/Write > Read fixcode**.
2. Position the read/write head on the Handheld directly beside the data carrier.
3. Press the left softkey ().

   If the read process is successful, the status LED lights up yellow and then green. If you have activated the buzzer and the vibration alarm in the Settings menu, an acoustic signal sounds and the Handheld vibrates. The read data is then displayed in line with the selected data format. If the transfer was unsuccessful, the status LED briefly flashes red and a fault indication is issued. See see chapter 8
4. Press the right softkey () to exit the function.

205269 2007-12

9.1.5 Read/Write > Write fixcode

In this menu, you have the option of writing a fix code to the writable area of data carrier types 11 and 14.

Write fixcode menu

	
Submenu	**Options**
Menu entry	Fix type Data

Description of menu entries

Fix type

In the data input field of the **Fix type** menu entry, you have the option of determining whether the fix code written to the data carrier can be modified or overwritten.

Permanent fix code	"02"
Rewritable fix code	Data carrier type, e.g. "11" for IPC11

Data

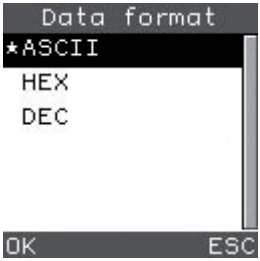
In the **Data** field, you have the option of entering data that you wish to write to the data carrier.

Options submenu

	
Submenu	**Data format** **apply to key**
Menu entry	--

205269 2007-12

Data format submenu

	
Submenu	--
Menu entry	ASCII HEX DEC

Description of the submenu

Data format

In the **Data format** submenu, you have the option of defining the format of data that you intend to read or write.

Description of menu entries

Data formats for the fixcode

Data format	Notes	Format
ASCII	In ASCII format, numbers 0 to 9, letters A to Z and special characters stored in the handheld are available.	xxxxx
HEX	In hexadecimal data format, numbers 0 to 9 and letters A to F are available.	xx xx xx xx xx (spaces are not required)
DEC	In decimal data format, numbers 0 to 255 are available.	xxx xxx xxx xxx xxx (spaces are not required)

Note!

Changing the data format

Modifications to the data format in this menu change the default setting **Settings > Data format** of the Handheld. The format of the read and written data adopts the data format preset in this menu.

205269 2007-12

apply to key submenu

	
Submenu	--
Menu entry	left right handle

Description of the submenu

apply to key

In the **apply to key** submenu, you have the option of assigning the command from the overriding menu to the trigger keys on the Handheld and the handle.

Important: the trigger key function is blocked when you open the **Settings** menu.

Description of menu entries

Key	Description
left	The command from the overriding menu is assigned to the left trigger key( ).
right	The command from the overriding menu is assigned to the right trigger key( ).
handle	The command from the overriding menu is assigned to the trigger key on the handle.

205269 2007-12

Instructions on Write fixcode function

Write fixcode

Write a fixcode to a data carrier as follows:

1. Select **Read/Write > Write fixcode > Fix type**.
2. Press the CLEAR input key (

) to delete the default value.
3. Depending on whether you wish to set a variable or rewritable fixcode, enter the relevant value using the input keys. See see "Fix type" on page 58
4. Press the left softkey () to confirm your entry.
5. Select **Data**.
6. Enter the relevant data in the correct syntax for the data format selected using the input keys. The length of the fixcode is 5 bytes.
7. Press the left softkey () to confirm the entry.

   If the character entered does not correspond with the syntax of the data format, a fault indication is issued and the value is not accepted.
8. Position the read/write head on the Handheld directly beside the data carrier.
9. Press the left softkey () to confirm the entry.

If the write process is successful, "OK" appears on the display and the status LED flashes green. If you have activated the buzzer and the vibration alarm in the **Settings** menu, an acoustic signal sounds and the Handheld vibrates. If the transfer was unsuccessful, the status LED briefly flashes red and a fault indication is issued. See see chapter 8

Note!

Observe the input format

Data bytes in hexadecimal data format must always contain 2 characters and data bytes in decimal data format must contain 3 characters.

205269 2007-12

9.1.6 Read/Write > Read register

In the **Read register** menu, you have the option of reading certain configuration areas on the data carrier.

For more information on the configuration areas see chapter 1.

Read register menu

	
Submenu	**Protection** **Control**
Menu entry	--

Protection submenu

		
Submenu		**Options**
Menu entry		Read protect (start/end) Write protect (start/end)

Description of menu entries

In the **Read protection** menu entry, you can view the start and end areas for read protection.

In the **Write protection** menu entry, you can view the start and end address for the write-protected data area.

Note!

You can only read and write to data areas when password mode is activated and the correct password is sent.

205269 2007-12

Options submenu

	
Submenu	**apply to key**
Menu entry	--

apply to key submenu

	
Submenu	--
Menu entry	left right handle

Description of the submenu

apply to key

In the **apply to key** submenu, you have the option of assigning the command from the overriding menu to the trigger keys on the Handheld and the handle.

Important: the trigger key function is blocked when you open the **Settings** menu.

205269 2007-12

Description of menu entries

Key	Description
left	The command from the overriding menu is assigned to the left trigger key().
right	The command from the overriding menu is assigned to the right trigger key().
handle	The command from the overriding menu is assigned to the trigger key on the handle.

Control submenu

Submenu	**Options**
Menu entry	Standard read (start/end) PSW protect User bits

Description of menu entries

Standard read

In the **Standard read** menu entry, you can view the start and end address settings for the reading area.

Password protect

In the data input field of the **Password protect** menu entry, you can see whether password mode has been activated or deactivated.

User bits

In the data input field of the **User bits** menu entry, you can view the entered user information.

205269 2007-12

Options submenu

	
Submenu	**apply to key**
Menu entry	--

apply to key submenu

	
Submenu	--
Menu entry	left right handle

Description of the submenu

apply to key

In the **apply to key** submenu, you have the option of assigning the command from the overriding menu to the trigger keys on the Handheld and the handle.

Important: the trigger key function is blocked when you open the **Settings** menu.

205269 2007-12

Description of menu entries

Key	Description
left	The command from the overriding menu is assigned to the left trigger key().
right	The command from the overriding menu is assigned to the right trigger key().
handle	The command from the overriding menu is assigned to the trigger key on the handle.

205269 2007-12

9.1.7 Read/Write > Write register

In the **Write register** menu, you have the option of writing to certain configuration areas on the data carrier.

For more information on the configuration areas see chapter 1.

Write register menu

	
Submenu	**Protection** **Control**
Menu entry	Password

Description of the submenu

Password

In the data input fields of the **Password** menu entry, you have the option of changing an existing password.

205269 2007-12

Protection submenu

<table>
<tr><td> 
</td><td> 
</td><td></td></tr>
<tr><td colspan="2">Submenu</td><td>Options</td></tr>
<tr><td colspan="2">Menu entry</td><td>Read protect (start/end)
Write protect (start/end)</td></tr>
</table>

Description of menu entries

Read protect

In the **Read protect** menu entry, you have the option of setting the start and end areas (in bits) for read protection in the file entry fields.

Write protect

In the data input fields in the **Write protect** menu entry, you have the option of defining the start and end address of the write-protected data area.

Options submenu

<table>
<tr><td> 
</td><td></td></tr>
<tr><td>Submenu</td><td>apply to key</td></tr>
<tr><td>Menu entry</td><td>--</td></tr>
</table>

205269 2007-12

apply to key submenu

	
Submenu	--
Menu entry	left right handle

Description of the submenu

apply to key

In the **apply to key** submenu, you have the option of assigning the command from the overriding menu to the trigger keys on the Handheld and the handle.

Important: the trigger key function is blocked when you open the **Settings** menu.

Description of menu entries

Key	Description
left	The command from the overriding menu is assigned to the left trigger key( ).
right	The command from the overriding menu is assigned to the right trigger key( ).
handle	The command from the overriding menu is assigned to the trigger key on the handle.

205269 2007-12

Control submenu

<table>
<tr>
<td> 
</td>
<td> 
</td>
<td></td>
</tr>
<tr>
<td colspan="2">Submenu</td>
<td>Options</td>
</tr>
<tr>
<td colspan="2">Menu entry</td>
<td>Standard read
(starts/end)
PSW protect
User bits</td>
</tr>
</table>

Description of menu entries

Standard read

In the data input fields in the **Standard read** menu entry, you have the option of defining the start and end address of the data area you wish to read.

Password protect

If password protection is deactivated, data can be written to all data words located outside of the write-protected area. If you wish to write to a word in this area, the "word protection" setting must be modified accordingly. If password protection is activated, data can be written to all data words located outside of the write-protected area on the condition that the correct password is set and password mode is activated.

If password protection is deactivated, all data words can be read. If password protection is activated, the read-protected area is active, i.e. this area can only be read if the correct password was set using the "Password set" command and password mode was activated using the "Password mode" command. If the read-protected area is read when password mode is deactivated, the data is set to "0 x 000".

205269 2007-12

Options submenu

	
Submenu	**apply to key**
Menu entry	--

apply to key submenu

	
Submenu	--
Menu entry	left right handle

Description of the submenu

apply to key

In the **apply to key** submenu, you have the option of assigning the command from the overriding menu to the trigger keys on the Handheld and the handle.

Important: the trigger key function is blocked when you open the **Settings** menu.

205269 2007-12

Description of menu entries

Key	Description
left	The command from the overriding menu is assigned to the left trigger key().
right	The command from the overriding menu is assigned to the right trigger key().
handle	The command from the overriding menu is assigned to the trigger key on the handle.

205269 2007-12

9.1.8 Read/Write > Fill tag

In this menu, you have the option of overwriting the complete data carrier with a separately defined character so that you can then format or delete it.

Fill tag menu

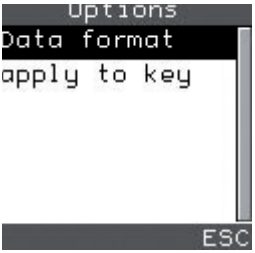
	
Submenu	**Options**
Menu entry	Data

Description of menu entries

Data

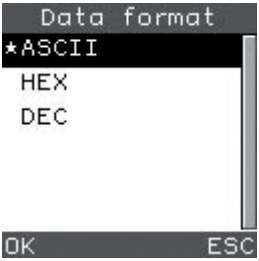
In the **Data** field, you have the option of entering data that you wish to write to the data carrier.

Options submenu

	
Submenu	**Data format** **apply to key**
Menu entry	--

205269 2007-12

Data format submenu

	
Submenu	--
Menu entry	ASCII HEX DEC

Description of the submenu

Data format

In the **Data format** submenu, you have the option of defining the format of data that you intend to read or write.

Description of menu entries

Data formats for the Fill tag function

Data format	Notes	Format
ASCII	In ASCII format, numbers 0 to 9, letters A to Z and special characters stored in the Handheld are available.	x ASCII characters that cannot be displayed: /DEC (e.g. "/013" for CR)
HEX	In hexadecimal data format, numbers 0 to 9 and letters A to F are available.	xx (spaces are not required)
DEC	In decimal data format, numbers 0 to 255 are available.	xxx (spaces are not required)

Note!

Changing the data format

Modifications to the data format in this menu change the default setting **Settings > Data format** of the Handheld. The format of the read and written data adopts the data format preset in this menu.

205269 2007-12

apply to key submenu

	
Submenu	--
Menu entry	left right handle

Description of the submenu

apply to key

In the **apply to key** submenu, you have the option of assigning the command from the overriding menu to the trigger keys on the Handheld and the handle.

Important: the trigger key function is blocked when you open the **Settings** menu.

Description of menu entries

Key	Description
left	The command from the overriding menu is assigned to the left trigger key( ).
right	The command from the overriding menu is assigned to the right trigger key( ).
handle	The command from the overriding menu is assigned to the trigger key on the handle.

205269 2007-12

Instructions on Overwrite tag function

Fill tag

1. Select **Read/Write > Fill tag > Data**.
2. Press the CLEAR input key (

) to delete individual characters. You can only delete the last character entered, not individual characters within the character string.
3. Enter the value for overwriting the data carrier in the correct syntax for the data format selected using the input keys.
4. Press the left softkey () to confirm the entry.

   If the character entered does not correspond with the syntax of the data format, an error message is issued and the value is not accepted.
5. Position the read/write head on the Handheld directly beside the data carrier.
6. Press the left softkey ().

If the read process is successful, "OK" appears on the display and the status LED flashes green. If you have activated the buzzer and the vibration alarm in the Settings menu, an acoustic signal sounds and the Handheld vibrates. The read data is then displayed in line with the selected data format. If the transfer was unsuccessful, the status LED briefly flashes red and a fault indication is issued. See see chapter 8

205269 2007-12

9.2 **Storage** menu

In the **Storage** menu, you can save all read-in data records provided the corresponding setting has been enabled under **Settings > Send/Log**. The following options are available in the **Storage** menu:

- Browsing through stored data records.
- Sending individual/all data records.
- Editing data records.
- Deleting individual/all data records.
- Entering new data records.

Selecting data records

The number of stored data records appears in the toolbar on the display (data record/all data records).

1. Press the left navigation key ( ) or the right navigation key ( ) to browse through the stored data records.
2. Press the left softkey ( ) to open the options.

205269 2007-12

9.2.1 Storage > Options

In this menu, you have the option of sending, modifying, deleting or manually entering data.

Options

		
Menu entry		Send Edit Delete Send all Delete all Enter data

Description of menu entries

Send

This command gives you the option of sending the data record currently selected to the computer via the preset interface.

Sending data records

To send a data record to the computer via a preset interface, you must first select an interface in the **Settings > Interface** menu and connect the Handheld to the computer using an interface cable.

1. Press the left navigation key ( ) or the right navigation key ( ) to open the relevant data record.
2. Press the left softkey ( ) to open the options.
3. Select **Send**.
   If the record is sent successfully, "#[data record number] sent" appears in the status bar on the display.
4. Press the left navigation key ( ) or the right navigation key ( ) to open another data record.
5. Press the right softkey ( ) to exit the Memory menu.

Edit

This command gives you the option of modifying the data record currently selected.

205269 2007-12

Note!

Observe the input format

Data bytes in hexadecimal data format must always contain 2 characters and data bytes in decimal data format must contain 3 characters.

Editing data records

Modify data records as follows:

1. Press the left navigation key () or the right navigation key () to open the relevant data record.
2. Press the left softkey () to open the options.
3. Select **Edit**.
4. Press the CLEAR input key () to delete individual characters. You can only delete the last character entered, not individual characters within the character string.
5. Enter the relevant data in the correct syntax for the data format selected using the input keys.
6. Press the left softkey () to confirm your selection.
7. Press the right softkey () to exit the Storage menu.

Delete

This command gives you the option of deleting the data record currently selected.

Deleting data records

Delete data records as follows:

1. Press the left navigation key () or the right navigation key () to open the relevant data record.
2. Press the left softkey () to open the options.
3. Select **Delete**.

   A message does not appear on the display to confirm that the delete process was successful. The only indication is that the total number of data records shown in the status bar on the display decreases by one.

205269 2007-12

4. Press the left navigation key () or the right navigation key () to open another data record.

5. Press the right softkey () to exit the Storage menu.

Send all

This command gives you the option of sending all data records to the computer via the preset interface.

Sending data

Send all data as follows:

1. Press the left softkey () to open the options.
2. Select **Send all**.
   The data records are displayed one by one in extremely rapid succession and sent.
3. Press the right softkey () to exit the Storage menu.

Delete all

This command gives you the option of deleting all data records.

Deleting data

Delete all data records as follows:

1. Press the left softkey () to open the options.
2. Select **Delete all**.
   "Delete all data?" appears on the display.
3. Press the left softkey () to confirm the prompt.
   "No data saved" appears on the display.
4. Press the right softkey () to exit the Storage menu.

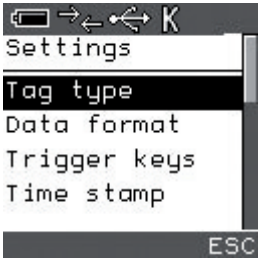
Enter data

This command gives you the option of entering data manually in addition to the existing data.

Detailed instructions see chapter 7.3

205269 2007-12

9.3 **Settings** menu



You can adjust the following default settings in the **Settings** menu:

- Change tag type.
- Change data format.
- Activate/Deactivate password mode
- Assign functions to the trigger keys on the Handheld and the handle.
- Switch time stamp on and off.
- Select interface.
- Define send/save options.
- Select menu language.
- Adjust date/time.
- Adjust display settings.
- Set vibration alarm.
- Adjust buzzer volume.
- Restore factory settings.

Tip

Press the left softkey () to adopt the settings permanently before exiting the menu.

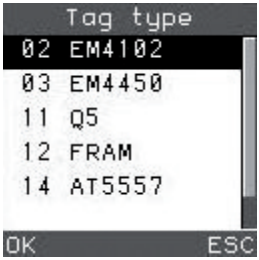
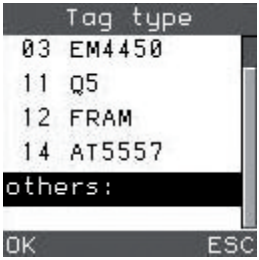
Press the right softkey () to discard the settings before exiting a submenu.

205269 2007-12

9.3.1 Settings > Tag type

In the **Tag type** submenu, you have the option of selecting the data carrier type.

Tag type menu

		
Submenu		--
Menu entry		03 EM4450 11 Q5 12 FRAM 14 AT5557 others

Description of menu entries

Tag types 125 kH

Tag type	Chip type	Details	Designation P+F	Access	Bit	Fix code length
02	EM4102	Unique, EM Microelectronic	IPC02	Fix code	40	5
03	EM4450	Titan, EM Microelectronic	IPC03	R/W fix code	928 32	4
11	Q5	Sokymat	IPC11	R/W	40	-
12	FRAM	P+F	IPC12	R/W fix code	64k 32	4
14	AT5557	Atmel	IPC14	R/W	40	-
Other:						

Selecting the entry **Other** gives you the option of entering a data carrier type manually. All data carrier types from 00 to 99 can be entered.

205269 2007-12

Setting the tag type

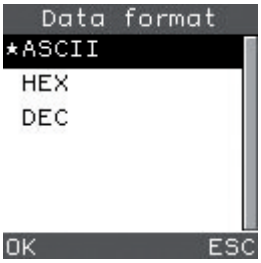
1. Select **Settings > Tag type**.
2. Press the Enter navigation key () to activate the desired tag type.
3. Press the left softkey () to confirm your selection.
   An asterisk appears in front of the activated menu entry.
4. Press the right softkey () to exit the menu.

205269 2007-12

9.3.2 Settings > Data format

In the **Data format** submenu, you have the option of choosing to read and write the data in ASCII, hexadecimal or decimal format.

Data format submenu

	
Submenu	--
Menu entry	ASCII HEX DEC

Description of menu entries

Data formats

Data format	Notes
ASCII	In ASCII format, numbers 0 to 9, letters A to Z and special characters stored in the Handheld are available.
HEX	In hexadecimal data format, numbers 0 to 9 and letters A to F are available.
DEC	In decimal data format, numbers 0 to 255 are available.

Alternatively, you can open this menu by pressing the two trigger keys simultaneously.

Note!

Changing the data format

Modifications to the data format in this menu change the default setting **Settings > Data format** of the Handheld. The format of the read and written data adopts the data format preset in this menu.

205269 2007-12

9.3.3 Settings > Password

For more information on **Password mode** see chapter 1.

Password submenu

	
Submenu	--
Menu entry	PSW mode Password [ASCII]

Description of menu entries

PSW mode

In the **PSW mode** menu entry, you have the option of activating or deactivating password mode.

In password mode, the password is transferred to the data carrier every time a command is issued. If a data carrier is activated with an incorrect password, accessing data areas without write protection is no longer possible.

Activating/Deactivating password mode

1. Select **Password**.
2. Press the Enter navigation key ( ) to activate or deactivate password mode.

Password

In the data input field of the **Password** menu entry, you have the option of assigning a password.

The default password for the read heads and the data carriers is 00000000 (hexadecimal format) on delivery. The password in the read/write head is temporary and the password in the data carrier is permanent, which means that the password in the read/write head is deleted if the power supply is interrupted.

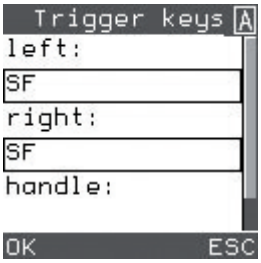
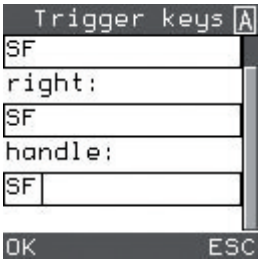
The value range for password entry is 00000000_h...$FFFFFFFF_h$.

205269 2007-12

9.3.4 Settings > Trigger keys

In the **Trigger keys** submenu, you have the option of assigning commands to the trigger keys on the Handheld and the handle. Overview of available commands see chapter 10.

Trigger key menu

		
Submenu		--
Menu entry		left right handle

Description of menu entries

Keys	Description
Left	The command entered in the data input field is assigned to the left trigger key ().
Right	The command entered in the data input field is assigned to the right trigger key().
Handle	The command entered in the data input field is assigned to the trigger key on the handle

Important: the trigger key function is blocked when you open the **Settings** menu.

205269 2007-12

9.3.5 Settings > Time stamp

In the **Time stamp** submenu, you have the option of activating or deactivating the time stamp. The current date and time is automatically attached to the read data records in the format YYYY-MM-DD HH:MM:SS either in the memory or in the output program when the records are transferred automatically to the computer.

Note!

Correct time stamp

To generate the correct time stamp, set the current date and time under **Settings > Date/Time**.

Time stamp menu

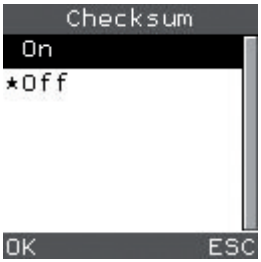
	
Submenu	--
Menu entry	On Off

205269 2007-12

9.3.6 Settings > Checksum

In the **Checksum** submenu, you have the option of allocating a checksum to the data you wish to transfer. This checksum is inserted in front of the suffix and is used to check if the data was transferred without error.

Checksum menu

	
Submenu	--
Menu entry	On Off

205269 2007-12

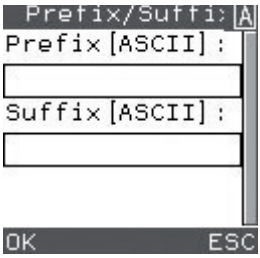
9.3.7 Settings > Prefix/Suffix

In the **Prefix/Suffix** submenu, you have the option of adding a prefix or a suffix (after the time stamp) to the data you wish to transfer. Single characters or character strings (in ASCII format) can be added.

Note!

ASCII table see chapter 11.

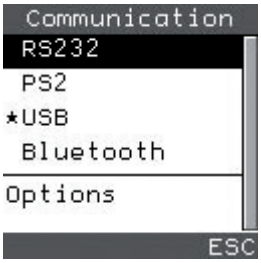
Prefix/Suffix menu

	
Submenu	--
Menu entry	Prefix Suffix

9.3.8 Settings > Communication

In the **Communication** submenu, you have the option of configuring interfaces and their parameters.

Interface menu

	
Submenu	**RS232** **PS2** **USB** **Bluetooth** **Options**
Menu entry	--

Description of menu entries

You can configure these parameters for the individual interfaces in the various operating modes:

Interface and operating modes	Description
RS232	
Baud	Specify the required baud rate here. Select one of the following values: • 1200 • 2400 • 4800 • 9600 • 19200 • 38400 • 57600 • 115200
Data bits	Specify the required data bits here. Select one of the following values: • 7 • 8

205269 2007-12

Interface and operating modes	Description
Stop bits	Specify the required stop bits here. Select one of the following values: • 1 • 2
Parity	Specify the required parity here. Select one of the following settings: • None • Odd • Even
ACK	Select one of the following settings: • 1way • 2way
PS2	
USB	
Keyboard	In **Keyboard** mode, data is transferred from the Handheld to the computer and is then evaluated. During the transfer process, the Handheld behaves as if a USB keyboard was used to input the data.
Downloader	**Downloader** mode is used to transfer unformatted, unpacked data via the USB interface, more specifically to write new software onto the Handheld, for example.
Native 2way	**Native 2way** mode is used for bidirectional communication between the Handheld and application via the USB interface, more specifically when using the **Time stamp** and **Error check** functions, for example.
VCOM 1way	The **VCOM 1way** driver activates a virtual COM port. Data entered using the USB keyboard is ported to a serial application via the virtual COM port.
Bluetooth	
1way Max range	One-way communication from the Handheld to the computer. This operating mode offers a greater maximum range but is not as reliable. Only select this operating mode if you intend to use the Handheld within the maximum range or connect the Handheld to a device with no operating system (e.g. printer). One-way communication may lead to data loss even though the connection is stable.
1way Security	One-way communication from the Handheld to the evaluation unit. This operating mode offers a lower maximum range but is more reliable. Only select this operating mode if you intend to use the Handheld within the maximum range or connect the Handheld to a device with no operating system (e.g. printer). One-way communication may lead to data loss even though the connection is stable.

205269 2007-12

Interface and operating modes	Description
2way	Two-way communication between the Handheld and the evaluation unit. Data is transferred in packets as per protocol and achieves a reliable transfer because the Handheld always waits for a response from the evaluation unit before deleting data from the internal memory. The data is transferred again automatically if necessary. The two devices also continuously check whether the connection to the respective end device is still active (end-to-end handshake). Pepperl+Fuchs offers "XML router - BE" software for XML Bluetooth modems. This software is suitable for Windows PCs and Windows Pocket PCs. "XML Router - BE" also offers Bluetooth-to-keyboard-wedge communication for applications that require a keyboard port. Select **2way** operating mode when using the XML Bluetooth modem.
BD_MAC	BD_ADDR for the Bluetooth receiver

Options submenu

	
Submenu	--
Menu entry	auto connect auto discon. Timeout

Description of the submenu

Options

In the **Options** submenu, you have the option of configuring the interface to connect and disconnect automatically. You can also adjust the timeout setting (in ms) for the V commands.

Description of menu entries

auto connect.

If the **Auto connect** menu entry is activated, the Handheld is connected automatically to the computer via the interface when the interface cable is attached.

auto disconnect

If the **auto disconnect** menu entry is activated, the Handheld is disconnected from the computer automatically after the data is transferred.

205269 2007-12

Activate this menu item if you wish to send data from several devices to the same Bluetooth modem.

Timeout

In the data input field of the **Timeout** menu entry, you have the option of entering the timeout value [in ms] for the V commands. V commands are used to send commands from the PC directly to the Handheld so that each terminal program and interface can be used. A timeout detects the end of the command. The preset timeout value of 500ms can be modified in the communication menu on the Handheld, i.e. if after the last character no other characters are received within the timeout, the command is evaluated and sent to the Handheld.

205269 2007-12

9.3.9 Settings > Send/Log

In the **Send/Log** submenu, you have the option of deciding how the read data is subsequently processed.

Send/Log menu

	
Submenu	--
Menu entry	Always send Always log Auto erase Auto upload

Description of menu entries

Function	Description
Always send	Read-in or input data is transferred immediately from the Handheld to the connected computer. The data is transferred regardless of **Always save** setting.
Always log	Read-in or input data is saved in the Handheld memory, regardless of whether it was sent to a computer or not.
Auto delete	Data from the Handheld memory is deleted once it is sent to a computer. If read-in or entered data is read and then sent directly from the Handheld to the computer and the option **Auto delete** is activated, the data is transferred and deleted immediately.
Auto upload	Data from the Handheld memory is sent to the computer immediately when a connection is established again. This option is only active when the Handheld is in batch mode.

205269 2007-12

9.3.10 Settings > Language

In the **Language** submenu, you have the option of selecting the menu language.

Language menu

	
Submenu	--
Menu entry	English German

205269 2007-12

9.3.11 Settings > Date/Time

In the **Date/Time** submenu, you have the option of setting the date and time for the time stamp.

Date/Time menu

		
Submenu		
Menu entry		year month day hours minutes

Entering the date and time

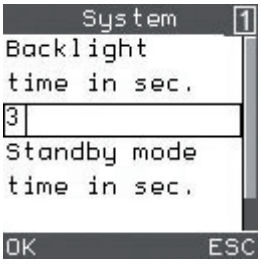
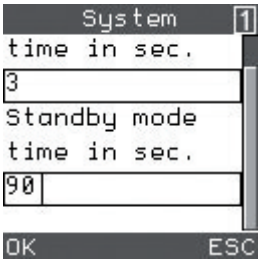
1. Press the up navigation key () and the down navigation key () to navigate to the individual data input fields.
2. Press the CLEAR input key () to delete numbers already entered.
3. Enter the numbers using the input keys.
4. Press the left softkey () to confirm your entries.

205269 2007-12

9.3.12 Settings > System

In the **System** submenu, you have the option of setting the display lighting time as well as the time limit before the device switches to standby mode.

System menu

<table>
<tr>
<td> 
</td>
<td> 
</td>
<td></td>
</tr>
<tr>
<td colspan="2">Submenu</td>
<td>--</td>
</tr>
<tr>
<td colspan="2">Menu entry</td>
<td>Backlight time in sec.
Standby mode time in sec.</td>
</tr>
</table>

Adjusting the illumination time and standby time

1. Press the up navigation key ( ) and the down navigation key ( ) to navigate to the individual data input fields.
2. Press the CLEAR input key ( ) to delete numbers already entered.
3. Enter the numbers using the input keys.
4. Press the left softkey ( ) to confirm your entries.

205269 2007-12

9.3.13 Settings > Vibrator

In the **Vibrator** submenu, you have the option of activating or deactivating the vibration alarm for the device.

Vibrator menu

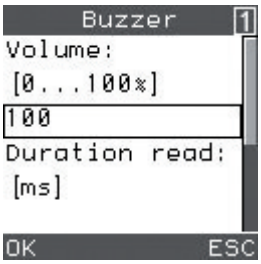
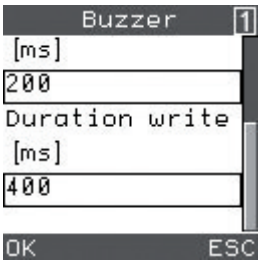
	
Submenu	--
Menu entry	On Off

205269 2007-12

9.3.14 Settings > Buzzer

In the **Buzzer** submenu, you have the option of adjusting the volume of the buzzer (in percent) and the signal duration (in ms) for successful reading and successful writing.

Buzzer menu

<table>
<tr>
<td> 
</td>
<td> 
</td>
<td></td>
</tr>
<tr><td colspan="2">Submenu</td><td>--</td></tr>
<tr><td colspan="2">Menu entry</td><td>Volume [0...100%]
Duration read [ms]
Duration write [ms]</td></tr>
</table>

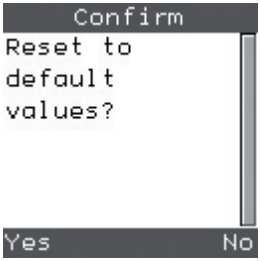
Adjusting the buzzer volume and signal times

1. Press the up navigation key ( ) and the down navigation key ( ) to navigate to the individual data input fields.
2. Press the CLEAR input key ( ) to delete numbers already entered.
3. Enter the numbers using the input keys.
4. Press the left softkey ( ) to confirm your entries.

205269 2007-12

9.3.15 Settings > Default settings

The "Default settings" command gives you the option of restoring all settings to the factory settings.



Default settings

Function	Default value
Assignment of trigger keys right/left keys and handle	SF
Data format ASCII/HEX/DEC	ASCII
Password mode	Off
Password	00000000
Time stamp on/off	Off
Interface	USB -> VCOM 1way
Interface -> auto connect	On
Interface -> auto disconnect	Off
Interface -> timeout for V commands	500 ms
Interface -> MAC address	""
Send / Save --> always send	On
Send / Save --> always log	Off
Send / Save --> auto delete	On
Send / Save --> auto upload	On
Language	English
Background lighting on/off and time	On, 3 seconds
Standby mode	90 seconds
Vibrator	On
Buzzer -> volume	100 %
Buzzer -> read time	200 ms
Buzzer -> write time	400 ms

205269 2007-12

Restoring settings to their default values

1. Select **Settings > Default sett.**
   "Reset to default value?" appears on the display
2. Press the left softkey () to confirm the prompt.

205269 2007-12

9.4 **Applications** menu

All JavaScript applications saved on the device are displayed in the **Applications** menu. The two programs IxTmode.js and PF_Ident.js are required to operate the device as a Handheld.

After selecting a JavaScript application, you have the option of launching the script (**Run**), displaying information on the version status of the script (**Version**) or deleting the script (**Delete**). You also have the option of defining the script as a default application (**Set as default**). This script is launched automatically when the device is powered up.

Caution!

Modified or separate JavaScript programs

Data reading and writing processes may be influenced or disrupted.

- Do not modify the JavaScript programs provided by the manufacturer.
- Check whether the identification function of self-configured JavaScript programs is affected.

Note!

Creating a separate user interface

If you intend to create your own user interface for the device, please consult Pepperl + Fuchs for further information.

205269 2007-12

9.5 **About** menu

The **About** menu includes information on the:

- Manufacturer
- Type designation
- Part number (**PrtNo**)
- Status of the firmware for the read/write head (**FW**)
- Status of the software PF_Ident.js (**SW**)
- Hardware version (**HW**)
- Device serial number (**Reader ID**)
- MAC address (**BD Addr**)
- Software number of the Handheld firmware (**App**)
- Software number of the Handheld boot software (**Boot**)
- (**Radio**)
- (**OEM ID**)

205269 2007-12

10 Command reference

Command	Description
SR	Read data
SW	Write data
SF	Read fix code
SX	Write fix code
SG	Read configuration area (register)
SC	Write to configuration area (register)
S#	Overwrite tag
GS	Read tag type
CT	Set tag type
PM	Activate and deactivate password mode
PS	Set password
PC	Change password

Single Read Words (SR)

Command:	**SR**<WordAddr><WordNum>
Response:	<Status><Data>

Only one attempt is made to read <WordNum> data blocks from block address <WordAddr>.

Single Write Words (SW)

Command:	**SW**<WordAddr><WordNum><Data>
Response:	<Status>

Only one attempt is made to write <WordNum> data blocks from block address <WordAddr>.

Single Read Fixcode (SF)

Command:	**SF**
Response:	<Status><Data>

Only one attempt is made to read fixcode. The specified length of the fixcode depends on the data carrier type.

205269 2007-12

Single write fix code (SX)

Command:	**SX** <FixType> <FixLen> <Data>
Response:	<Status>

Only possible with data carrier types IPC11 and IPC14.

Only one attempt is made to write a fix code. The specified length of the fix code is always 5 bytes

Single get configuration (SG)

Command:	**SG**<ConfAddr>
Response:	<Status><Data>

Only possible with data carrier types IPC03 and IPC12.

Only one attempt is made to read a word in the configuration area ("protection word" or "control word") from address <ConfAddr>.

Single write configuration (SC)

Command:	**SC**<ConfAddr><Data>
Response:	<Status>

Only one attempt is made to write a word to the configuration area ("protection word" or "control word") from address <ConfAddr>.

Password mode must be activated in the read head to write to the configuration area.

Fill Data Carrier (S#)

Command:	**S#**<WordAddr><WordNum><FillSign>
Response:	<Status>

The data carrier is filled with <WordNum> data blocks described by fill signs <FillSign> from the specified block address <WordAddr>.

Get State (GS)

Command:	**GS**
Response:	TT: <TagType>, TO:<Timeout>, BD:<Baud>

This command is used to read out permanently stored read/write head settings.

205269 2007-12

Change Tag (CT)

Command:	**CT**<TagType>
Response:	<Status>

This command tells the read/write head which data carrier type it is communicating with. This setting is stored permanently.

Password mode (PM)

Command:	**PM**<Mode>
Response:	<Status>

Activates (mode = "1") and deactivates (mode = "0") password mode for the read station. In password mode, the password is transferred to the data carrier prior to each read/write access. If a data carrier is activated with an incorrect password, accessing data areas without write protection is no longer possible.

Password set (PS)

Command:	**PS**<Password>
Response:	<Status>

Sets the password that the read station transferred to the data carrier in password mode.

Password change (PC)

Command:	**PC**<Password old> <Password new>
Response:	<Status>

Changes the password of a data carrier. The old password must be entered followed by the new password. If the password is successfully accepted, the password in the read station is also changed. The "Password set" command is no longer required.

205269 2007-12

Legends for variables

<Baud>	4-6 characters in the preset data format Baud rate [in bit/s]
<ConfAddr>	1 character [ASCII], word start address in the configuration area of the data carrier. The following applies for IPC03: 01= Protection word 02= Control word
<Data>	<WordNum> times 4 bytes in the preset data format When communicating a data block, the bytes are transferred chronologically starting with the highest value and ending with the lowest value.
<FillSign>	1 character [ASCII]
<FixLen>	Character [ASCII] '05' Length of the fix code in bytes
<FixType>	2 characters [ASCII]
<Status>	1 character [ASCII] '': command was executed without error. 'No tag': fault indication
<TagType>	2 characters in the preset data format Value indicates the number of the data carrier type.
<Timeout>	3 characters in the preset data format Interface timeout [in ms]. A fault indication is issued when this time elapses. '000' deactivates the timeout
<WordAddr>	4 characters [ASCII] Block start address in the data carrier for the relevant command. Range from '0000' to 'FFFF' depending on the data carrier type.
<WordNum>	2 characters [ASCII] Number of data blocks to read or write. Range from '00' to 'FF' depending on the data carrier type.

205269 2007-12

11 ASCII table

hex	dec	ASCII	hex	dec	ASCII	hex	dec	ASCII	hex	dec	ASCII
00	0	NUL	**20**	**32**	**Space**	40	64	@	**60**	**96**	'
01	1	SOH	**21**	**33**	**!**	41	65	A	**61**	**97**	**a**
02	2	STX	**22**	**34**	**"**	42	66	B	**62**	**98**	**b**
03	3	ETX	**23**	**35**	**#**	43	67	C	**63**	**99**	**c**
04	4	EOT	**24**	**36**	**$**	44	68	D	**64**	**100**	**d**
05	5	ENQ	**25**	**37**	**%**	45	69	E	**65**	**101**	**e**
06	6	ACK	**26**	**38**	**&**	46	70	F	**66**	**102**	**f**
07	7	BEL	**27**	**39**	**'**	47	71	G	**67**	**103**	**g**
08	8	BS	**28**	**40**	**(**	48	72	H	**68**	**104**	**h**
09	9	HT	**29**	**41**	**)**	49	73	I	**69**	**105**	**I**
0A	10	LF	**2A**	**42**	*****	4A	74	J	**6A**	**106**	**j**
0B	11	VT	**2B**	**43**	**+**	4B	75	K	**6B**	**107**	**k**
0C	12	FF	**2C**	**44**	**,**	4C	76	L	**6C**	**108**	**I**
0D	13	CR	**2D**	**45**	**-**	4D	77	M	**6D**	**109**	**m**
0E	14	SO	**2E**	**46**	**.**	4E	78	N	**6E**	**110**	**n**
0F	15	SI	**2F**	**47**	**/**	4F	79	O	**6F**	**111**	**o**
10	16	DLE	**30**	**48**	**0**	50	80	P	**70**	**112**	**p**
11	17	DC1	**31**	**49**	**1**	51	81	Q	**71**	**113**	**q**
12	18	DC2	**32**	**50**	**2**	52	82	R	**72**	**114**	**r**
13	19	DC3	**33**	**51**	**3**	53	83	S	**73**	**115**	**s**
14	20	DC4	**34**	**52**	**4**	54	84	T	**74**	**116**	**t**
15	21	NAK	**35**	**53**	**5**	55	85	U	**75**	**117**	**u**
16	22	SYN	**36**	**54**	**6**	56	86	V	**76**	**118**	**v**
17	23	ETB	**37**	**55**	**7**	57	87	W	**77**	**119**	**w**
18	24	CAN	**38**	**56**	**8**	58	88	X	**78**	**120**	**x**
19	25	EM	**39**	**57**	**9**	59	89	Y	**79**	**121**	**y**
1A	26	SUB	**3A**	**58**	**:**	5A	90	Z	**7A**	**122**	**z**
1B	27	ESC	**3B**	**59**	**;**	5B	91	[	**7B**	**123**	**{**
1C	28	FS	**3C**	**60**	**<**	5C	92	\	**7C**	**124**	**|**
1D	29	GS	**3D**	**61**	**=**	5D	93	]	**7D**	**125**	**}**
1E	30	RS	**3E**	**62**	**>**	5E	94	^	**7E**	**126**	**~**
1F	31	US	**3F**	**63**	**?**	5F	95	_	**7F**	**127**	**DEL**

205269 2007-12

FACTORY AUTOMATION – SENSING YOUR NEEDS

Worldwide Headquarters
Pepperl+Fuchs GmbH
68307 Mannheim · Germany
Tel. +49 621 776-0
E-mail: info@de.pepperl-fuchs.com

USA Headquarters
Pepperl+Fuchs Inc.
Twinsburg, Ohio 44087 · USA
Tel. +1 330 4253555
E-mail: sales@us.pepperl-fuchs.com

Asia Pacific Headquarters
Pepperl+Fuchs Pte Ltd.
Company Registration No. 199003130E
Singapore 139942
Tel. +65 67799091
E-mail: sales@sg.pepperl-fuchs.com

www.pepperl-fuchs.com

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