

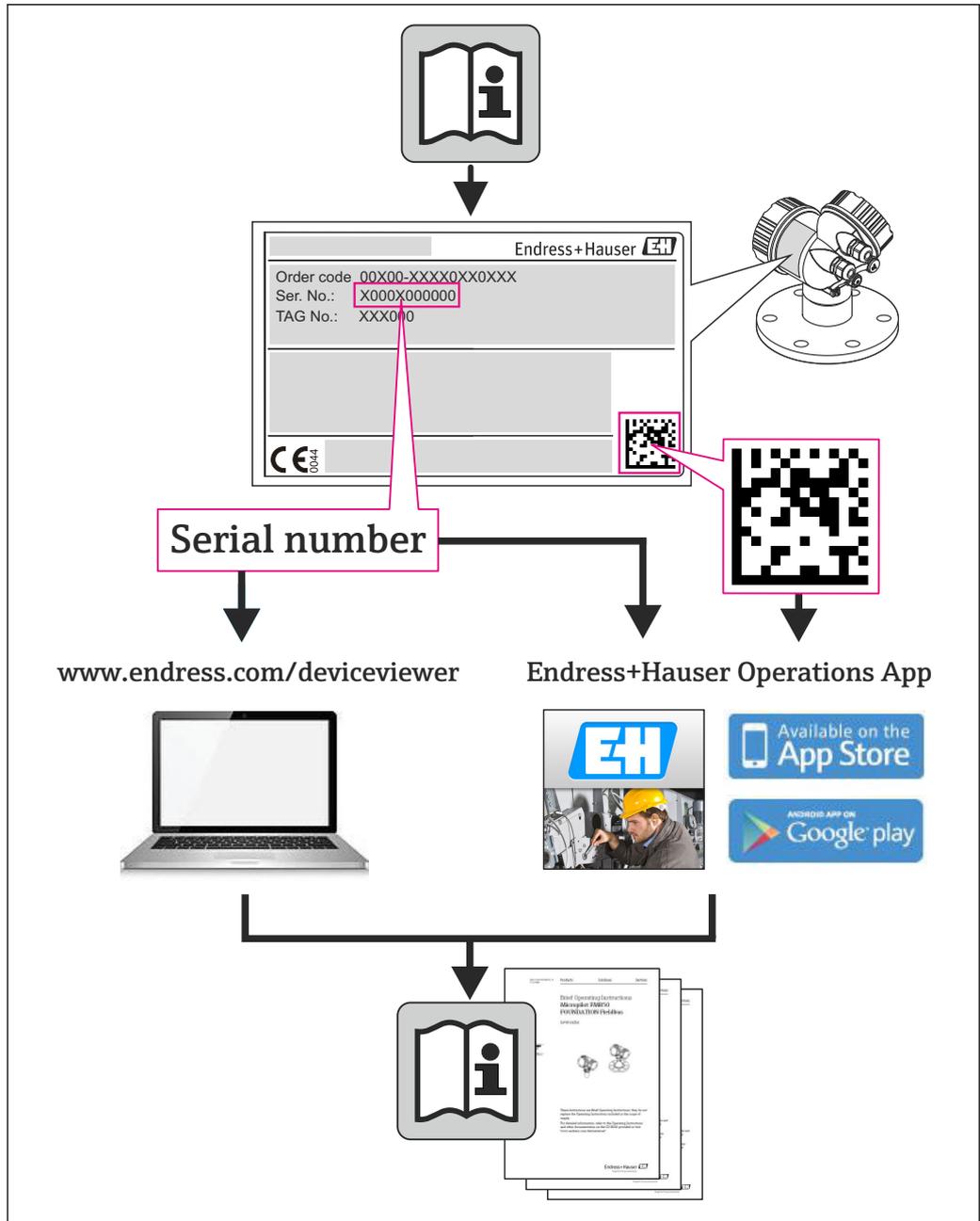
Operating Instructions

Field Xpert SFX350, SFX370

Hardware

HART, FOUNDATION Fieldbus





Revision history

| Product version | Operating Instructions | Changes | Remarks |
|-----------------|------------------------|-----------------------|--|
| 2.00.xx | BA01202S/04/EN/01.13 | Original | |
| 2.00.xx | BA01202S/04/EN/02.13 | Safety, Commissioning | Notes on using the battery in Ex-areas |
| 2.01.xx | BA01202S/04/EN/03.14 | No content changes | New product version no. |
| 3.00.xx | BA01202S/04/EN/04.15 | No content changes | New product version no. |
| 3.01.xx | BA01202S/04/EN/05.16 | No content changes | New product version no. |

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1 Document information

1.1 Document function

1.2 Symbols used

1.2.1 Safety symbols

| Symbol | Meaning |
|---|--|
|  | DANGER! This symbol alerts you to a dangerous situation. Failure to avoid this situation will result in serious or fatal injury. |
|  | WARNING! This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in serious or fatal injury. |
|  | CAUTION! This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or medium injury. |
|  | NOTE! This symbol contains information on procedures and other facts which do not result in personal injury. |

1.2.2 Explosion protection

| Symbol | Meaning |
|---|---|
|  | Explosion-proof equipment which has undergone type examination If this symbol is on the nameplate of the device, the device can be installed in accordance with the approval in a hazardous or non-hazardous area. |
|  | Hazardous areas This symbol is used in the drawings in these Operating Instructions to indicate a hazardous area. Devices located in hazardous areas or the wiring for such devices must have the relevant explosion protection. |
|  | Safe area (non-hazardous area) This symbol is used in the drawings in these Operating Instructions to indicate a non-hazardous area. Devices located in non-hazardous areas must also be certified if connecting cables enter the hazardous area. |

1.2.3 Electrical symbols

| Symbol | Meaning |
|---|--|
|  | Direct current A terminal at which DC is present or through which DC flows. |
|  | Alternating current A terminal at which (sine-wave) AC is present or through which AC flows. |
|  | Direct current and alternating current <ul style="list-style-type: none"> ▪ A terminal to which alternating voltage or DC voltage is applied. ▪ A terminal through which alternating current or direct current flows. |
|  | Ground connection A grounded terminal which, as far as the operator is concerned, is grounded via a grounding system. |

| Symbol | Meaning |
|---|--|
|  | Protective ground connection A terminal which must be connected to ground prior to establishing any other connections. |
|  | Equipotential connection A connection that has to be connected to the plant grounding system: This may be a potential equalization line or a star grounding system depending on national or company codes of practice. |

1.2.4 Symbols for certain types of information

| Symbol | Meaning |
|---|--|
|  | Permitted Indicates procedures, processes or actions that are permitted. |
|  | Preferred Indicates procedures, processes or actions that are preferred. |
|  | Forbidden Indicates procedures, processes or actions that are forbidden. |
|  | Tip Indicates additional information. |
|  | Reference to documentation Refers to the corresponding device documentation. |
|  | Reference to page Refers to the corresponding page number. |
|  | Reference to graphic Refers to the corresponding graphic number and page number. |
|  | Series of steps |
|  | Result of a sequence of actions |
|  | Help in the event of a problem |

1.3 Software icons

| Icons | Description |
|---|--------------------------------------|
|  | New notification |
|  | New SMS message |
|  | New e-mail message |
|  | New instant message |
|  | Missed call |
|  | Hands-free speaker-phone switched on |
|  | Roaming |
|  | Alarm switched on |
|  | Microphone switched on |
|  | Internet call |

| Icons | Description |
|---|--|
|  | Bluetooth headset recognized |
|  | ActiveSync connection established |
|  | Problem with ActiveSync synchronization |
|  | ActiveSync synchronization with USB |
|  | CDMA connection active |
|  | CDMA connection available, but no data transfer |
|  | UMTS network available |
|  | Connected to a UTMS network |
|  | UTMS connection active |
|  | 3G+ network available |
|  | EDGE network available |
|  | Connected to an EDGE network |
|  | EDGE connection active |
|  | GPRS network available |
|  | Connected to a GPRS network |
|  | GPRS connection active |
|  | HSDPA network available |
|  | Connected to a HSDPA network |
|  | HSDPA connection active |
|  | Bluetooth active |
|  | WiFi active but not connected, no network found |
|  | WiFi not connected to network, other networks were found |
|  | Other wireless network was found |
|  | Connected to a wireless network |
|  | Synchronization via a WiFi connection |
|  | Connected to a wireless network, other networks were found |
|  | Information available about a new wireless network |
|  | Network connection active |

| Icons | Description |
|---|--|
|  | Network connection inactive |
|  | Phone has maximum signal strength |
|  | Phone has no signal |
|  | Phone switched off |
|  | No telephone service |
|  | Searching for telephone service |
|  | Transferring data |
|  | Voice call active |
|  | Call waiting |
|  | No SIM card inserted |
|  | Sound switched off, vibrate mode is active |
|  | Sound switched on |
|  | Sound switched off |
|  | Battery fully charged |
|  | High battery power |
|  | Medium battery power |
|  | Low battery power |
|  | Very low battery power |
|  | Battery is being charged |
|  | No battery in the device |
|  | Call forwarding active |
|  | Voice mail switched off |
|  | GPS localization switched off |
|  | GPS localization switched on |

1.4 Text emphasis

| Emphasis | Meaning | Example |
|----------|---|--|
| Bold | Keys, buttons, program icons, tabs, menus, commands | Start → Programs → Endress+Hauser select Print option in the File menu. |

1.5 Acronyms used

| Acronyms | Meaning |
|----------|---|
| BA | Operating Instructions |
| CDMA | Code Division Multiple Access |
| CRC | Cyclic Redundancy Code |
| EDGE | Enhanced Data for GSM Evolution |
| EU | European Union |
| FF | FOUNDATION Fieldbus |
| GPRS | General Packet Radio Service |
| GPS | Global Positioning System |
| HSDPA | High-Speed Downlink Packet Access |
| IrDA | Infrared Data Association |
| ISM | Industrial Scientific and Medical (radio bands) |
| LAS | Link Active Scheduler |
| LED | Light Emitting Diode |
| PDA | Personal Digital Assistant |
| RAM | Random-Access Memory |
| RFID | Radio Frequency Identification |
| SD Card | Secure Digital |
| SIM | Subscriber Identity Module |
| SMS | Short Message Service |
| AF | Software |
| TSP | Technical Special Product |
| UMTS | Universal Mobile Telecommunications System |
| USB | Universal Serial Bus |
| WiFi | Wireless Fidelity |

1.6 Registered trademarks

PROFIBUS® is a registered trademark of the PROFIBUS User Organization, Karlsruhe/Germany.

FOUNDATION™ fieldbus is the trademark of the FieldComm Group, Austin, TX 78759, USA.

HART®, WirelessHART® is the registered trademark of the FieldComm Group, Austin, TX 78759, USA.

ActiveSync®, Microsoft®, Windows®, Windows Embedded Handheld® 6.5, Windows 2000®, Windows XP®, Windows Vista®, Windows 7®, Windows 8®, Windows 10®, Windows Explorer®, Internet Explorer® and the Microsoft logo are registered trademarks of the Microsoft Corporation.

MACTek® registered trademark of the MACTek Corporation, Ohio, USA

VIATOR® registered trademark of the MACTek Corporation, Ohio, USA

Bluetooth® registered trademark of Bluetooth SIG, Inc, Washington, USA

Acrobat Reader® is a registered trade mark of Adobe Systems Incorporated.

FFblue Interface Softing Industrial Automation GmbH, Germany.

All other brand and product names are trademarks or registered trademarks of the companies and organizations in question.

2 Basic safety instructions

2.1 Requirements for personnel

To ensure that the product operates correctly and safely, Field Xpert must be transported, stored, connected, operated and maintained in accordance with the instructions in this manual. Personnel must be authorized and have the necessary qualifications.

2.2 Designated use

Field Xpert is an industrial PDA with integrated 3.5" touchscreen based on Microsoft's Windows Embedded Handheld. It offers wireless communication via Bluetooth or WiFi interfaces. The Bluetooth interface can be used in combination with a HART or FOUNDATION Fieldbus modem to connect directly to HART or FOUNDATION Fieldbus H1 devices. The WiFi interface can be used to connect with HART or FOUNDATION Fieldbus devices via a gateway, e.g. Endress+Hauser Fieldgate FXA520 for HART devices or SFC162 gateway for FOUNDATION Fieldbus devices. Field Xpert also works as a stand-alone device for asset management applications. It may be used only for the purposes described in these Operating Instructions and only in conjunction with third-party devices and components recommended or approved by Endress+Hauser.

2.3 Workplace safety

2.3.1 Operating environment

Field Xpert meets the requirements of the EU guidelines for the various operating environments in which it is designed to operate. The permitted ambient conditions for Field Xpert and permitted components e.g. modems must be observed. These conditions are described in the technical data, see also **Field Xpert CD-ROM (Documentation folder)**.

2.3.2 Hazardous areas

- The non-Ex version of Field Xpert may not be operated in explosion hazardous areas
- The ATEX version of Field Xpert may be operated in hazardous areas, Zone 1/21
- Changing and/or charging the battery is not permitted in Ex-areas
- The VIATOR Bluetooth modem is ATEX, FM and IS certified and may be operated in hazardous areas, Zone 1
- The Softing FFblue Bluetooth modem is ATEX and FM certified and may be operated in hazardous areas, Zone 1
- Once a modem has been used in a non-Ex installation, it should never be used in an Ex installation, as there is a danger that the protective circuits have been inadvertently overloaded and no longer function correctly

2.4 Declaration of conformity

A CE declaration of conformity has been issued for the Ex and non-Ex versions. The relevant documents can be found on the **Field Xpert CD-ROM (folder: Documentation)**.

2.5 Technical improvements

Endress+Hauser reserves the right to make technical improvements to the hardware and software at any time and without prior notification. If such improvements do not affect the

operation of the device, they are not documented. If the improvements affect operation, a new version of the Operating Instructions will be issued.

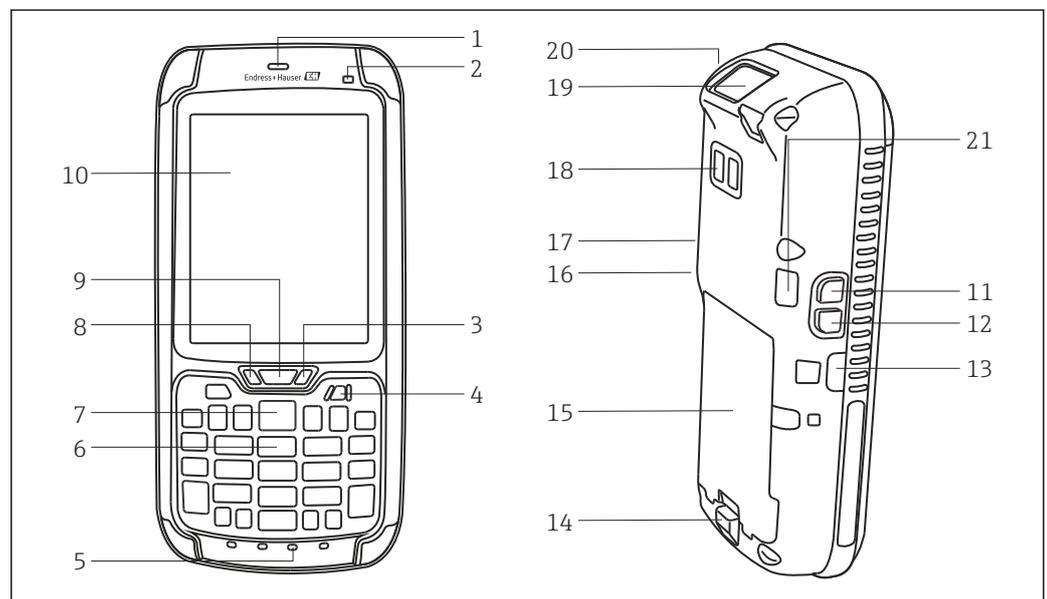
3 Product description

Field Xpert from Endress+Hauser is a high-performance industrial PDA based on Windows Embedded Handheld, with compact external dimensions, and an integrated WLAN, USB, Bluetooth and infrared connection. This allows it to be connected to HART and/or FOUNDATION Fieldbus devices via a modem or gateway. With a range of Ex approvals, Field Xpert meets the needs and requirements of the process industry for applications inside and outside hazardous areas.

 Field Xpert is available as a non-Ex (SFX350) and Ex (SFX370) version. The device may look different depending on the configuration.

3.1 Field Xpert PDA

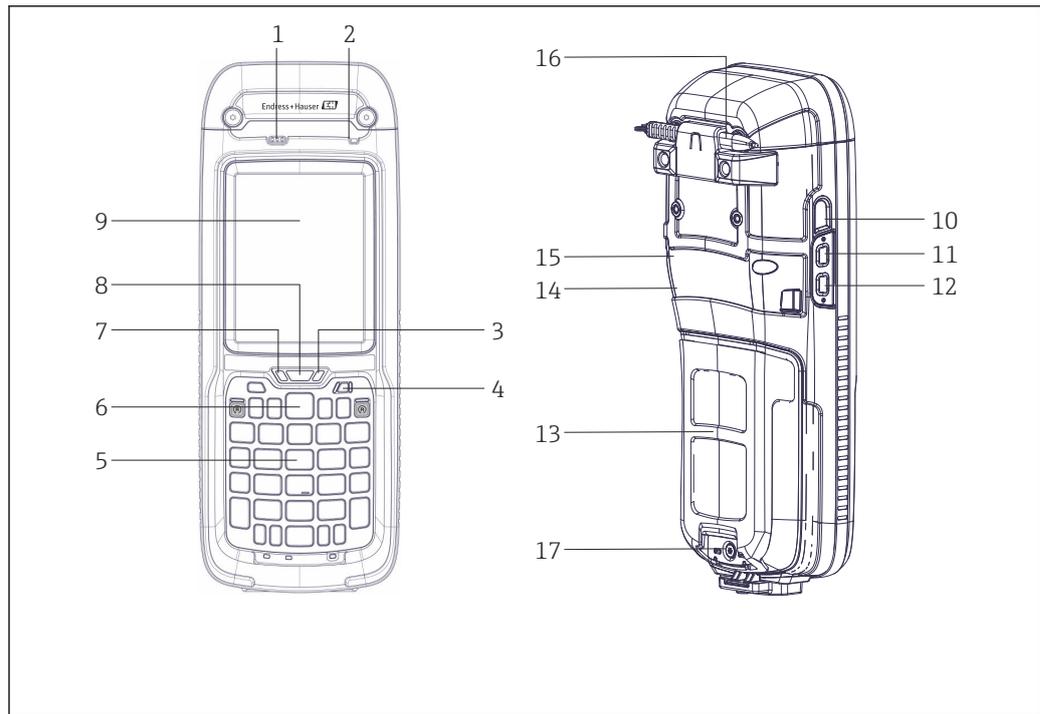
3.1.1 SFX350 overview (non-Ex)



 1 SFX350 front and back panel components

- 1 Loudspeaker
- 2 Ambient-light sensor
- 3 Battery LED (see chapter 3.2) →  16
- 4 On/off button
- 5 Microphone
- 6 Keyboard (see chapter 3.3) →  18
- 7 Scan
- 8 Notification LED (see chapter 3.2) →  16
- 9 Connection LED (see chapter 3.2) →  16
- 10 Touchscreen
- 11 Rotate screen display (portrait/landscape)
- 12 Scan
- 13 IrDa infrared connection
- 14 Battery release
- 15 Battery
- 16 Decrease volume
- 17 Increase volume
- 18 Camera/flash (optional)
- 19 Scanner/Imager
- 20 Loudspeaker Port

3.1.2 SFX370 overview (Ex)

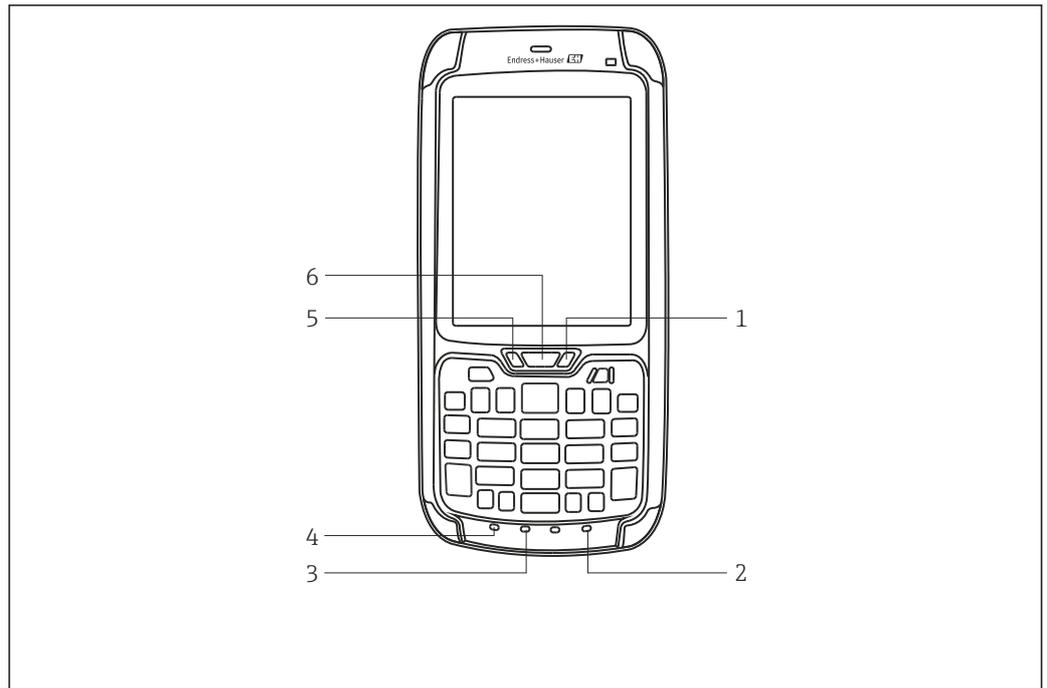


2 SFX370 front and back panel components

- 1 Loudspeaker
- 2 Ambient-light sensor
- 3 Battery LED (see chapter 3.2) → 16
- 4 On/off button
- 5 Keyboard (see chapter 3.3) → 18
- 6 Scan/Read RFID
- 7 Notification LED (see chapter 3.2) → 16
- 8 Connection LED (see chapter 3.2) → 16
- 9 Touchscreen
- 10 IrDa infrared connection
- 11 Rotate screen display (portrait/landscape)
- 12 Scan/Read RFID
- 13 Battery
- 14 Decrease volume
- 15 Increase volume
- 16 Stylus pen holder
- 17 Locking screw

3.2 LED displays

The device has six LED displays. These LEDs provide information about the status and use of the Field Xpert.



3 SFX350/370 LEDs

- 1 Battery status
- 2 Green function key
- 3 Shift key
- 4 Orange function key
- 5 Notification
- 6 Connection

LED color coding

| Number | LED | Color | Description |
|--------|---------------------|---------------------|---|
| 1 | Battery status | Steady green | The device is connected to a charger and the battery is more than 95% charged. |
| | | Flashing red | The battery power is very low. The device changes to Standby mode. Charge or change the battery. |
| | | Steady red | The device is connected to a charger. The battery is being charged. |
| | | Flashing red/yellow | A fault has occurred while charging the battery. The battery is not charged. |
| | | Steady yellow | The battery is being charged outside the permitted temperature range (5 °C to 35 °C). The battery is not charged. Charging continues when the battery temperature returns to an acceptable temperature range. |
| | | LED off | The device is not connected to any external power source. |
| 2 | Green function key | Green | The green function key is active. |
| 3 | Shift key | Red | The shift key is active. |
| 4 | Orange function key | Orange | The orange function key is active. |
| 5 | Notification | Yellow | The LED can be assigned by the user. |
| 6 | Connection | Flashing blue | The WiFi/Bluetooth connection is active. |

 Further information is available in the user guide from Intermec (SFX350) and Ecom (SFX370) on the Field Xpert CD-ROM provided.

3.3 Keyboard

Field Xpert has a numerical keyboard with a backlight. An ambient-lighting sensor determines the ambient brightness and controls the backlight. The backlight is also enabled in poor light conditions as standard. To save power, the background lighting can be deactivated, see **chapter 7.5.1** →  58



 4 SFX350 keyboard



 5 SFX370 keyboard

| Number | Key | Description |
|--------|---------------------|--|
| 1 | On/off | Switch device on/off |
| 2 | Green function key | Enter letters |
| 3 | Orange function key | F6-F10 function keys (SFX370 only), tab, OK |
| 4 | Shift key | Change between upper and lower case |
| 5 | Question mark key | General device information and fault messages (see chapter 6.3 →  34) |
| 6 | OK key | Confirm actions (used together with the orange function key) |

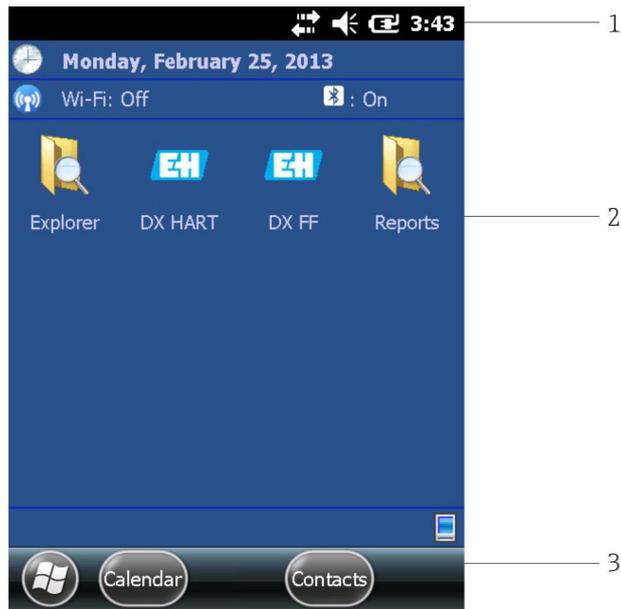
 Further information is available in the user guide from Intermecc (SFX350) and Ecom (SFX370) on the Field Xpert CD-ROM provided.

3.4 User interface

Field Xpert is supplied with the Windows Embedded Handheld operating system from Microsoft. The user interface is user-friendly and easy to operate using the touchscreen.

The Field Xpert user interface is divided into three areas.

- Information area
- Contents area
- Navigation area



6 SFX350/370 user interface

- 1 Information area with battery status
- 2 Contents area
- 3 Navigation area

4 Incoming acceptance and product identification

4.1 Incoming acceptance

4.1.1 Visual inspection

- Check the packaging for visible damage arising from transportation
- To avoid damage, remove the packaging with care
- Retain the original packaging in case the Field Xpert needs to be transported again
- Retain all the accompanying documents

The device may not be put into operation if the contents are found to be damaged beforehand. In this case, contact the Endress+Hauser Sales Center. Return the device to Endress+Hauser in the original packaging where possible.

4.1.2 Scope of delivery

Before commencing commissioning, check that the delivery is complete and undamaged.

Standard scope of delivery

The delivery comprises:

- Field Xpert PDA including Device Xpert software of choice
- Docking station (including power unit of choice and USB cable)
- Stylus pen (on back of Field Xpert)
- Hand Strap
- Micro SD card (inserted)
- Operating Instructions including Getting Started and Safety Instructions
- Field Xpert CD-ROM with documentation
- Torx screwdriver (SFX370 only)

Optional scope of delivery

The delivery comprises:

- VIATOR Bluetooth modem for use with HART field devices including 3 x AAA alkaline batteries and documentation
- FFblue Bluetooth modem for use with FOUNDATION Fieldbus devices including 2 x AA alkaline batteries and documentation
- Case with strap and one stylus pen

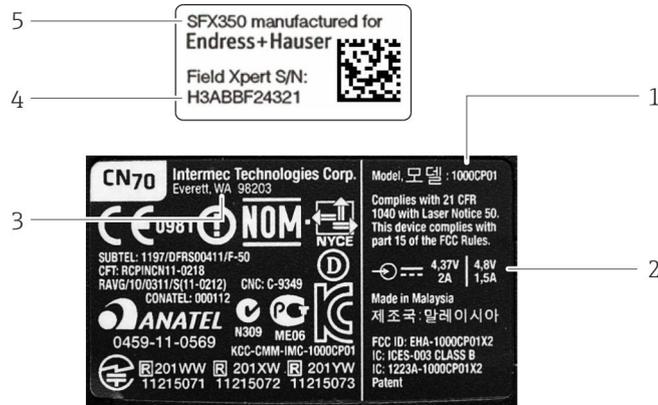
 Depending on the device configuration, there may be deviations in the scope of delivery of the Field Xpert. Refer to the sales contract. Additional accessories are listed under spare parts and accessories (see **Section 9.2** →  68) in these Operating Instructions.

4.2 Product identification

The Endress+Hauser device name (Field Xpert) and the Endress+Hauser serial number are located on the nameplate, which is fitted underneath the battery in the battery compartment. Moreover, the Endress+Hauser serial number can be read out via the software.

4.2.1 Nameplate

SFX350



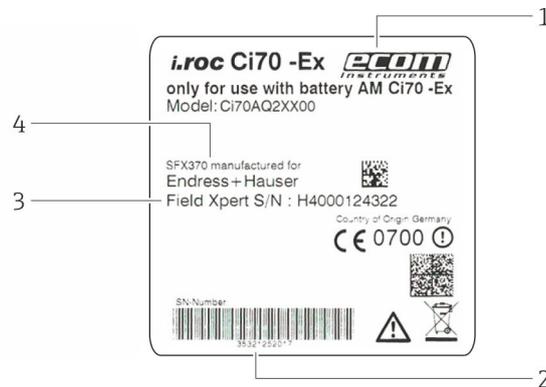
- 1 PDA manufacturer model number
- 2 Technical Information
- 3 PDA manufacturer
- 4 Endress+Hauser serial number
- 5 Endress+Hauser device number

i The manufacturer serial number is to be found on the side of the battery compartment.



- 1 PDA manufacturer serial number
- 2 Date of production
- 3 Configuration number

SFX370



- 1 PDA manufacturer
- 2 PDA manufacturer serial number
- 3 Endress+Hauser serial number
- 4 Endress+Hauser device name

4.2.2 Product code

The device type can be derived from the product code.

| SFX350 | |
|--|--|
| Approval | |
| AA | Non-hazardous area |
| YY | Special version, TSP-no. to be spec. |
| Language of Operating system/Device Xpert | |
| D | German |
| E | English |
| Docking Station + Communication | |
| D | Desktop Dock SFX350 with USB interface incl. power unit without power cord |
| X | Not used |
| Power Cord | |
| C | CH, IN, ZA |
| D | DK |
| E | EU |
| I | IT |
| K | UK |
| U | US |
| W | EU+int. Adapter Set 150 Countries |
| X | Not used |
| Hardware options | |
| G1 | WWAN: 3G UMTS/HSPA EMEA/ROW, GPS |
| G2 | 5 MP Color Camera with LED flash |
| G9 | Special version, TSP-no. to be spec. |
| Application Software | |
| E1 | Device Xpert HART |
| E2 | Device Xpert FF |
| E3 | Device Xpert HART+FF |
| E4 | Cal Xpert, Calibration Support |
| E9 | Special version, TSP-no. to be spec. |
| Communication Interface | |
| M1 | Bluetooth Interface HART |
| M2 | Bluetooth Interface FF |
| M3 | Bluetooth Interface HART+FF |
| M9 | Special version, TSP-no. to be spec. |
| Accessory Enclosed | |
| P1 | Leather Case SFX350 with Shoulder Strap |
| P2 | Holster SFX350 |
| P3 | Field Xpert Carry Case |
| P4 | Second Battery Pack SFX350 |
| P5 | Third Battery Pack SFX350 |
| P9 | Special version, TSP-no. to be spec. |
| Software Support Service (XD70) | |
| S1 | Used, see separate position (XD70) |
| S9 | Special version, TSP-no. to be spec. |

| SFX370 | |
|-----------------|---|
| Approval | |
| BA | ATEX (Zone 1) IIC T4, ATEX (Zone 21) IIIC IP 64 |
| FA | NEC Class I, Div. 1, A-D T4, Class II Div. 1, E-G T4, Class III |
| IA | IECEx (Zone 1) IIC T4, IECEx (Zone 21) IIIC IP 64 |
| YY | Special version, TSP-no. to be spec. |

| SFX370 | |
|--|--|
| Language of Operating system/Device Xpert | |
| D | German |
| E | English |
| Docking Station + Communication | |
| D | Desktop Dock SFX370 with USB interface incl. power unit without power cord |
| S | Single Dock SFX370 with USB interface incl. power unit without power cord |
| X | Not used |
| Power Cord | |
| C | CH, IN, ZA |
| D | DK |
| E | EU |
| I | IT |
| K | UK |
| U | US |
| W | EU+int. Adapter Set 150 Countries |
| X | Not used |
| Hardware options | |
| G1 | WWAN: 3G UMTS/HSPA EMEA/ROW, GPS |
| G9 | Special version, TSP-no. to be spec. |
| Head Module | |
| H1 | RFID LF 125/134 kHz R/W |
| H2 | RFID HF 13.56 MHz R/W |
| H6 | 1D Short Range Laser Barcode Scanner |
| H9 | Special version, TSP-no. to be spec. |
| Application Software | |
| E1 | Device Xpert HART |
| E2 | Device Xpert FF |
| E3 | Device Xpert HART+FF |
| E4 | Cal Xpert, Calibration Support |
| E9 | Special version, TSP-no. to be spec. |
| Communication Interface | |
| M1 | Bluetooth Interface HART |
| M2 | Bluetooth Interface FF |
| M3 | Bluetooth Interface HART+FF |
| M9 | Special version, TSP-no. to be spec. |
| Accessory Enclosed | |
| P1 | Leather Case SFX370 with Shoulder Strap |
| P2 | Leather Holster SFX370 |
| P3 | Field Xpert Carry Case |
| P4 | Second Battery Pack SFX370 |
| P9 | Special version, TSP-no. to be spec. |
| Software Support Service (XD70) | |
| S1 | Used, see separate position (XD70) |
| S9 | Special version, TSP-no. to be spec. |

4.3 Transportation

Although Field Xpert is of robust construction, some of its components can be sensitive to strong vibrations and shocks. For this reason, the Field Xpert must be protected against excessive mechanical loads of this kind.

5 Commissioning

5.1 Field Xpert

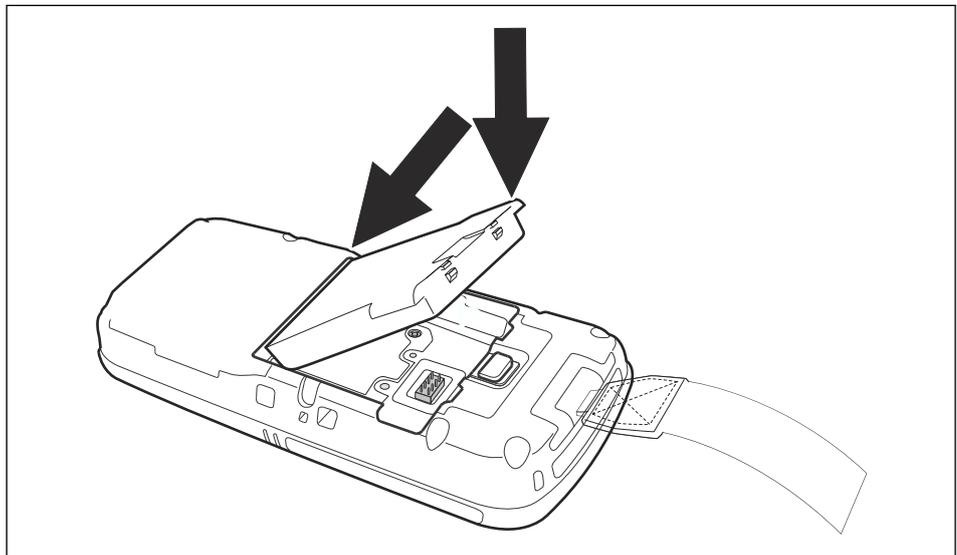
5.1.1 Inserting the battery

The battery must be inserted before the Field Xpert can be used.

 The battery is fully charged when delivered.

Inserting the battery into Field Xpert SFX350

- ▶ Insert the battery on the back of the device and push it downwards.
 - ↳ The battery engages with a click.



⚠ DANGER

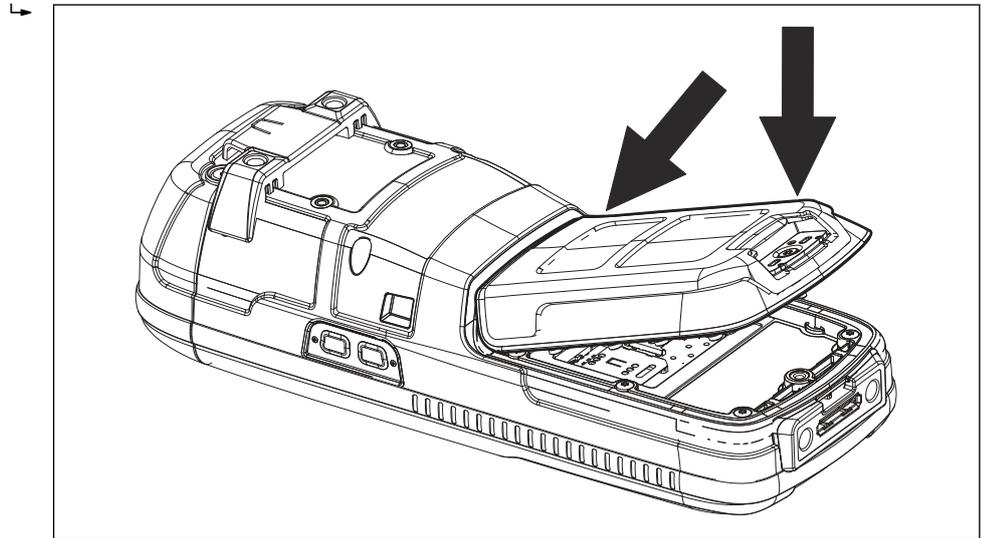
Do not open the device or changing batteries inside Ex-areas is prohibited. It is not permitted to carry extra battery packs into the hazardous areas.

Risk of explosion.

- ▶ Follow the accompanying safety instructions.

Inserting the battery into Field Xpert SFX370

1. Insert the battery on the back of the device and push it downwards.



2. Tighten the locking screw with the Torx screwdriver.

5.1.2 Charging the battery

Field Xpert uses a rechargeable lithium-ion battery (3.7 V, 4 000 mAh).

⚠ DANGER

The battery may only be charged outside the Ex-area.

Risk of explosion.

- ▶ Follow the accompanying safety instructions (for Field Xpert SFX370).

⚠ DANGER

Only use the original type of battery and original accessories and protect the battery from high temperatures (> 100°C).

Risk of explosion.

- ▶ Follow the accompanying safety instructions.



- The battery can be charged directly via the docking station or with its separate charging cup
- Wait until the battery is fully charged, see battery status **Software icons**

5.1.3 Battery life

The battery life of the Field Xpert depends greatly on how it is used.

- The non-Ex version (SFX350) of Field Xpert has an average battery life of up to 18 hours when actively operated
- The Ex version (SFX370) of Field Xpert has an average battery life of up to 18 hours when actively operated
- If Field Xpert (SFX350 and SFX370) is not required for a short period and put into standby mode using **Suspend**, then it has an average battery life of up to 5 days
- If Field Xpert (SFX350 and SFX370) is not required for a long period and switched off using **Shutdown**, then it has a battery life of several weeks

-  ■ The actual life depends upon the type of Bluetooth, WLAN and infrared usage as well as the intensity of data transmission and the screen brightness
- If the battery does become exhausted, any unsaved data in the random access memory (RAM) will be lost
- Information about the battery status can be found in the information area of the screen. More information about the battery can be found in **chapter 6.3 Dashboard**
→  34

5.1.4 Bluetooth transmission range

The Field Xpert is equipped with a Class 2 Bluetooth adapter, which enables a range of up to 10 m. The range can be reduced by interference from other nearby devices transmitting in the 2.4 GHz ISM band. Sources of interference may include cordless telephones, wireless networking devices and also microwave ovens. In certain circumstances, reception interference may cause a Bluetooth connection to be terminated, making it necessary to reconnect to the HART or FOUNDATION Fieldbus network.

5.2 VIATOR Bluetooth modem

The VIATOR Bluetooth modem is a point-to-point interface for temporary connection to HART-enabled field devices for configuration purposes. It is approved for hazardous areas and operates for approx. 20 hours when powered by replaceable batteries. Field Xpert and the modem communicate with each other via Bluetooth, with the modem connected via cable to the HART field device.

The VIATOR Bluetooth modem incorporates a Class 1 Bluetooth radio with a range of up to 100 m.

CAUTION

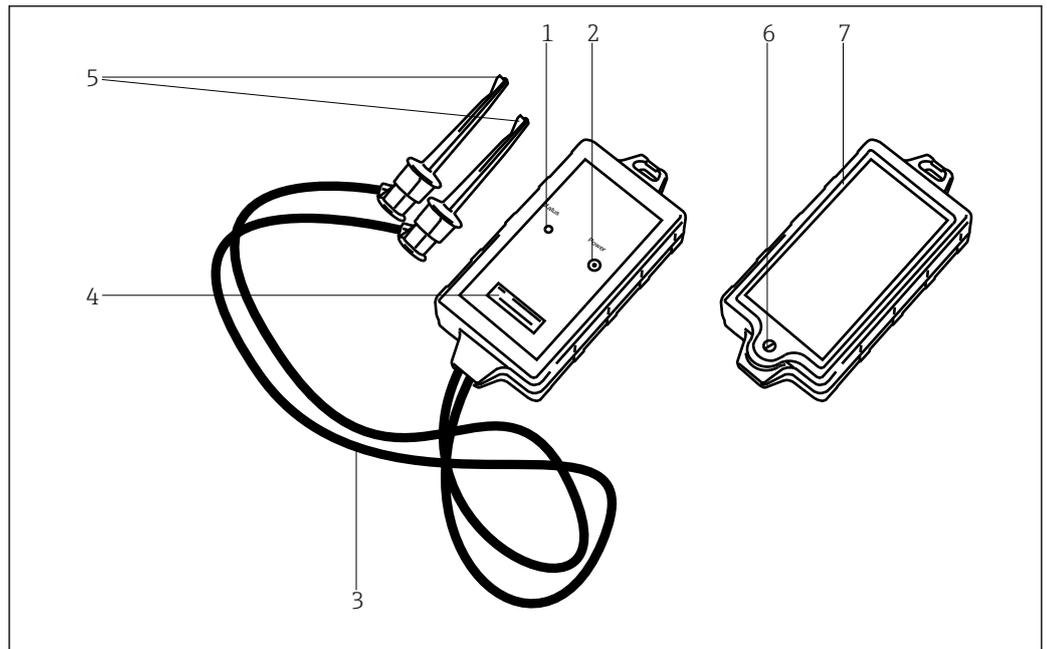
The modem is certified for use in hazardous areas, Zone 1.

There is the risk of unintentionally overloading the protective circuits with the result that they no longer work correctly.

- ▶ Once a modem has been used with a non-Ex device, it may not be used in an Ex facility afterwards.

-  The modem must only be operated when the battery compartment is closed.

5.2.1 Overview



 7 VIATOR Bluetooth modem with connecting cables

- 1 Status LED
- 2 On/off button
- 3 Connecting cable
- 4 Locking screw for battery compartment
- 5 Terminals
- 6 Locking screw for battery compartment
- 7 Serial number and MAC address

5.2.2 Battery

The VIATOR Bluetooth modem requires three AAA alkaline batteries, which are included in the scope of delivery.

-  The batteries to be used in a hazardous area are detailed in the Ex certificate for the modem
- To save battery power, we recommend that you switch off the modem when it is not in use

5.2.3 On/off button

Switch on the modem by briefly pressing the on/off button. This action is confirmed by a constant green LED followed by a flashing green LED. Switching on the modem automatically activates the Bluetooth function.

Switch off the modem by pressing and holding the on/off button for approx. 2 seconds. A constant green LED will illuminate while the button is pressed, indicating that the device is being switched off. The LED and the device are then switched off.

5.2.4 LED status (power indicator)

By switching on the device or pressing the on/off button briefly while the modem is switched on, the percentage amount of charge remaining in the batteries is indicated:

- 4 flashes = 80% or more of battery power remaining
 - 3 flashes = 50% or more of battery power remaining
 - 2 flashes = 30% or more of battery power remaining
 - 1 flash = 10% or more of battery power remaining
 - 0 flashes = less than 10% of battery power remaining
-  ■ At less than 30%, we recommend that you replace the batteries
- If the modem switches off automatically, please ensure that the last actions performed are transmitted to the field device again once the batteries have been replaced

5.2.5 Inactivity power off

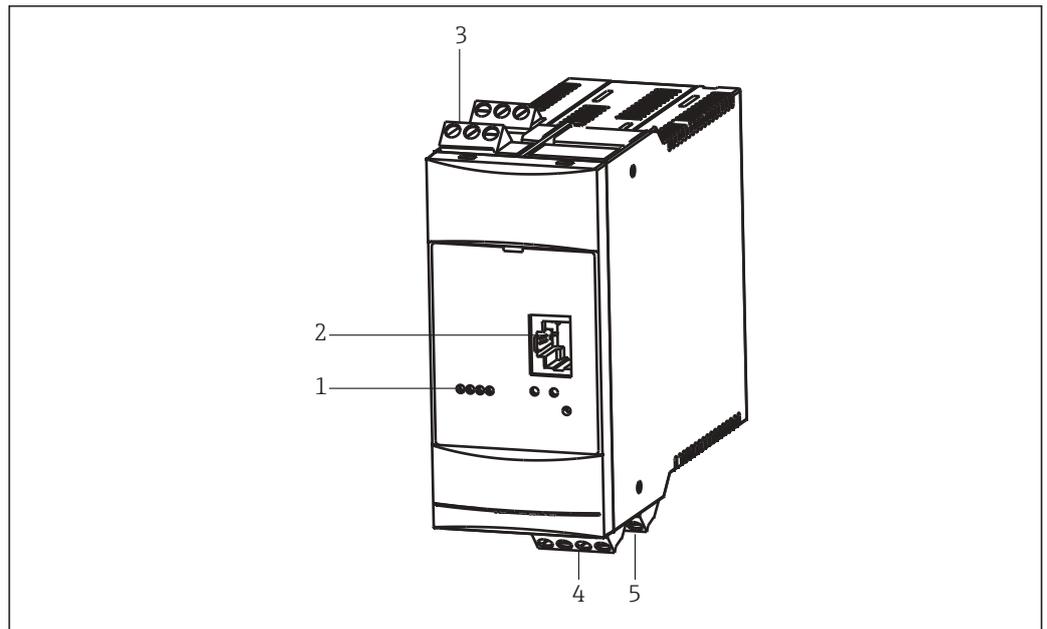
After 30 minutes of inactivity (no Bluetooth connection), the VIATOR Bluetooth modem switches off automatically in order to conserve battery life. To reactivate the modem, press the on/off button again for approx. 2 seconds.

-  This setting can be adjusted manually. To do this, the software (VIATOR CheckBT software) can be downloaded free of charge from the web site of the modem manufacturer MACTek (www.mactekcorp.com/products.php).

5.3 Fieldgate FXA520

The Fieldgate FXA520 is a HART gateway with an integrated web server for the remote acquisition of data from HART devices. These can be connected either directly via the HART multi-drop connector of Fieldgate FXA520 or via a HART multiplexer. The Fieldgate communicates with the host computer via Ethernet. The connection between the Fieldgate FXA520 and the Field Xpert is established by accessing an Ethernet WiFi access point.

5.3.1 Overview



 8 Fieldgate FXA520

- 1 Status LED
- 2 Ethernet socket
- 3 HART terminals
- 4 Power unit / 4 to 20 mA terminals
- 5 RS485 terminals

 Full instructions on wiring and setting up Fieldgate FXA520 are provided in **Operating Instructions BA00051S/04/en**.

5.3.2 Fieldgate Ports and IP addresses

During the configuration of the Fieldgate WiFi connection in the Field Xpert, the following information is required:

- Fieldgate FXA520 IP address (default 192.168.252.1)
- Fieldgate FXA520 subnet mask (default = 255.255.255.0)
- Fieldgate web server port number (default = 80)
- Fieldgate Pass-through HART Port Number (default = 3222)

It is normal that the IP address and subnet mask are changed to the addresses assigned by the system administrator when Fieldgate FXA520 is installed in a control network. The access ports may also differ. If the IP address of the Fieldgate FXA520 is known, a Web browser can be used to view the Fieldgate FXA520 setup in the **Settings** → **Network** menu under **Ethernet Setup** and **Miscellaneous Server Setup**.

5.4 FFblue Bluetooth modem

The FFblue Bluetooth modem is an interface for temporary connection to a FOUNDATION Fieldbus H1 segment. Field Xpert and the modem communicate with each other via Bluetooth, with the modem connected via cable to the H1 network. The FFblue Bluetooth modem incorporates a Class 2 Bluetooth radio with a range of up to 10 m.

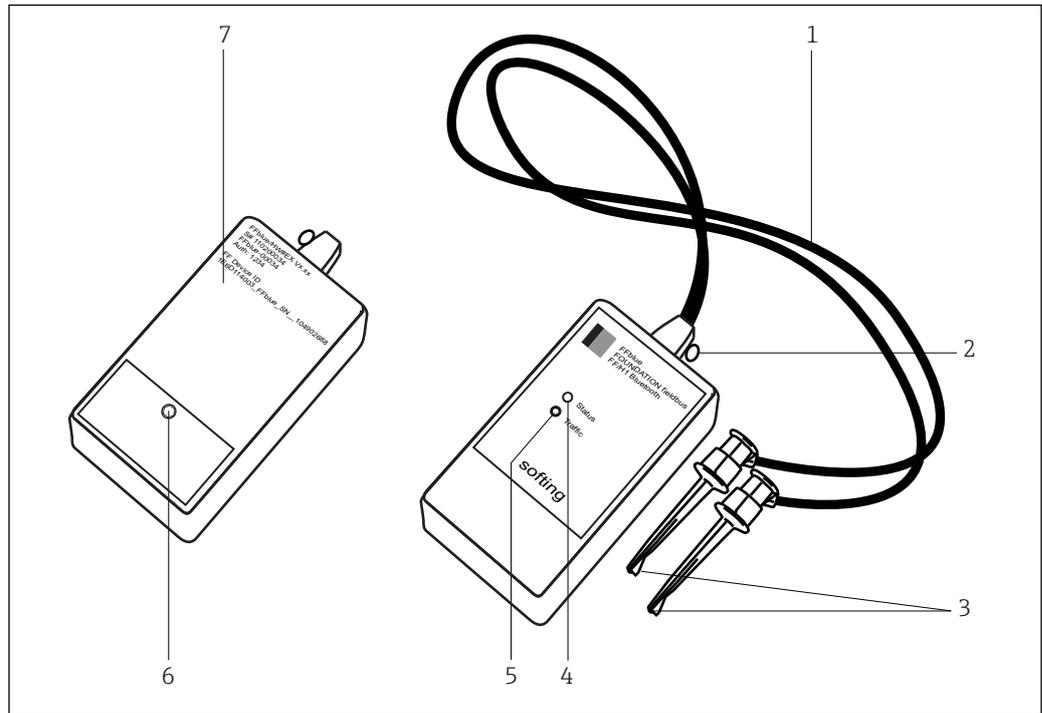
⚠ CAUTION

The modem is certified for use in hazardous areas, Zone 1.

There is the risk of unintentionally overloading the protective circuits with the result that they no longer work correctly.

- Once a modem has been used with a non-Ex device, it may not be used in an Ex facility afterwards.

5.4.1 Overview



9 FFblue Bluetooth modem with connecting cables

- 1 Connecting cable
- 2 Securing loop
- 3 Terminals
- 4 Status LED
- 5 Traffic LED
- 6 Locking screw for battery compartment
- 7 Nameplate with device information

5.4.2 Battery

The FFblue Bluetooth modem takes the power for the communication interface from the FOUNDATION Fieldbus H1 segment to which it is connected. The modem switches on automatically when a voltage is detected across its terminals.

The integrated Bluetooth transmitter requires two AA alkaline batteries, which are included in the scope of delivery.

5.4.3 Status LED

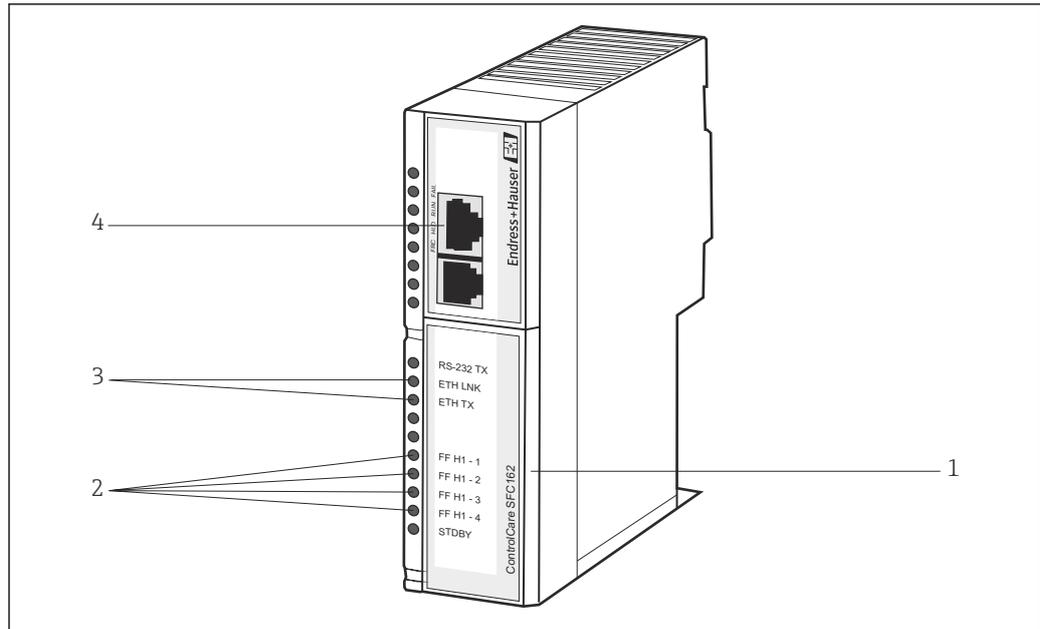
The FFblue Bluetooth modem has two LEDs which indicate the state of communication and battery status. Their significance is shown in the table below.

| Status LED | Traffic LED | Meaning | Comment |
|----------------------|---|--|---|
| on, red | on, red | Switch on | Indicates start up of FFblue |
| on, red | on, red | Flash CRC error, SW exception | If red, red persists: No runnable firmware is available or a fatal error situation has been detected in the FFblue modem firmware |
| on, green | on, red | Bluetooth in power down mode | This state is assumed after 10 minutes, if no active Bluetooth connection is available, in order to save the battery. It is necessary to powercycle the FFblue Bluetooth modem to switch on the Bluetooth again (disconnect/reconnect terminal) |
| Battery OK | | | |
| on, green | off | Bluetooth ON but no connection | Bluetooth module is switched on, wait for serial connection |
| on, green | on, blue | Bluetooth active (connected) | Serial connection with FFblue Bluetooth modem is established, but no traffic |
| on, green | flashing, blue | Bluetooth traffic | Serial connection with FFblue Bluetooth modem is established, serial messages are being transferred. Note that in order to save Bluetooth battery the traffic LED is switched on only during 20% of the blink interval |
| 0.5 Hz, green | according to Bluetooth connection state | Acting as H1 Linkmaster | Indicates that device is in the token ring, but not as LAS and battery state is OK. The traffic LED is displayed as indicated above when battery state is OK |
| 5 Hz, green | according to Bluetooth connection state | Acting as H1 LAS | Indicates that device is in the token ring, acts as LAS and battery state is OK . The traffic LED is displayed as indicated above when battery state is OK |
| Battery low | | | |
| 1 Hz, red | on, red | Bluetooth in power down mode | Operation would be possible, but powercycle of FFblue Bluetooth modem is necessary to switch on Bluetooth module (disconnect/connect terminal) |
| 1 Hz, red | off | Bluetooth ON, but no active connection | Bluetooth module is switched on, wait for serial connection |
| 1 Hz, red | on, blue | Bluetooth active (connected) | Serial connection with FFblue Bluetooth modem is established, but no traffic |
| 1 Hz, red | 1 Hz, blue | Bluetooth traffic | H1 bus status not indicated as information about battery state is more important |
| Empty battery | | | |
| red | off | Empty battery | Bluetooth interface cannot be used |

5.5 Gateway SFC162

The gateway SFC162 is a FOUNDATION Fieldbus linking device with an integrated web server which can be used as a gateway in visitor mode to a FOUNDATION Fieldbus H1 network. A connection between the gateway SFC162 and the Field Xpert is established by accessing an Ethernet WiFi access point.

5.5.1 Overview



 10 Gateway SFC162

- 1 FF H1/24V supply terminals (hidden)
- 2 FF H1 traffic LED
- 3 Status LED
- 4 Ethernet socket

 Full instructions on wiring and setting up the gateway SFC162 module can be taken from **Operating Instructions BA00021S/04/en** and **BA00069S/04/en**.

5.5.2 SFC162 IP address and operating mode

During the configuration of the WiFi connection in the Field Xpert, the following information is required for the gateway SFC162:

- SFC162 IP address (default 192.168.164.100)
- SFC162 subnet mask (default = 255.255.255.0)

When the gateway SFC162 is installed in a control network, the IP address and subnet mask must be changed to the addresses assigned by the system administrator.

In addition, the gateway SFC162 must be set to operate in visitor mode.

- ▶ Enter the IP address of the gateway SFC162 in the web browser.
 - ↳ The gateway SFC162 web server is opened.

 More information can be found in **BA00069S/04/en**.

6 Operability

6.1 Switching on and off

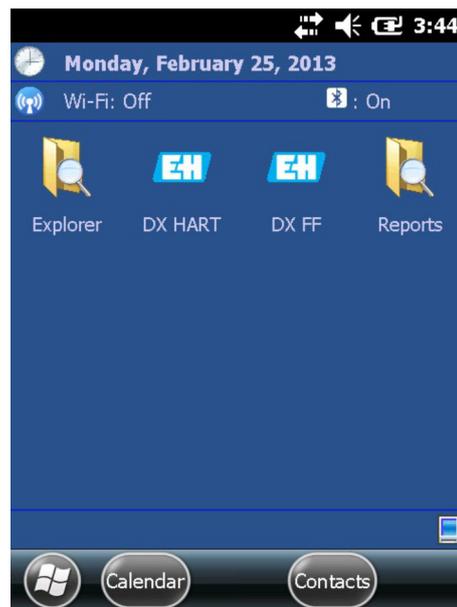
The on/off button switches both the Field Xpert and the backlight on and off. The Field Xpert remembers the last backlight setting when it is switched off.

- Switch on the Field Xpert by pressing the **on/off key**
- Switch off the Field Xpert by pressing the **on/off key** and then tap **Suspend** on the screen for short-term non-use.

 For longer-term non-use, the Field Xpert can be switched off using the **Shutdown** function.

6.2 Start screen

The start screen is displayed when the Field Xpert is switched on. On the start screen, there are links to the installed programs, such as Device Xpert and to the Wireless Center. In the information area, you will find information on the status of the Field Xpert (see **Software icons**) and the colored indicator for the **battery status** (green = battery fully charged, red = low battery power) →  17.



 11 SFX350/SFX370 start screen

6.2.1 Interaction

Navigate around the touchscreen using your finger or a stylus pen. The following table explains the supported movements.

| Movement | Description |
|-----------|--|
| Tap once | Corresponds to one click with the left mouse button |
| Tap twice | Corresponds to a double-click with the left mouse button |
| Hold | Press and hold your finger/the stylus pen on the screen to call up a context menu (corresponds to one click with the right mouse button) |
| Swipe | Move your finger/the stylus pen (horizontally or vertically) over the screen to scroll through contents |

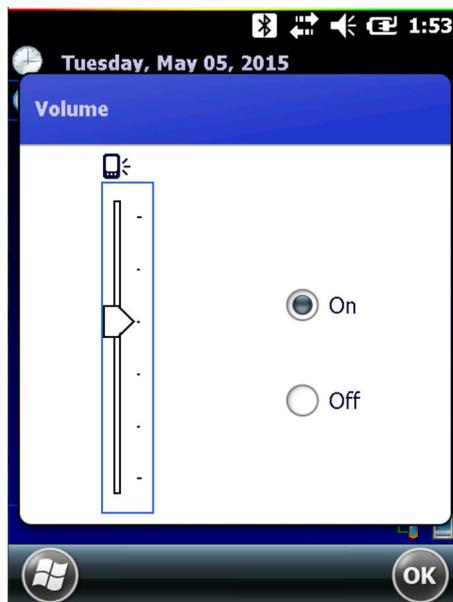
6.2.2 Horizontal scroll bar

The horizontal scroll bar enables quick access to the configuration settings. The function of the horizontal scroll bar is shown in the following example.

1. Tap on the title page.
 - ↳ The horizontal scroll bar is displayed.



2. Tap on the **speaker icon**.
 - ↳ The **Volume** menu is opened.



3. Set the volume and confirm with **OK**.

6.3 Dashboard

The Dashboard function provides quick and clear information about the Field Xpert.

The dashboard provides the following status information:

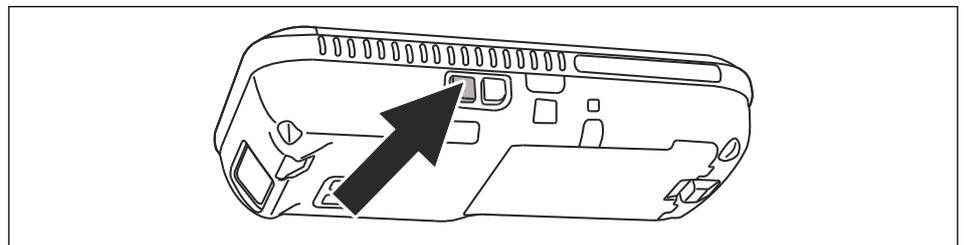
- Network connection
 - Battery
 - Available memory
 - Integrated devices
 - Information on the operating system and firmware and hardware configuration
- ▶ Press the **Question mark key**.
- ↳ The dashboard is displayed.



6.4 Rotating the screen display

i If you rotate the Field Xpert, the screen display rotates automatically. The screen display can also be rotated manually.

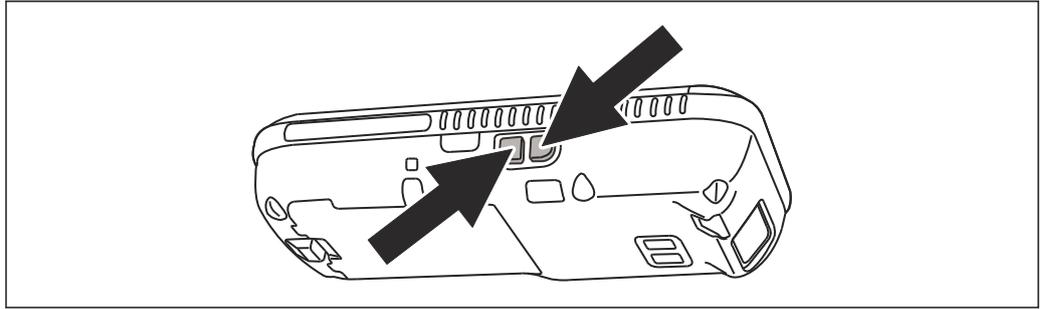
- ▶ Press the **upper key** on the left side of the Field Xpert.
- ↳ The screen display switches from portrait to landscape.



i To rotate the screen display back to the original position, press the key once more.

6.5 Setting the volume

- ▶ Press the **upper key** on the right side of the Field Xpert.
- ↳ The volume is increased.
- ▶ Press the **lower key** on the right side of the Field Xpert.
- ↳ The volume is decreased.



6.6 Long-term data backup

i To avoid loss of data, the data on the SD card must be backed up periodically to a PC (see **chapter 6.7**).

If the battery does become exhausted, any unsaved data in the RAM will be lost. After recharging and switching on, Windows Embedded Handheld restarts in a predetermined sequence. All data and/or programs stored on the SD card or to the device memory remain accessible.

6.7 Data transfer

You can establish a connection between the Field Xpert and a PC in order to transfer or synchronize data. To do this, use Microsoft Windows Mobile Device Center (Windows 7 or higher) or Microsoft ActiveSync (Windows XP or earlier). Windows Mobile Device Center and Microsoft ActiveSync can be acquired from the Microsoft website www.microsoft.com free of charge.

i Before the data can be transferred, a connection must be established between the Field Xpert and a PC.

Use the following accessories for data transfer:

- Docking station
- Power unit
- USB cable

6.7.1 Establishing a connection between the Field Xpert and the PC

The following example shows how a connection between the Field Xpert and a PC is established using the Windows Mobile Device Center.

i Before data can be exchanged between the Field Xpert and a PC, **Windows Mobile Device Center** or **Microsoft ActiveSync** must be installed on the PC.

1. Connect the Field Xpert to the PC via the docking station.
 - ↳ **Windows Mobile Device Center** starts.



2. Click on **Connect without Setting up the Device**.
 - ↳ Additional options are displayed.



The connection is established.

 A full Field Xpert connection, also to the Internet, is established only if you can see this screen content.

6.8 Additional Software

Field Xpert has the following additional software installed on delivery:

- Calendar: Appointment management
- Contacts: Phone numbers, address etc.
- E-mail: Mailing program
- SMS
- Office mobile (Excel, Word, Powerpoint, OneNote, ...)
- Calculator: Simple arithmetic functions
- Notes: Simple notepad
- Tasks: Description, prioritization, scheduling and alarming of tasks
- Internet Explorer
- Pictures & Videos
- Windows Media
- File Explorer
- Remote Desktop Mobile

7 Configuration

7.1 Configure Connections

7.1.1 Bluetooth connection

Before Field Xpert can be used to configure HART or FOUNDATION Fieldbus devices it must be commissioned. What exactly must be done depends upon the type of connection that is in use and the license that has been purchased.

In general:

- A Bluetooth connection for HART has already been configured and installed in Field Xpert by Endress+Hauser prior to delivery if a HART or HART plus FOUNDATION Fieldbus Device Xpert license has been purchased
- A Bluetooth connection for FOUNDATION Fieldbus has already been configured and installed in Field Xpert by Endress+Hauser prior to delivery if a FOUNDATION Fieldbus or HART plus FOUNDATION Fieldbus Device Xpert license has been purchased
- A WiFi connection must always be individually configured by the user

The user may also need to install and configure a Bluetooth connection if the license is upgraded or if the modem needs to be reconfigured following a Field Xpert clean reset (clean boot), see **chapter 7.3**. →  38

7.1.2 WiFi connection

If a WiFi connection to a Fieldgate FXA520 (HART) or SFC162 gateway (FOUNDATION Fieldbus) is selected, then the connection must be set up before the associated Device Xpert software can be used, see **Section 7.4**. →  50

7.2 Power up Field Xpert

1. Switch on Field Xpert by pressing the **on/off button**.
 2. Switch on the **VIATOR Bluetooth modem** with the **on/off button**.
 - ↳ Status LED flashing.
 3. Connect the **FFblue Bluetooth modem** to the fieldbus.
 - ↳ The status LED is lit green.
-  The VIATOR HART modem switches off if there is no traffic for 30 minutes. Switch the modem on again to reactivate it.
 - The FFblue modem switches off if there is no traffic for 10 minutes. To reactivate the modem, briefly disconnect the modem from the bus and then reconnect it

7.3 Installing and configuring a Bluetooth modem

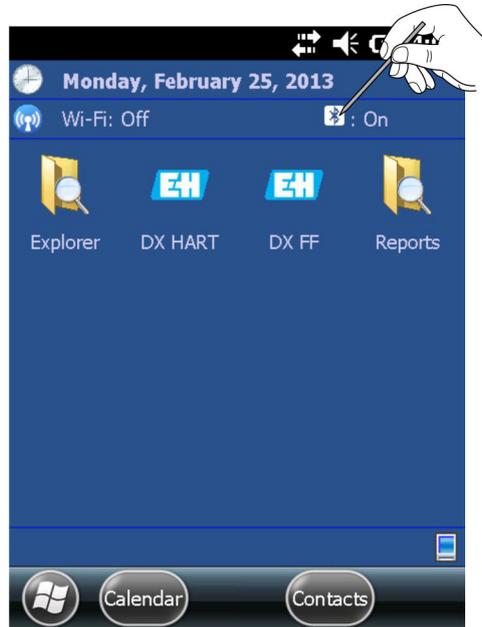
-  The Bluetooth modem has already been installed and configured in Field Xpert by Endress+Hauser prior to delivery. The instructions in this section only need to be followed if the modem needs to be reconfigured, e.g. following a Field Xpert clean reset or clean boot, or if another modem is to be used.

7.3.1 Adding a VIATOR Bluetooth modem (HART)

-  The VIATOR Bluetooth modem has a standard Bluetooth device name, **MACTekVIATORXXXX**, where **XXXX** represents the last four hexadecimal digits of the device's Bluetooth MAC address. The Bluetooth MAC address can be found above the serial number on the front label of the modem.

1. Switch on Field Xpert by pressing the **on/off button**.
2. Switch on the **VIATOR HART modem** with the **on/off button**.
 - ↳ The Bluetooth function is activated automatically. If the modem LED does not respond in the appropriate manner, see **chapter 5.2.4**. → 📄 28

3.



Click the **Bluetooth icon**.

- ↳ The **Wireless Center** is opened.

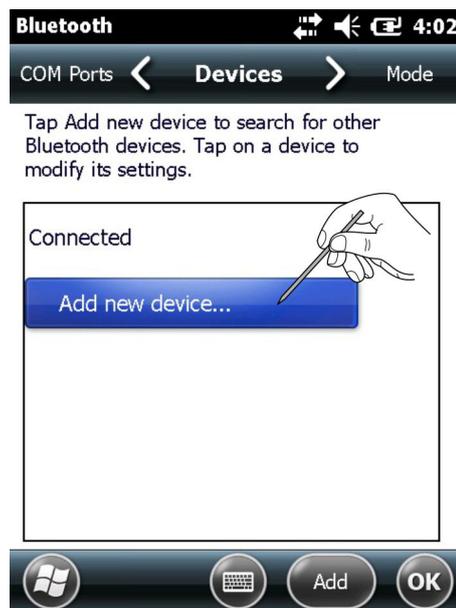


4. Tap on the **Bluetooth button** in order to switch on Bluetooth communication.
 - ↳ The status LED flashes blue to confirm the activation.

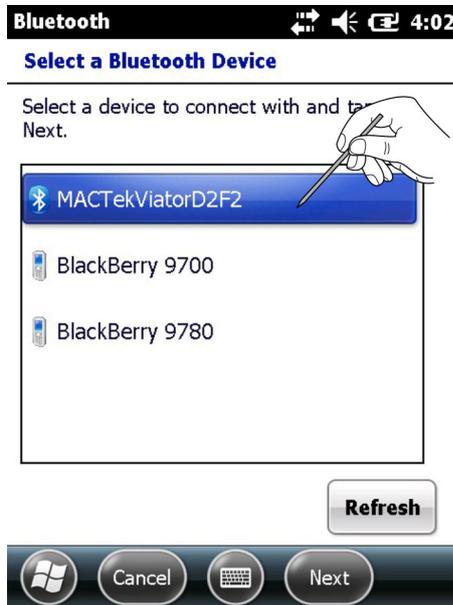
5. Tap on **Menu**.
 - ↳ The **Context Menu** appears.



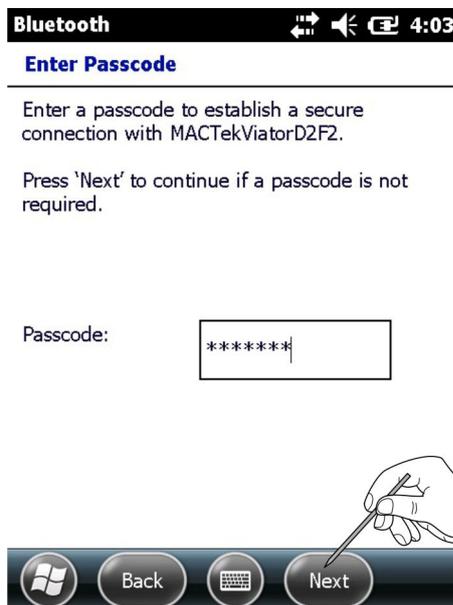
6. Tap on **Bluetooth Settings**.
 - ↳ The **Bluetooth** window is opened.



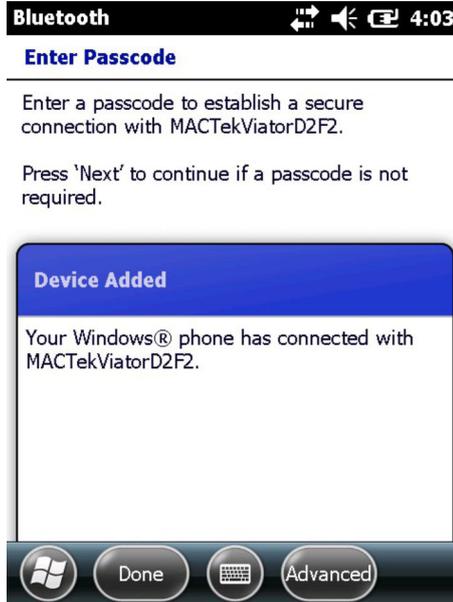
- 7. Tap on **Add New Device**.
 - ↳ The device searches for the **Bluetooth Modem**. The **Select Bluetooth Device** window is opened containing all available Bluetooth devices.



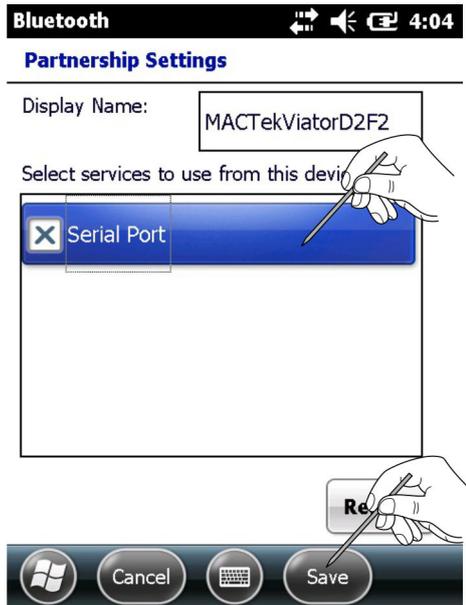
- 8. Tap on **MACTekVIATOR** modem and then **Next**.
 - ↳ The **Enter Passcode** window is opened.



9. In the **Passcode** field, enter **mactek** as the password and tap on **Next**.
 - ↳ The modem is added and displayed in a list.

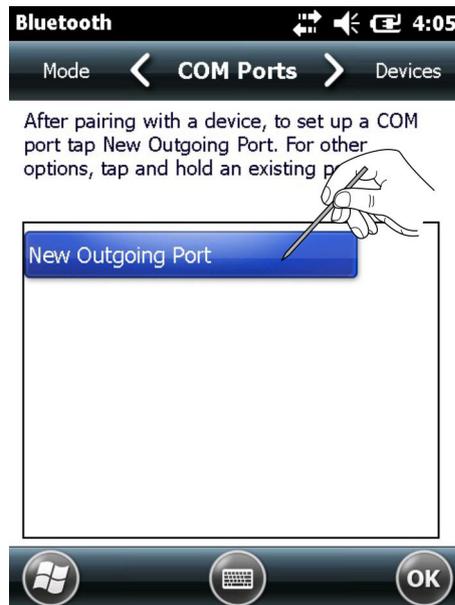


10. Tap on the desired **MACTekViatorxxxxx** modem.
 - ↳ The **Partnership Settings** window is opened.

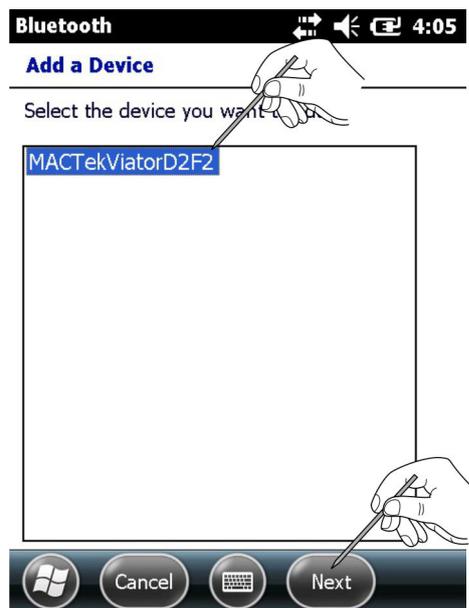


11. Activate the **Serial Port** and press **Save**.
 - ↳ The settings are saved.

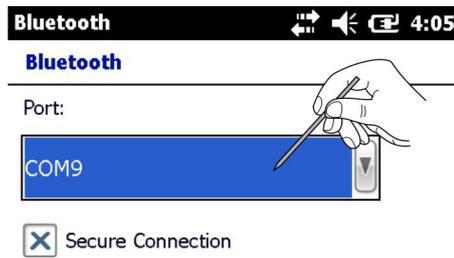
12. Switch to **COM Ports** in the tab.
 - ↳ The **COM Ports** window is displayed.



13. Tap on **New Outgoing Port**.
 - ↳ A list with the available modems is displayed.



14. Select the **modem** and tap on **Next**.
↳ The **Bluetooth** window is displayed.



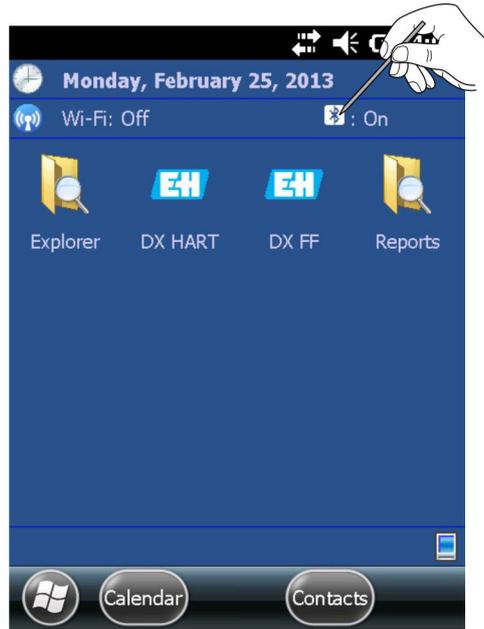
15. Select the **COM9 Port** and tap on **Finish**.
The modem was added.

i The Device Xpert HART software will always expect the HART modem at COM9 as standard (SFX350 and SFX370).

7.3.2 Adding a FFblue Bluetooth modem (FOUNDATION Fieldbus)

- i**
 - The FFblue Bluetooth modem has a standard FOUNDATION Fieldbus ID which can be found on the nameplate at the rear of the device
 - The modem must be connected to the FOUNDATION Fieldbus H1 bus or e.g. a 9 V battery
1. Switch on Field Xpert by pressing the **on/off button**.
 2. Check whether the FFblue Bluetooth modem is switched on.

3.



Click the **Bluetooth** icon.

↳ The **Wireless Center** is opened.



4. Tap on the **Bluetooth** button in order to switch on Bluetooth communication.

↳ The status LED flashes blue to confirm the activation.

5. Tap on **Menu**.
 - ↳ The **Selection Menu** is opened.



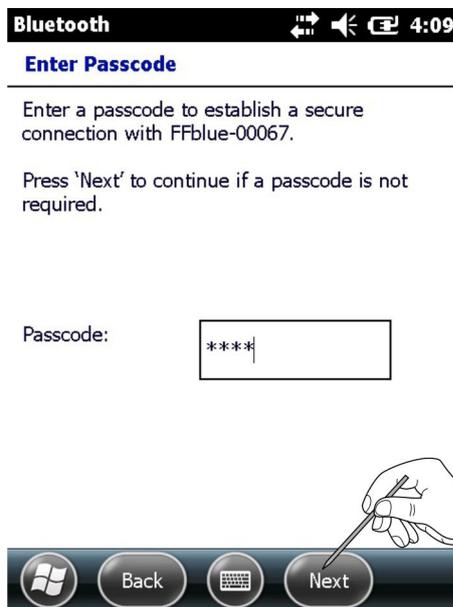
6. In the Selection Menu, tap on **Bluetooth Settings**.
 - ↳ The **Bluetooth** window is opened.



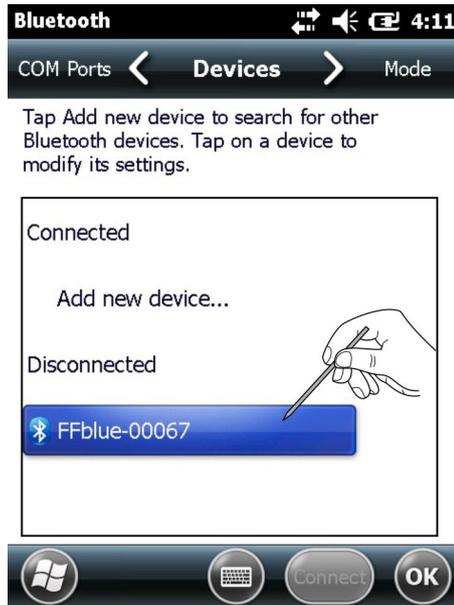
- 7. Tap on **Add New Device**.
 - ↳ The device searches for the **Bluetooth Modem**. The **Select Bluetooth Device** window is opened containing all available Bluetooth devices.



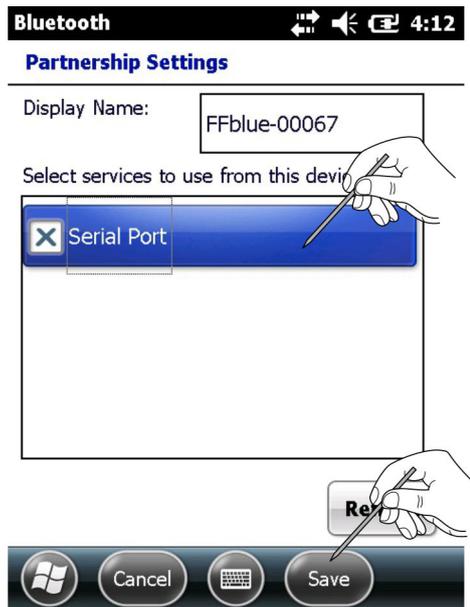
- 8. Tap on **FFblue-xxx...** (FFblue Bluetooth modem) and then tap on **Next**.
 - ↳ The **Enter Passcode** window is opened.



9. In the **Passcode** field, enter **1234** as the password and tap on **Next**.
 - ↳ The modem is added and displayed in a list.

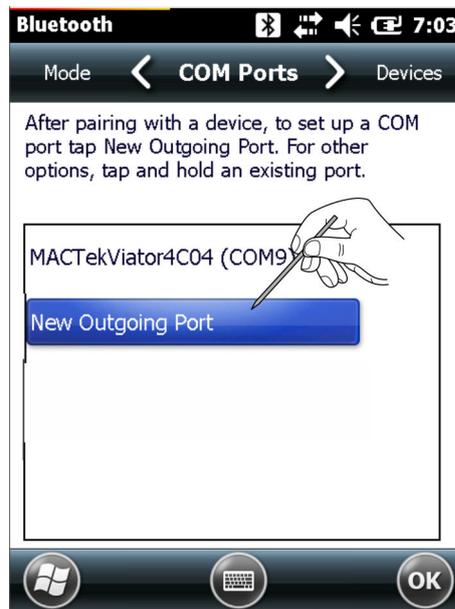


10. Tap on **FFblue-00067**.
 - ↳ The **Partnership Settings** window is opened.

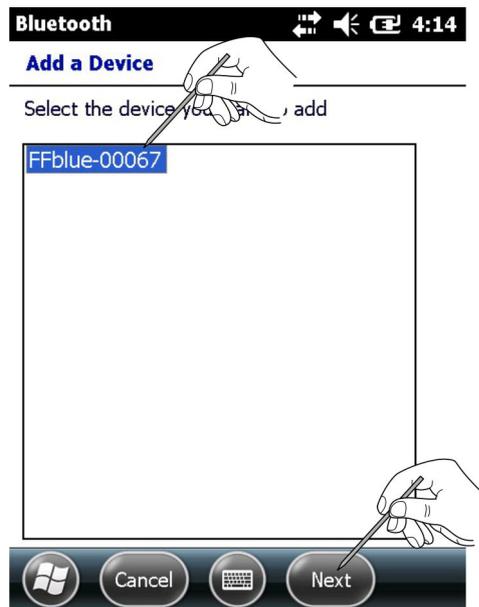


11. Activate the **Serial Port** and press **Save**.
 - ↳ The settings are saved.

12. Switch to **COM Ports** in the tab.
 - ↳ The **COM Ports** window is displayed.



13. Tap on **New Outgoing Port**.
 - ↳ A list with the available modems is displayed.



14. Select the **modem** and tap on **Next**.
 ↳ The **Bluetooth** window is displayed.



15. Select the **COM0 Port** and tap on **Finish**.
 The modem was added.

i The Device Xpert FF software will always expect the FOUNDATION Fieldbus modem at COM0 as standard (SFX350 and SFX370).

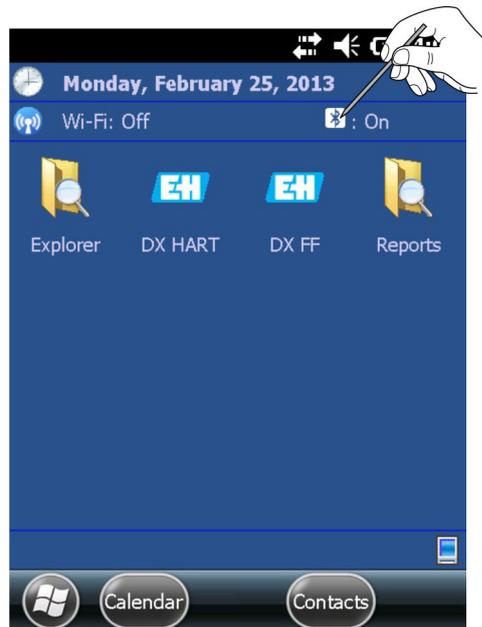
7.4 Installing and configuring a WiFi access point

- i** A WiFi connection is only possible if the Field Xpert is not connected via USB to ActiveSync or Windows Mobile Device Center
- A WiFi connection is only possible if the **Microsoft Security** security setting is enabled in **Intermec Settings** → **Communications** → **802.11 Radio**

7.4.1 Connecting Field Xpert to the WiFi access point

1. Switch on Field Xpert by pressing the **on/off button**.

2. Click the **Bluetooth** icon.
↳ The **Wireless Center** is opened.



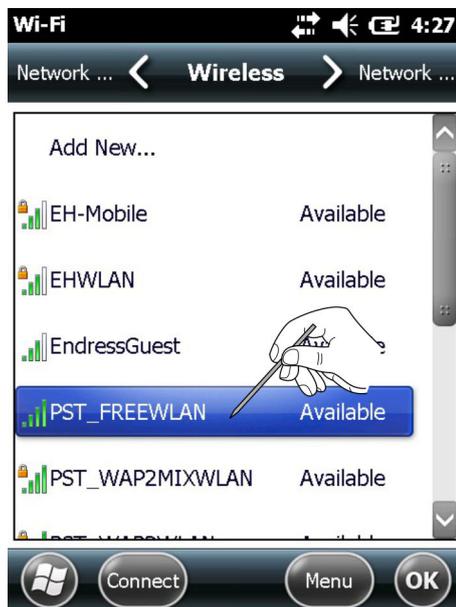
3. Tap on the **WiFi** button in order to switch on WiFi communication.
↳ The icon turns blue to confirm the activation.



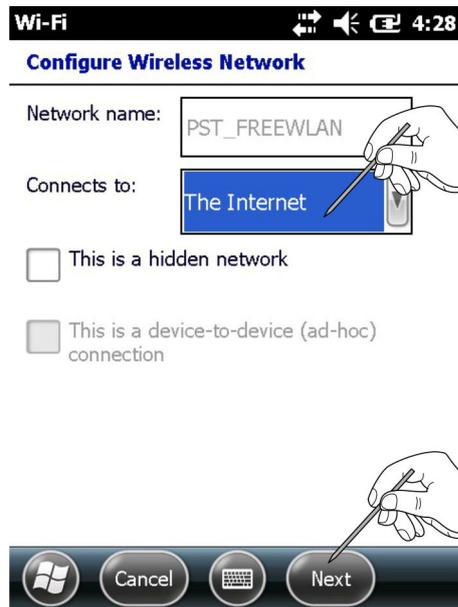
4. Tap on **Menu**.
 - ↳ The context menu is opened.



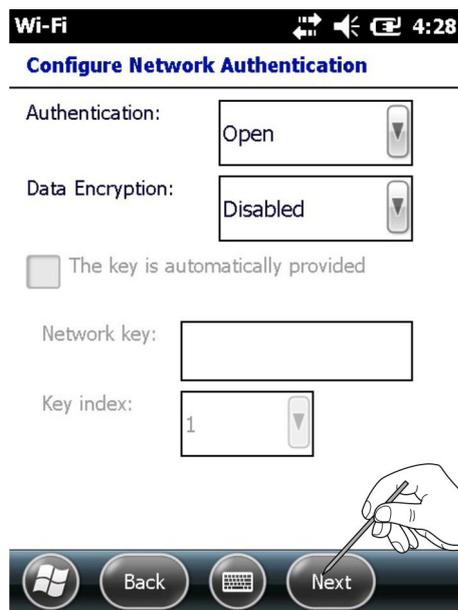
5. Tap on **WiFi Settings**.
 - ↳ If setting up WiFi for the first time, all available WLAN networks are displayed, otherwise the **Configure Network Adapter** page appears. If this is the case, then continue with **Step 11**.



6. Tap on the desired **Network**. (Example: PST_FREEWLAN...)
 ↳ The **Configure Wireless Network** window is opened.



7. Select the **connection** and tap on **Next**. (Example: Internet)
 ↳ The **Configure Network Authentication** window is opened.

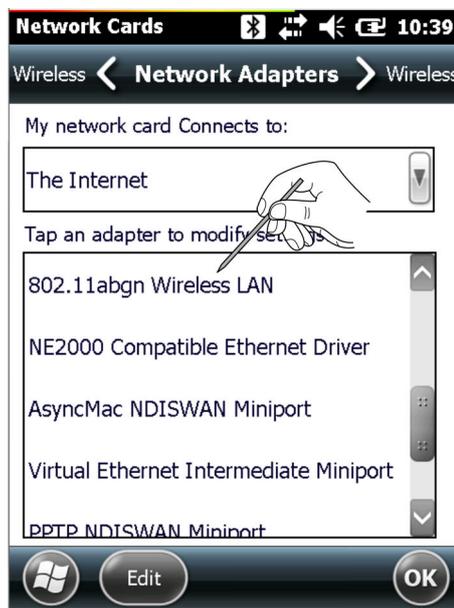


8. Select the **Encryption Type** and enter the **Network Key**. The encryption type and network key can be obtained from the network administrator.

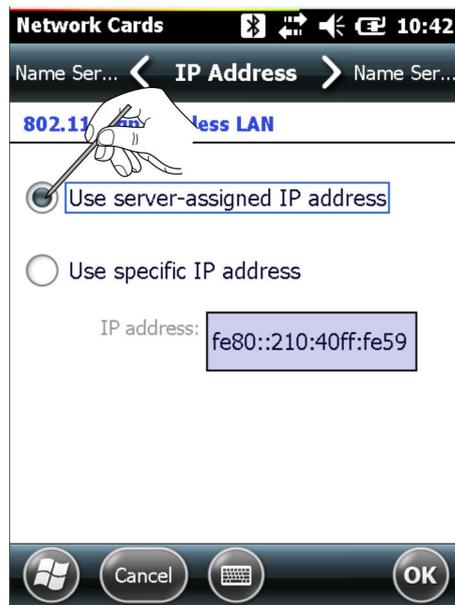
9. Tap on **Next**.
 - ↳ The list of wireless connections is displayed.



10. Select the **Network Cards** tab.
 - ↳ The **Network Cards** window is opened.



11. Select Internet and tap on **802.11abgn Wireless LAN**.
 - ↳ The **802.11abgn Wireless LAN** window is opened.



12. If your WiFi access point has a DHCP server. Select **Use Server-assigned IP Address**.
13. Tap on **OK** twice.
 - ↳ The connection is established.
 - ↳ The **Wireless Center** is opened again.
14. Tap on the **WiFi** button.
 - ↳ **WiFi communication** is deactivated.
15. Tap on the **WiFi** button.
 - ↳ **WiFi communication** is activated.
 - ↳ By deactivating or activating WiFi communication, the settings are applied.
 - ↳ If the connection to the network has been established correctly, the color of the WiFi icon changes to blue.
16. Tap on **OK**.
 - ↳ The **Wireless Center** is closed.

If your WiFi access point does not have a DHCP server.

1. Select **Use Specific IP Address**.
 - ↳ The window to enter the IP address, subnet mask is opened.



2. Enter the **IP address** and **subnet mask** of the WiFi access point. The IP address assigned must be in the same subnet as the **Fieldgate FXA520** (see **chapter 5.3.2** → 29) or the gateway SFC162 (see **chapter 5.5.2** → 32).
3. Tap on **OK** twice.
 - ↳ The connection is established.
The **Wireless Center** is opened again.
4. Tap on the **WiFi button**.
 - ↳ **WiFi communication** is deactivated.
5. Tap on the **WiFi button**.
 - ↳ **WiFi communication** is activated.
By deactivating or activating WiFi communication, the settings are applied.
If the connection to the network has been established correctly, the color of the WiFi icon changes to blue.
6. Tap on **OK**.
 - ↳ The **Wireless Center** is closed.

7.4.2 Adding a Fieldgate FXA520 for HART communication

- Before a Fieldgate FXA520 can be added, it is essential to check that its IP address is in the same range as the WiFi access point and that both a subnet mask and a gateway IP have been set
- The HART pass-through port number, the user name and the password are also needed

1. From the Field Xpert start page, tap on the **Device Xpert HART** icon.
 - ↳ The **Device Xpert HART** start page is opened.
2. Tap on **Device** → **Scan**.
3. Switch to the **Connections** tab.
4. Tap on **Add Connection**.
5. Enter a name for the new connection.

6. Check the **Fieldgate FXA520 check box** and change the scan range (HART multidrop) if necessary.
7. Switch to the **Communication** tab.
8. Enter the **IP address** of the Fieldgate FXA520.
9. Enter the **HART pass through port number** of the Fieldgate FXA520 (default: 3222).
10. Enter the **username** and **password** of the Fieldgate FXA520 (default: super, super).
11. Switch to the **HART** tab.
12. Uncheck the **Remember Scan List** box.
 - ↳ Then Device Xpert does not save the last scan.
13. Tap on **OK**.
 - ↳ The **Connections** tab is opened again.
14. Tap on the **Fieldgate FXA520** icon.
 - ↳ Field Xpert scans the HART network and displays the **devices** connected to the Fieldgate FXA520.
15. Tap on one of the **devices**.
 - ↳ The window with the associated **device parameters** is opened. All the blocks from the device are loaded and presented in a tree.

You can start configuring the device.



Information about the configuration can be found in **Operating Instructions BA00060S/EN (software)**.

7.4.3 Adding a gateway SFC162 for FOUNDATION Fieldbus communication

1. From the Field Xpert start page, tap on the **Device Xpert FF** icon.
 - ↳ The **Device Xpert FF** start page is opened.
2. Tap on **Device → Scan**.
3. Switch to the **Connections** tab.
4. Tap on **Add Connection**.
5. Enter a name for the new connection.
6. Check the **Linking Device** check box.
7. Switch to the **Communication** tab.
8. Enter the **IP address** of the linking device as the host.
9. Tap on **OK**.
 - ↳ The **Connections** tab is opened again and the linking device is now available as a connection.
10. Tap on the **Linking Device** icon.
 - ↳ Field Xpert scans the FF network and displays the **devices** connected to the linking device.

You can start configuring the device.



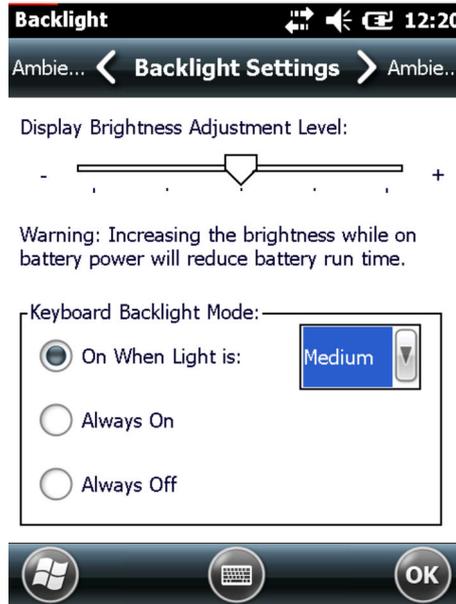
Information about the configuration can be found in **Operating Instructions BA00060S/EN (software)**.

7.5 Optimizing battery use

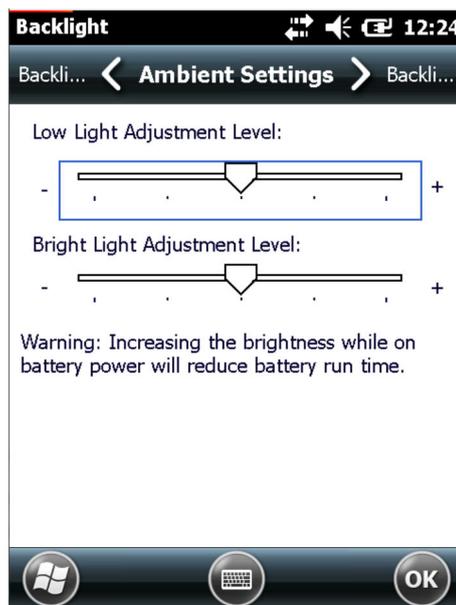
7.5.1 Backlight

The use of the backlight will shorten the operating time of the battery. Therefore, it is recommended that the backlight is set up to switch off after a short period of idleness (to switch it back on, simply press any key or tap on the display) and that the brightness is not at the highest setting. The necessary settings can be made in the Start menu.

- ▶ Tap on the **Windows icon** and then select **Settings → System → Backlight**.
 - ↳ In the **Backlight Settings** tab, the brightness of the backlight can be set.

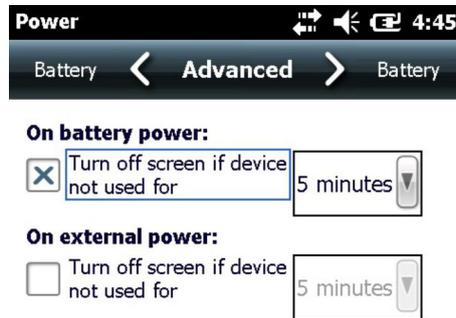


In the **Ambient Settings** tab, the brightness of the keyboard backlight can be set.



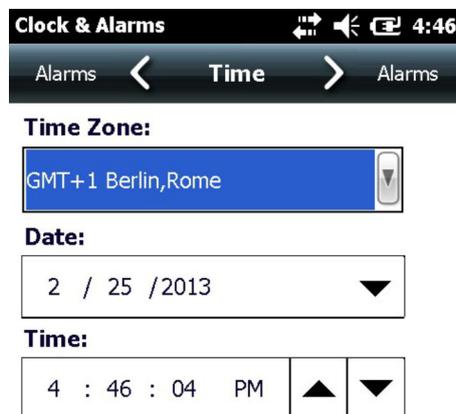
7.5.2 Switching off the screen

- ▶ Tap on the **Windows icon** and then select **Settings → Power**.
- ↳ In the **Advanced** tab, the **Duration** of power supply to the screen can be set.



7.6 Time and alarm

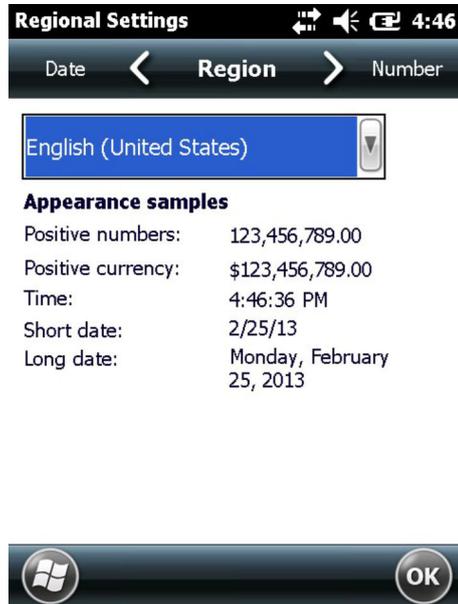
- ▶ Tap on the **Windows icon** and then select **Settings → Time & Alarm**.
- ↳ In the **Time** tab, the **Time Zone**, **Date** and **Time** can be set.



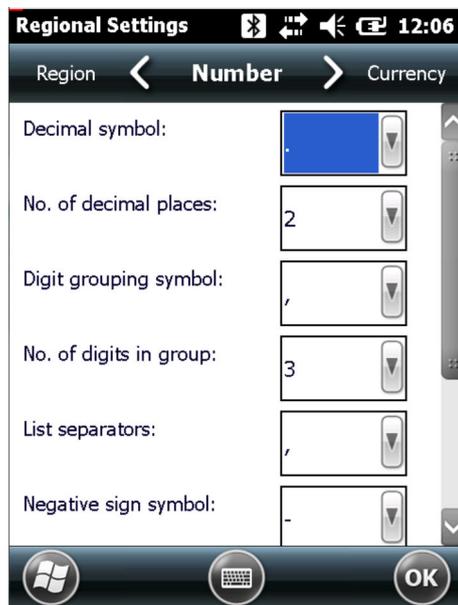
In the **Alarm** tab, three independent **Alarm Times** can be set.

7.7 Country setting

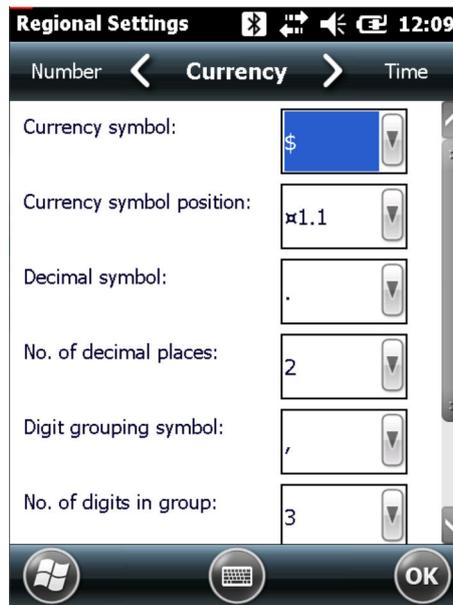
- ▶ Tap on the **Windows icon** and then select **Settings** → **System** → **Regional Settings**.
 - ↳ In the **Region** tab, the **Display Sample** (currency, date, etc.) can be set.



- ▶ Tap on the **Windows icon** and then select **Settings** → **System** → **Regional Settings**.
 - ↳ In the **Number** tab, the **Number Formats** can be set.



- ▶ Tap on the **Windows icon** and then select **Settings → System → Regional Settings**.
 - ↳ In the **Currency** tab, the **Currency Formats** can be set.



7.8 Paired devices

The modems paired to the Field Xpert's Bluetooth interface can be viewed in the Wireless Center.

1. Click the **Bluetooth icon**.
 - ↳ The **Wireless Center** is opened.
2. Tap on **Menu → WiFi Settings/Bluetooth Settings**.
3. Switch to the **COM Ports** tab.
 - ↳ Information about paired devices is displayed.



4. Assign the new **COM Port**.

8 Troubleshooting

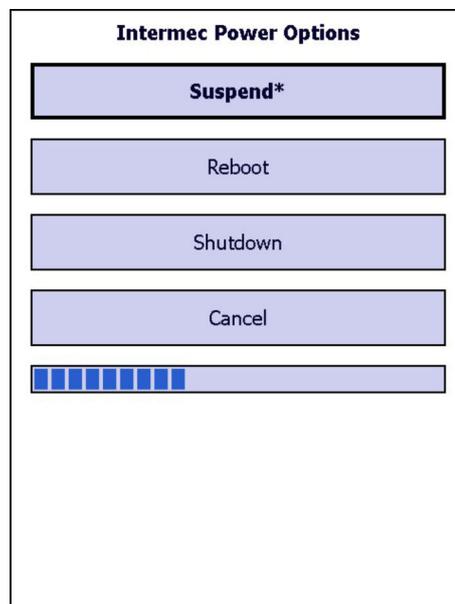
8.1 Field Xpert

Some of problems may be resolved by switching the Field Xpert on and off. If this does not work, please proceed in accordance with the following examples.

8.1.1 Soft Reset (reboot)

A soft reset stops all applications which are currently running but does not delete any programs or saved data. Before a soft reset can be performed, it is important to ensure that all the unsaved data in any of the applications currently running are saved.

1. Press the **on/off button** on the keyboard.
 - ↳ The Intermec Power Options are displayed.



2. Tap on **Reboot**.
Field Xpert carries out a restart and returns to the start screen.

8.1.2 Hard Reset (cold boot)

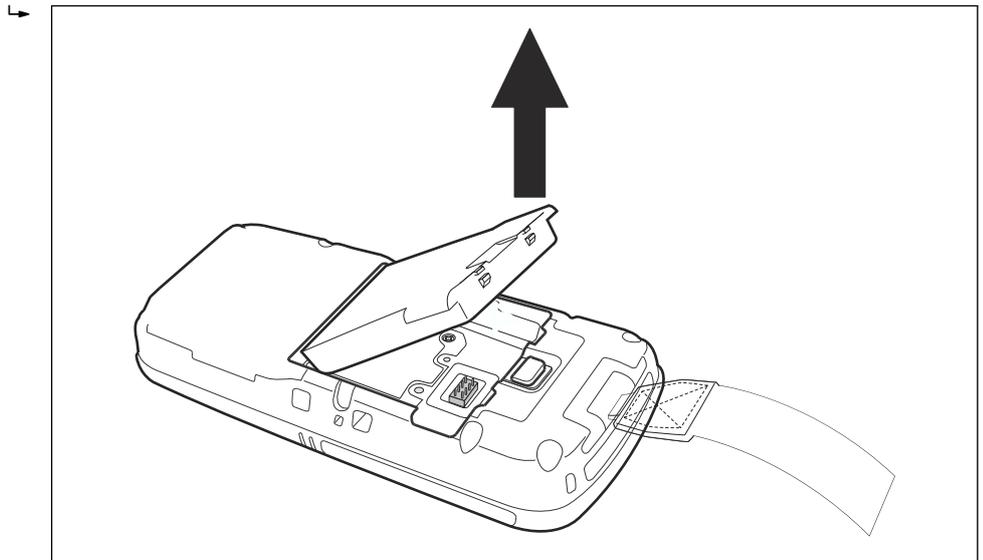
A hard reset stops all applications which are currently running but does not delete any programs or saved data. Additional to a soft reset, all hardware registers will be erased.

i During a hard reset, data stored in the intermediate memory are lost. Configuration and network settings are retained.

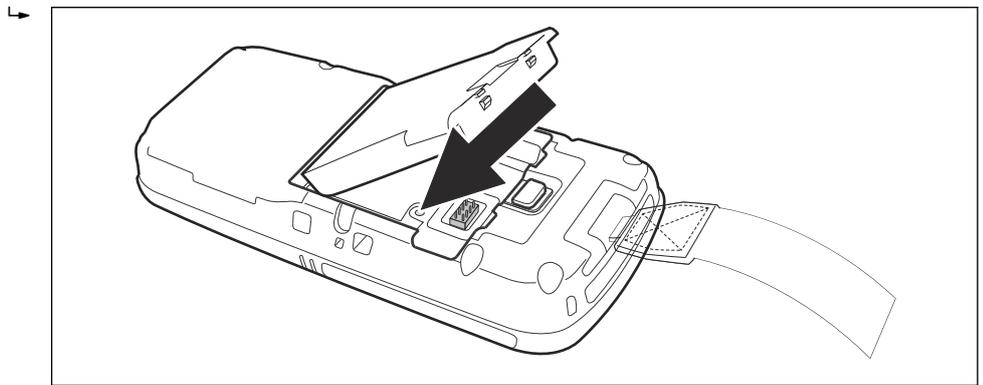
SFX350 hard reset

1. Remove the hand strap on the Field Xpert.

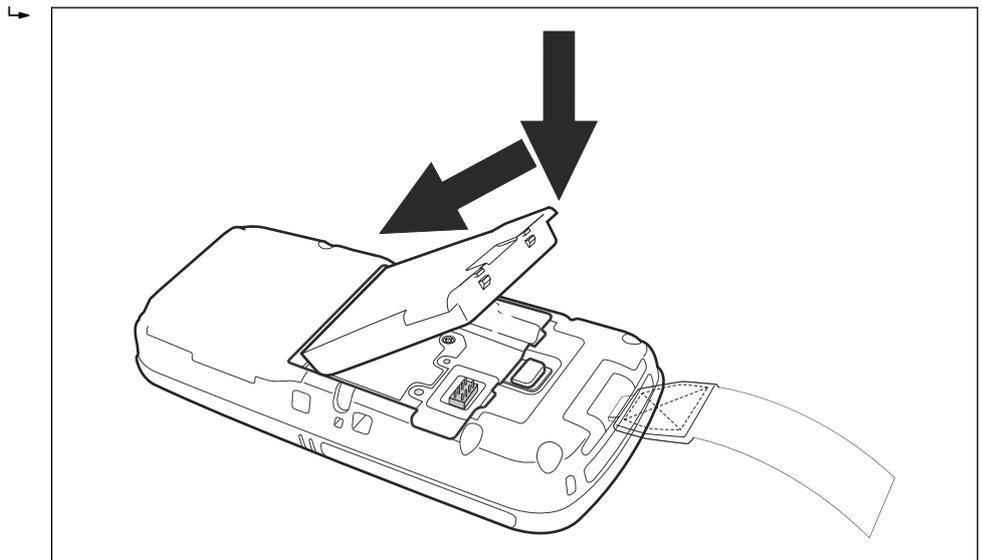
- 2. Release the battery and remove it.



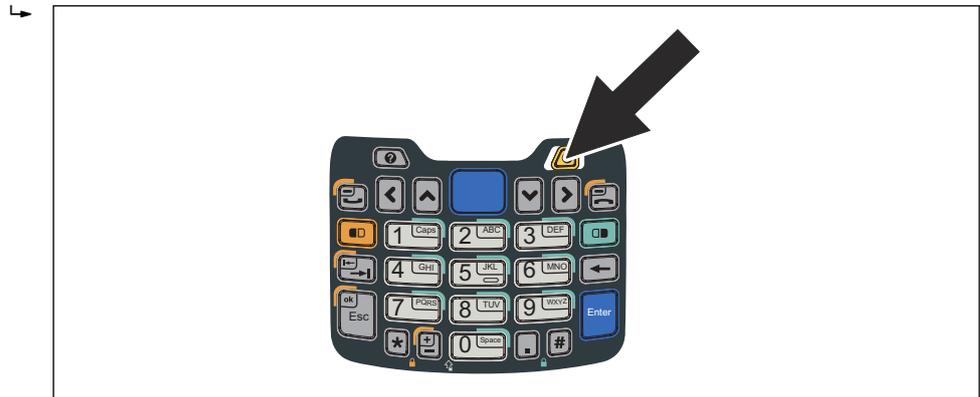
- 3. Press the **Reset** button.



- 4. Insert the **battery** and **hand strap**.



5. Press the **on/off button** on the keyboard.



Field Xpert carries out a restart and returns to the start screen.

SFX370 hard reset

1. Simultaneously press the two **R** keys for 5 seconds.



2. Press the **on/off button** on the keyboard.



Field Xpert carries out a restart and returns to the start screen.

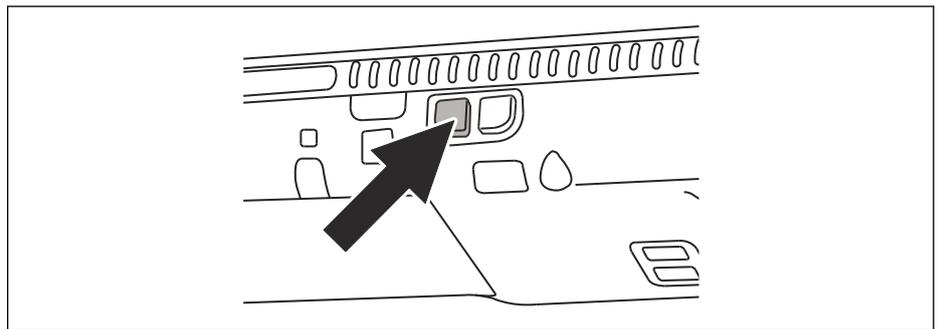
8.1.3 Clean Reset (clean boot)

A clean reset clears all user-installed settings, applications and data from the device memory. It does not affect the SD card data.

i Before a clean reset can be performed with the Field Xpert, it is important to ensure that all the data have been saved on the SD card or an external PC.

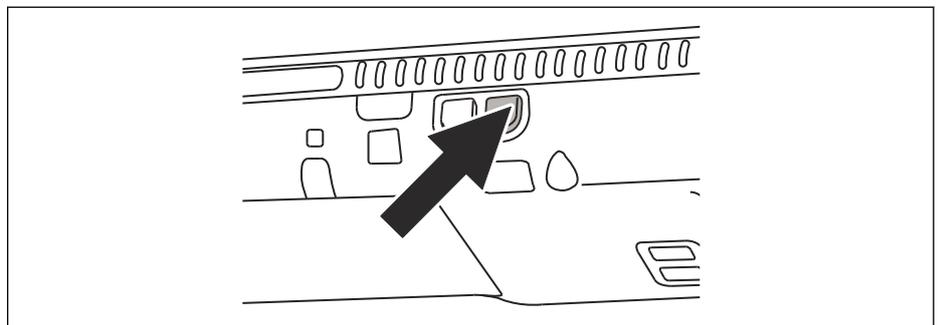
SFX350 Clean Reset

1. Perform a soft reset as described in **chapter 8.1.1**. →  62
2. While the Field Xpert is rebooting, simultaneously press the **on/off button** and the **Decrease Volume key** on the right-hand side.



Press and hold until the prompt comes to release the keys.

3. Press the **Increase Volume key** on the right side.
 - ↳ The clean reset starts and the Field Xpert is completely reset.



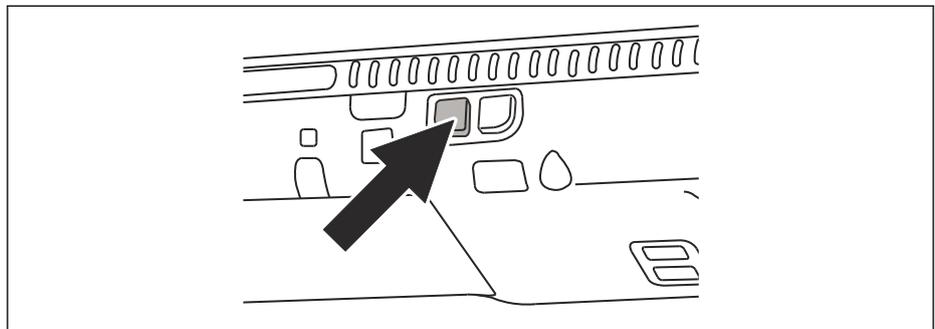
The **AutoInstallation** tool is now started automatically.

Do not touch any keys until the Field Xpert beeps, performs a soft reset and the Field Xpert start screen is displayed.

Follow the instructions on the screen. Information about this can be found in **Operating Instructions BA01211S/04/EN**.

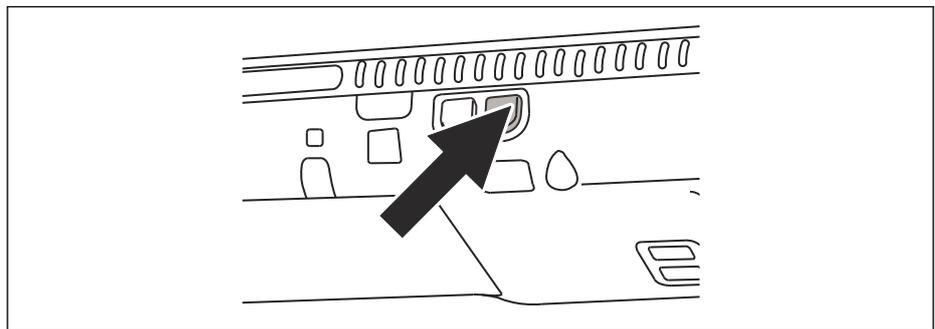
SFX370 clean reset

1. Perform a soft reset as described in **chapter 8.1.1**. →  62
2. While the Field Xpert is rebooting, simultaneously press the **on/off button** and the **Decrease Volume key** on the right-hand side.



Press and hold until the prompt comes to release the keys.

3. Press the **Increase Volume key** on the right side.
- ↳ The clean reset starts and the Field Xpert is completely reset.



The **AutoInstallation** tool is now started automatically.

Do not touch any keys until the Field Xpert beeps, performs a soft reset and the Field Xpert start screen is displayed.

Follow the instructions on the screen. Information about this can be found in **Operating Instructions BA01211S/04/EN**.

8.2 Connection problems

All types of connection (Bluetooth modem, FXA520 and SFC162) should function without any faults or interruptions. If any communication failures are discovered (values in the DD are colored red), please check your connections as shown below.

| Fault | Cause/Remedy |
|---|---|
| VIATOR Bluetooth modem does not connect | <p>Communication error</p> <ul style="list-style-type: none"> ▪ Modem or Field Xpert Bluetooth communication not switched on <ul style="list-style-type: none"> – Modem sleeps if there is no traffic over a specific period (30 Minutes) – To awaken, switch on the modem, disconnect from fieldbus, and then reconnect to fieldbus ▪ Batteries flat (< 10 %), see chapter 5.2.4 →  28: Replace batteries ▪ Communication stalled: Switch off Field Xpert and the modem, wait 10 seconds, switch on the modem, wait 10 seconds, switch on Field Xpert <p>Communication settings incorrect</p> <ul style="list-style-type: none"> ▪ Check that the VIATOR Bluetooth modem has been selected, see chapter 7.3.1 →  38 ▪ Check that the VIATOR Bluetooth modem has been correctly configured ▪ Check that the VIATOR Bluetooth modem has been set to be the default modem |
| FFblue Bluetooth modem does not connect | <p>Communication error</p> <ul style="list-style-type: none"> ▪ Modem or Field Xpert Bluetooth communication not switched on <ul style="list-style-type: none"> – Modem sleeps if there is no traffic over a specific period (10 min) – To awaken, disconnect from fieldbus, then reconnect to fieldbus ▪ Batteries flat (< 10 %), see chapter 5.4.3 →  31: Replace batteries ▪ Communication stalled: Switch off Field Xpert and the modem, wait 10 seconds, switch on the modem, wait 10 seconds, switch on Field Xpert <p>Communication settings incorrect</p> <ul style="list-style-type: none"> ▪ Check that the FFblue Bluetooth modem has been selected, see chapter 7.3.2 →  44 ▪ Check that the FFblue Bluetooth modem has been correctly configured ▪ Check that the FFblue Bluetooth modem has been set to be the default modem |
| Fieldgate FXA520 does not connect | <p>Communication error</p> <ul style="list-style-type: none"> ▪ Fieldgate FXA520 or Field Xpert WiFi communication not switched on ▪ Communication stalled: Switch off Field Xpert and the FXA520, wait 10 seconds, switch on the FXA520, wait 10 seconds, switch on Field Xpert <p>Field Xpert communication settings incorrect</p> <ul style="list-style-type: none"> ▪ Check that Fieldgate FXA520 has been selected ▪ Check that Fieldgate FXA520 has been correctly configured <p>Fieldgate FXA520 communication settings incorrect</p> <ul style="list-style-type: none"> ▪ Check that the Ethernet network addresses have been correctly set up ▪ More information can be found in the Fieldgate FXA520 operating manual |
| Gateway SFC162 does not connect | <p>Communication error</p> <ul style="list-style-type: none"> ▪ Gateway SFC162 or Field Xpert WiFi communication not switched on ▪ Communication stalled: Switch off Field Xpert and the gateway SFC162, wait 10 seconds, switch on the SFC162, wait 10 seconds, switch on Field Xpert <p>Field Xpert communication settings incorrect</p> <ul style="list-style-type: none"> ▪ Check that the gateway SFC162 has been selected ▪ Check that the gateway SFC162 has been correctly configured <p>gateway SFC162 communication settings incorrect</p> <ul style="list-style-type: none"> ▪ Check that the gateway SFC162 is operating as visitor ▪ Check that the Ethernet network addresses have been correctly set up ▪ More information can be found in the gateway SFC162 operating manual |
| USB connection of Field Xpert to a PC does not work | <p>ActiveSync connection or Windows Mobile Device Center connection lost</p> <ul style="list-style-type: none"> ▪ Disconnect and reconnect USB port ▪ Restart PC <p>WiFi connection operating in parallel</p> <ul style="list-style-type: none"> ▪ Set up ActiveSync connection or Windows Mobile Device Center to accept a parallel wireless connection ▪ If necessary consult the IT specialist |

9 Repair

9.1 Repair

Never open the Field Xpert housing. It does not contain any parts which the user needs to service or repair. In the event of a fault or defect, please return the Field Xpert to Endress+Hauser. Opening the Field Xpert invalidates the guarantee and Ex approval. The VIATOR Bluetooth and FFblue modem may be opened in order to replace the batteries, as described in this manual.

9.2 Spare parts and accessories

Various spare parts and accessories, which can be ordered from Endress+Hauser, are available for the Field Xpert.

SFX350

| Spare Parts/Accessories | Order code |
|--|------------|
| Transport and Protection | |
| Field Xpert Carry Case | 71217428 |
| Leather Case SFX350 with Shoulder Strap | 71217434 |
| Shoulder Strap SFX350 | 71218401 |
| Holster SFX350 | 71217438 |
| Field Xpert | |
| Stylus SFX350 with Cord (1pc) | 71217444 |
| Hand Strap SFX350 (1pc) | 71217447 |
| Battery Pack SFX350 | 71217450 |
| Micro SD Card 8 GB | 71217437 |
| Docking Station + Communication | |
| Desktop Dock SFX350 with USB interface | 71217453 |
| AC Power Supply Desktop Dock | 71217443 |
| USB Cable for Desktop Dock | 71217445 |
| Base Desktop Dock | 71217446 |
| Cup Desktop Dock for SFX350 | 71217456 |
| Cup Desktop Dock for 2 Batteries SFX350 | 71217460 |
| Power Cord CH, IN, ZA | 71217458 |
| Power Cord DK | 71217451 |
| Power Cord EU | 71217452 |
| Power Cord IT | 71217454 |
| Power Cord UK | 71217455 |
| Power Cord US | 71217457 |
| Power Cord EU+Int. Adapter Set 150 Countries | 71217459 |
| Communication Interface | |
| Bluetooth Interface HART | 71066844 |
| Bluetooth Interface FOUNDATION Fieldbus | 71096629 |

| Accessories and Spare Parts | Order code |
|--|------------|
| Transport and Protection | |
| Field Xpert Carry Case | 71217428 |
| Leather Case SFX370 with Shoulder Strap | 71217429 |
| Shoulder Strap SFX370 | 71217430 |
| Leather Holster SFX370 | 71217431 |
| Field Xpert | |
| Stylus SFX370 with Cord (1pc) | 71217432 |
| Hand Strap SFX370 (1pc) | 71217433 |
| Bracket SFX370 for Stylus (1pc) | 71217435 |
| Battery Pack SFX370 | 71217436 |
| Micro SD Card 8 GB | 71217437 |
| Docking Station + Communication | |
| Single Dock SFX370 with USB interface | 71217439 |
| AC Power Supply Single Dock | 71217440 |
| USB Cable for Single Dock | 71217441 |
| Desktop Dock SFX370 with USB interface | 71217442 |
| AC Power Supply Desktop Dock | 71217443 |
| USB Cable for Desktop Dock | 71217445 |
| Base Desktop Dock | 71217446 |
| Cup Desktop Dock for SFX370 | 71217448 |
| Cup Desktop Dock f. 1 Battery of SFX370 | 71217449 |
| Power Cord CH, IN, ZA | 71217458 |
| Power Cord DK | 71217451 |
| Power Cord EU | 71217452 |
| Power Cord IT | 71217454 |
| Power Cord UK | 71217455 |
| Power Cord US | 71217457 |
| Power Cord EU+Int. Adapter Set 150 Countries | 71217459 |
| Communication Interface | |
| Bluetooth Interface HART | 71066844 |
| Bluetooth Interface FOUNDATION Fieldbus | 71096629 |

9.3 Disposal

9.3.1 Consumables

When disposing of consumables and waste material, follow the current regulations for waste disposal.

9.3.2 Field Xpert

The Field Xpert can be handed in directly to your local supplier free of charge. Your local supplier will then dispose of it in an environmentally friendly manner on your behalf.

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