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Technical Information
Field Xpert SMT77

Universal, high-performance tablet PC for device configuration in Ex Zone 1 areas

Application

The Field Xpert SMT77 for device configuration enables mobile plant asset management in areas categorized as Ex Zone 1. It is suitable for commissioning and maintenance staff to easily manage field instruments with a digital, wired and wireless communication interface. The touch-enabled tablet PC is designed as a complete solution. It comes with comprehensive pre-installed driver libraries and offers users a modern software user interface to manage field devices throughout the entire life cycle.

The integrated LTE module ensures that the tablet is online even if a wireless local area network is not available.

Your benefits

- High-performance, robust tablet for use in Ex Zone 1 areas with a large 10.1" display and a battery runtime of up to 5 hours.
- Touch-enabled device configuration software for optimized asset management.
- Direct link to Netilion, Endress+Hauser's IIoT ecosystem.
- Pre-installed device driver libraries for all of the important industrial protocols.
- Fast connection to devices with a single click thanks to automatic hardware detection, online application software and DTM/driver update service offer new functionality and maximum security.
- Integrated Heartbeat Verification incl. PDF documentation.
- Connection to Endress+Hauser Bluetooth and WLAN devices - perfect for difficult-to-access instruments.

Endress+Hauser
People for Process Automation

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About this document

Symbols

Safety symbols

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 potentially dangerous situation. Failure to avoid this situation can result in serious or fatal injury.

CAUTION
This symbol alerts you to a potentially dangerous situation. Failure to avoid this situation can result in minor or medium injury.

NOTICE
This symbol alerts you to a potentially harmful situation. Failure to avoid this situation can result in damage to the product or something in its vicinity.

Symbols for certain types of information

Symbol	Meaning
	Permitted Procedures, processes or actions that are permitted.
	Preferred Procedures, processes or actions that are preferred.
	Forbidden Procedures, processes or actions that are forbidden.
	Tip Indicates additional information.
	Reference to documentation
	Reference to page
	Reference to graphic
	Visual inspection

Function and system design

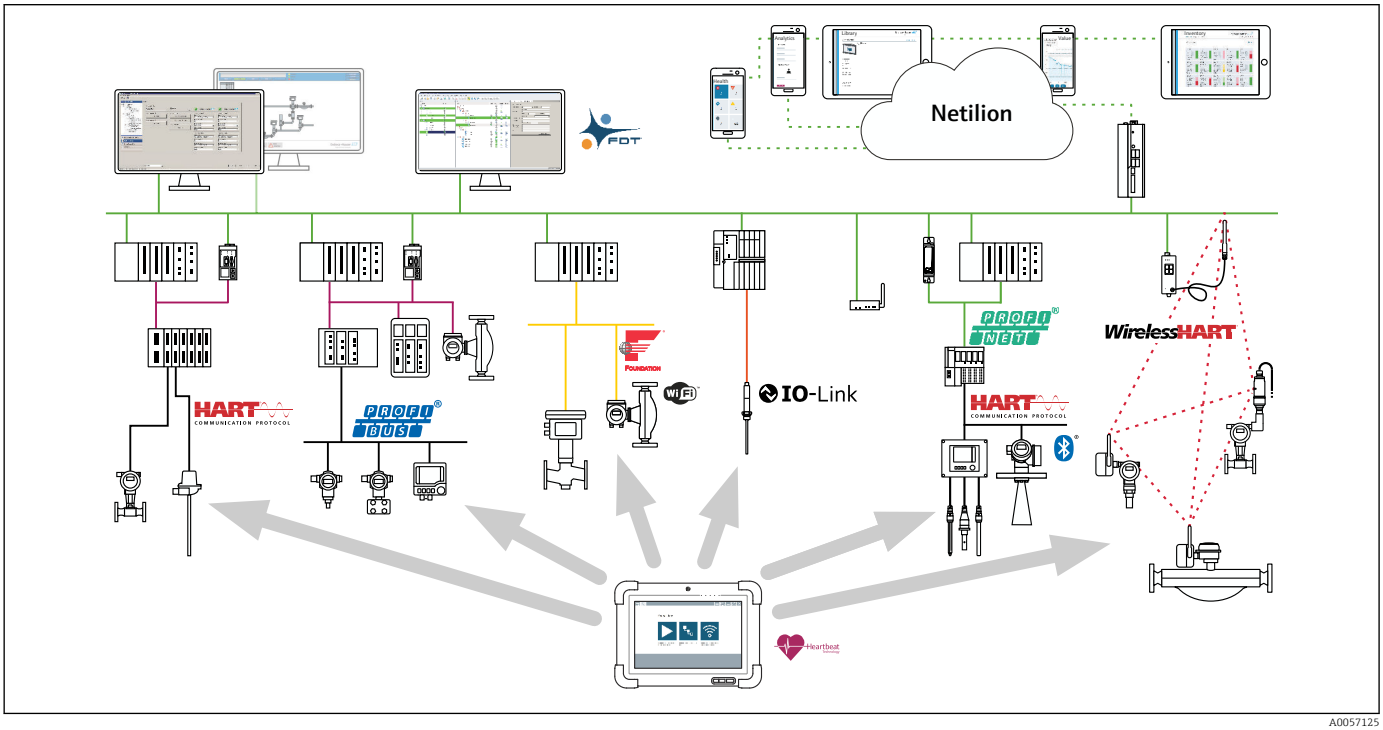
Function

The Field Xpert SMT tablet PC for universal device configuration supports a variety of protocols, the Endress+Hauser service protocols, and connection to Endress+Hauser Bluetooth field devices and Endress+Hauser WLAN field devices. You can connect the field devices directly via a suitable interface, such as a modem (point-to-point), a bus system (point-to-bus) or a wireless connection (WLAN/Bluetooth).

The Field Xpert software package is fast, easy and intuitive to use.

The Field Xpert device library already has several thousand pre-installed device and communication drivers. They can be used to operate practically all HART and FOUNDATION Fieldbus devices (FieldComm Group libraries). Furthermore all Endress+Hauser field device drivers are installed. The generic HART DTM and PROFIBUS profile DTMs also enable operation of all the important basic functionalities of the relevant field devices.

In addition, the tablet PC features the FDI Package Manager for the installation of FDIs and the IODD DTM Configurator for installing IODDs. You can install new device drivers (DTMs, FDIs and IODDs) on the Field tablet PC at any time.



1 *Field Xpert SMT77 applications*

Overview of supported protocols and interfaces

Supported field devices and protocols

Endress+Hauser field devices and 3rd-party field devices

- HART
- PROFIBUS DP/PA
- PROFINET
- FOUNDATION Fieldbus
- Modbus
- IO-Link
- Bluetooth: Endress+Hauser field devices with Bluetooth function
- WLAN: Endress+Hauser WLAN field devices

Supported Endress+Hauser service protocols

- CDI
- IPC
- ISS
- PCP

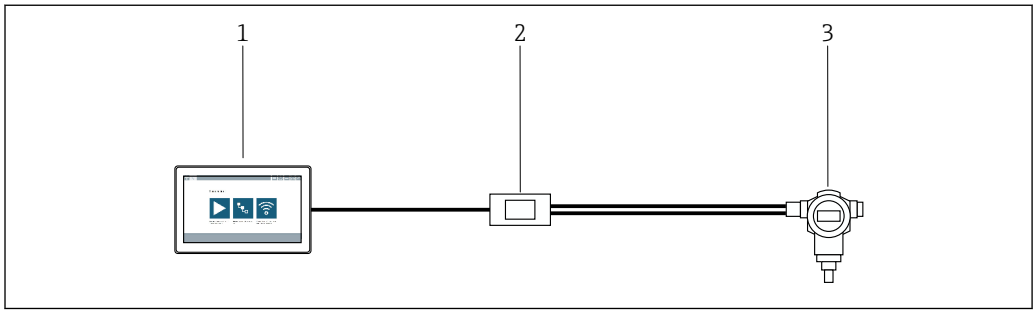
Note that in the hazardous area, each individual device connected requires an appropriate Ex approval.

Protocol	Interface (interface, modem, gateway)
HART	▪ Commubox FXA195 ▪ Viator Bluetooth IS modem ▪ Viator USB modem with PowerXpress ▪ FieldPort SFP50 ▪ Fieldgate SFG250 ▪ Memograph RSG45 ▪ Tank Scanner NXA820 ▪ BARTEC add-on module ▪ FieldGate SWG50 ▪ Fieldgate SWG70
PROFIBUS	▪ Softing PROFIusb ▪ Softing PBpro USB ▪ FieldPort SFP50 with PROFIBUS license ▪ Fieldgate SFG500
PROFINET	PROFINET Comm DTM
FOUNDATION Fieldbus	▪ NI USB ▪ FieldPort SFP50 with FOUNDATION Fieldbus license ▪ Softing FFusb
Modbus	Modbus serial
IO-Link	FieldPort SFP20
Endress+Hauser service interfaces	▪ Commubox FXA291 CDI ▪ Commubox FXA291 IPC, ISS, PCP ▪ Commubox FXA193 IPC, ISS ▪ TXU10 V2 CDI ▪ TXU10 V2 PCP ▪ TXU10 V1 PCP, CDI ▪ CDI USB ▪ CDI TCP/IP
Bluetooth	Endress+Hauser field devices with Bluetooth function
WLAN	Endress+Hauser WLAN field devices

Application examples

HART point-to-point connection via USB/HART modem FXA195

You can use the Endress+Hauser USB/HART modem FXA195 to establish a connection automatically from the tablet PC to a HART field device.



2 *Point-to-point connection with a HART field device*

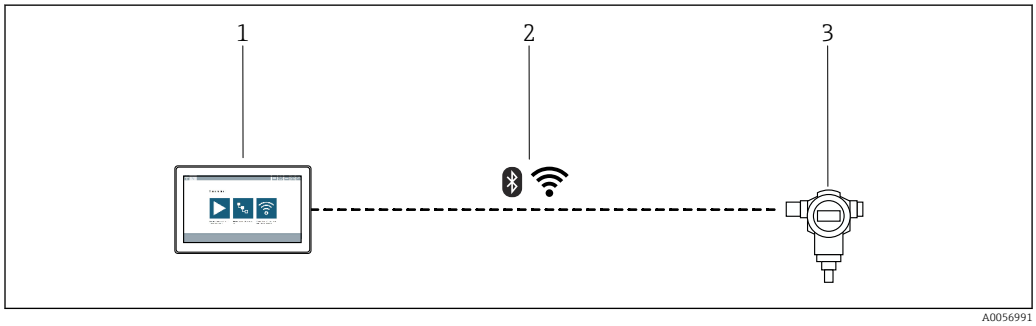
1 *Field Xpert SMT70 tablet PC*
2 *USB/HART modem Commubox FXA195*
3 *HART field device*

To establish communication with the HART field device, a resistor of at least 250 Ω must be provided in the circuit. The integration of the resistor depends on the system architecture and the power supply used.

For detailed information: Documentation for USB/HART modem Commubox FXA195

Connecting via WLAN or Bluetooth

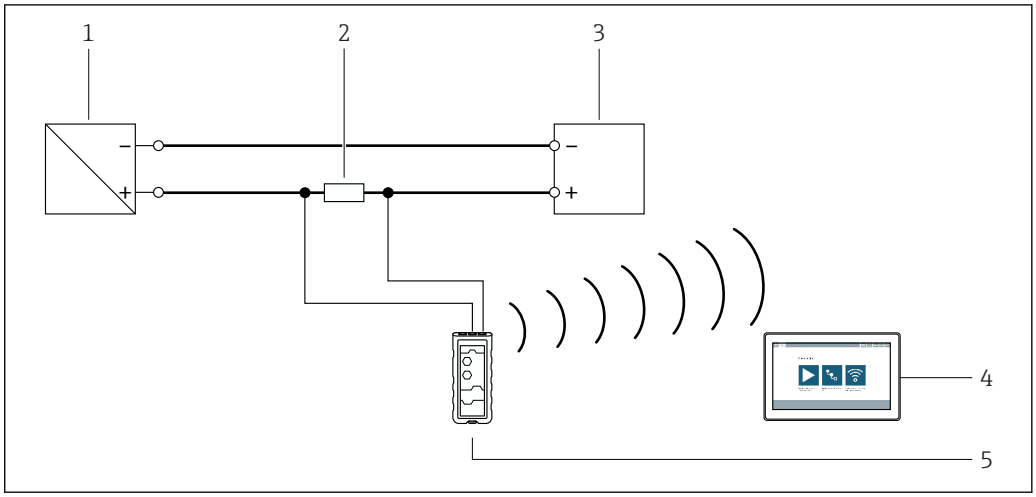
You can connect the tablet PC to a WLAN or Bluetooth-enabled Endress+Hauser field device via a WLAN or Bluetooth.



3 *Connecting via WLAN or Bluetooth*

1 *Field Xpert SMT70 tablet PC*
2 *WLAN or Bluetooth*
3 *Endress+Hauser field device*

HART point-to-point communication via FieldPort SFP50



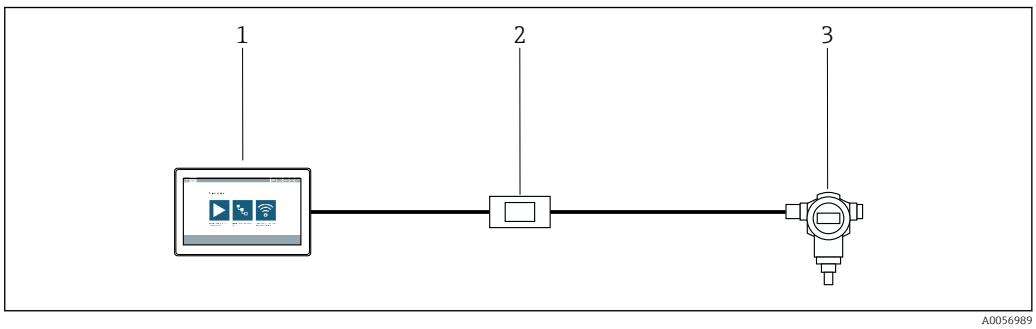
4 *Point-to-point connection via FieldPort SFP50*

1 *A transmitter power supply unit*
2 *Load resistance 250 to 1 100 Ω*
3 *HART field device*
4 *Field Xpert SMT70 tablet PC*
5 *FieldPort SFP50*

CDI point-to-point connection via Commubox FXA291

You can connect the tablet PC automatically to an Endress+Hauser field device with CDI interface via the Endress+Hauser Commubox FXA291.

For detailed information, see Commubox FXA291 documentation

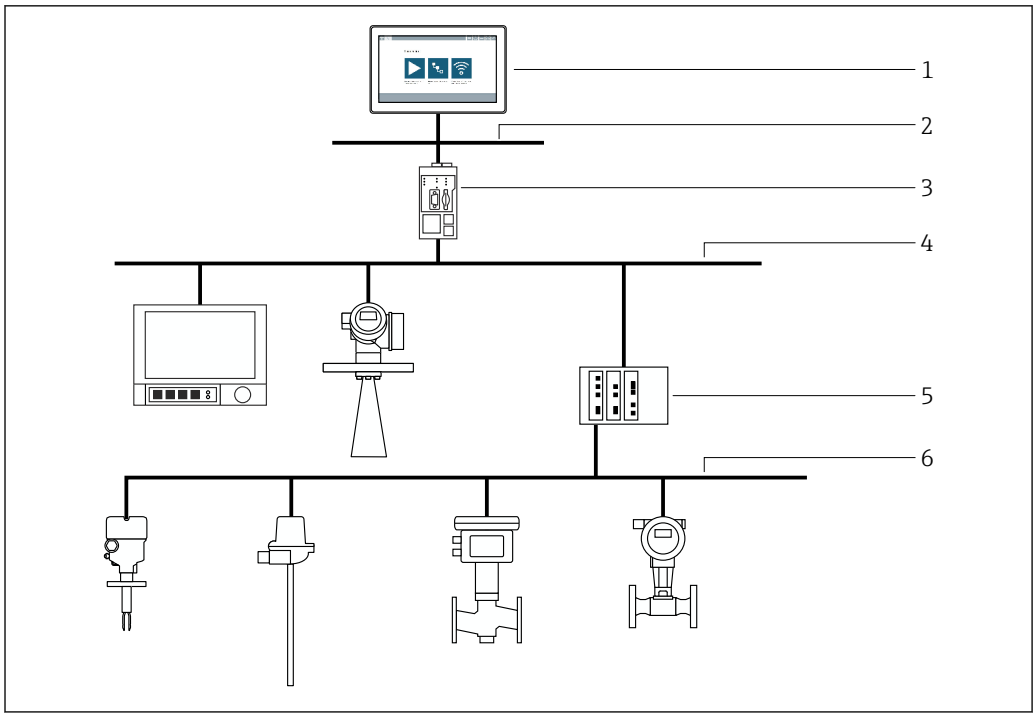


5 *CDI point-to-point connection with a field device*

1 *Field Xpert SMT70 tablet PC*
2 *Commubox FXA291 for CDI interface*
3 *Field device with CDI interface*

PROFIBUS point-to-bus connection

You can establish a connection from the tablet PC to a PROFIBUS PA field device using a wizard by means of the Endress+Hauser Fieldgate SFG500. The connection from PROFIBUS DP to PROFIBUS PA is established via a segment coupler such as Siemens DP/PA link or Pepperl+Fuchs SK3.



6 *PROFIBUS point-to-bus connection via Fieldgate SFG500*

1 *Field Xpert SMT70 tablet PC*
2 *Ethernet*
3 *Fieldgate SFG500*
4 *PROFIBUS DP*
5 *Segment coupler*
6 *PROFIBUS PA*

Communication and data processing

Connections
- MicroSD card slot
- Micro SIM card slot
- Charging port
- Docking port

Connection to docking station
- 4x USB 2.0
- RS232
- Ethernet 10/100 Mbit/s
- 1x HDMI
- Charging port

Expansion slots
HART add-on module

USB
1x USB 2.0

Wireless local area network
- IEEE 802.11 a/b/g/n/ac
- 2 antennas

Bluetooth
Bluetooth® 4.1 (LE), Class 1

Wireless WAN + GPS
Depends on the version, either "WLAN" or "Wireless WAN + GPS"

Energy supply

Supply voltage

Voltage
19 V

Current consumption
3.42 A

Power consumption
65 W

Battery

Replaceable, rechargeable lithium polymer battery

	Battery: Included as standard in the scope of delivery	Additional battery (optional)
Voltage	7.4 V_{DC}	7.4 V_{DC}
Capacity	4 200 mAh	4 200 mAh
Battery life	Up to 3 h	Up to 5 h

The additional battery can be hot-swapped during operation in hazardous areas.

Performance characteristics

Hardware

CPU
Intel N3710 1.6 GHz or better (turbo 2.56 GHz)

Working memory
8 GB SODIM DDR3L-1600

Memory
128 GB SATA uSSD

Display
- Screen size: 10.1"
- Resolution: 1920 x 1200
- LCD, double-bonded Gorilla Glass
- 10 points multi-touch
- Luminance (brightness): 700 cd/m^2
- Contrast ratio 800:1
- LED background lighting
- Viewing angle of 89° from all sides

LEDs
- Power indicator
- Charging indicator
- Mass storage status
- Radio connection status

Keys
- On/off
- Volume
- Home/menu
- Touch button for barcode/camera
- Programmable touch button

Audio
- 2 microphones with integrated noise cancellation
- 2 speakers (2 x 0.5 W

Scanner
1D/2D barcode scanner (optional)

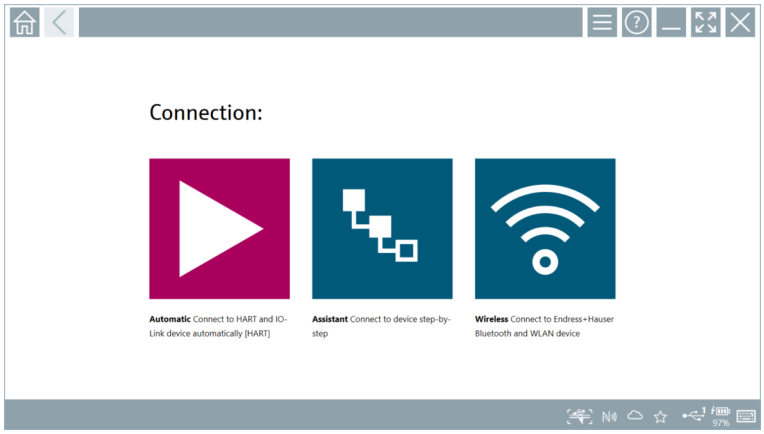
RFID
RFID reader HF/NFC

Camera
- 2 MP camera at the front
- 5 MP camera at the back with auto focus and flash

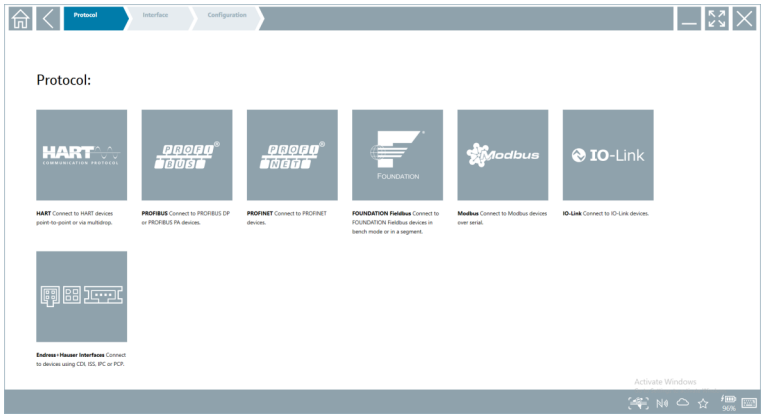
Software

Field Xpert SMT77 tablet PC operating system
Windows 10 SAC

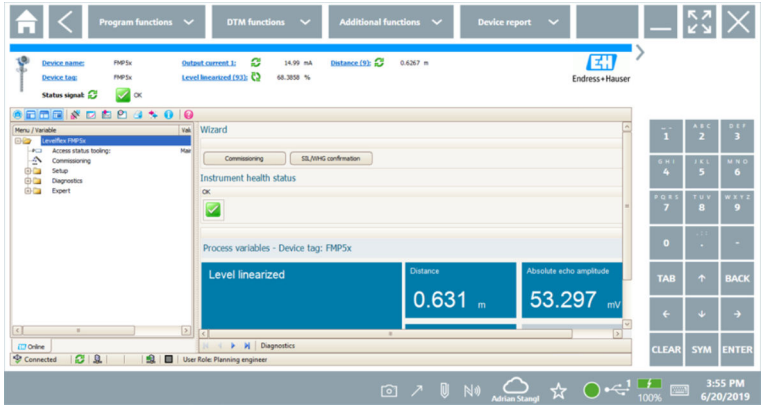
Field Xpert software
Touch-enabled device configuration software developed for tablet PC



7 *Start screen with one-click automatic button*



8 *Protocol selection for manual selection of connection*



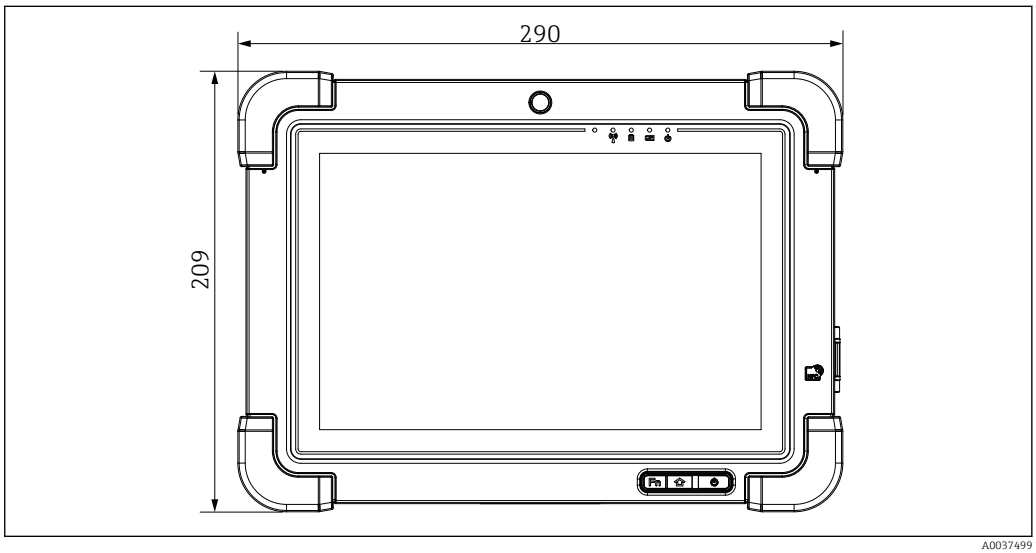
9 *Example: Device configuration*

Environment

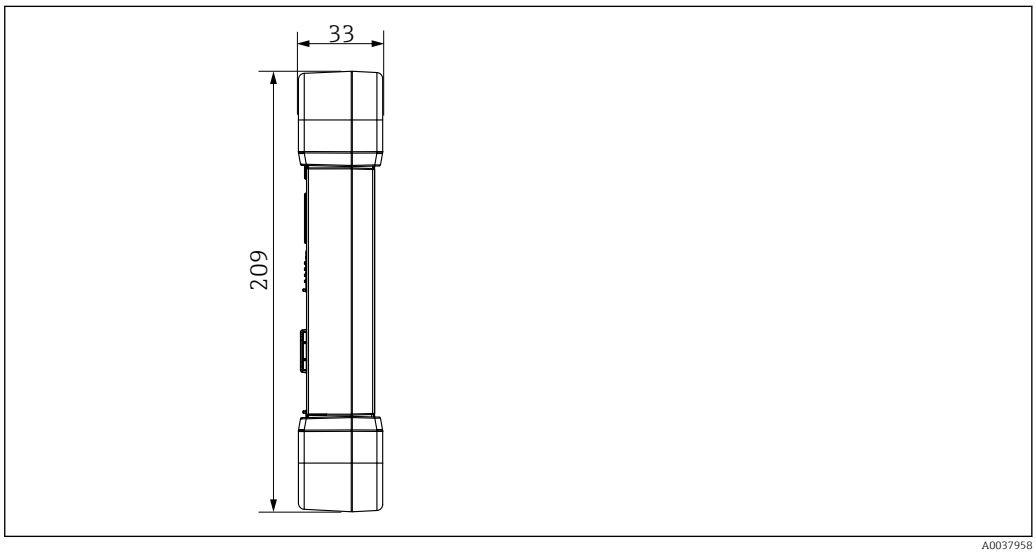
Ambient temperature range	–20 to 50 °C (–4 to 122 °F) (without cold start)
Storage temperature	–20 to 50 °C (–4 to 122 °F)
Humidity	5 to 95 % (non-condensing)
Degree of protection	IP65 (EN/IEC 60529)
Shock resistance	Can withstand a drop of over 1 m onto concrete (incl. add-on module and battery)

Mechanical construction

Design, dimensions	290 mm · 209 mm · 33 mm (11.42 in · 8.23 in · 1.3 in)



10 Front view



11 Side view

Weight	2.3 kg (5.1 lb)

Operability

Operation concept

The Field Xpert software provides three different methods to establish a connection to the field device. The version that is possible depends on the protocol, the interface (modem/gateway) and the field device.

- Automatic: Connection to the interface (modem)/field device is established automatically.
- Wizard: You establish a connection to the interface (modem/gateway) and the field device step by step.
- Wireless: Select this option if you wish to establish a connection to an Endress+Hauser Bluetooth or WLAN field device.

Languages

Field Xpert software
Languages for selection: AR, CS, DE, ES, FI, FR, ID, IT, JA, KO, NL, PL, PT, RU, EN, SV, TH, TR, VI, ZH

Driver interface for field devices
Depends on the field device

Certificates and approvals

Current certificates and approvals for the product are available at www.endress.com on the relevant product page:

1. Select the product using the filters and search field.
2. Open the product page.
3. Select **Downloads**.

CE mark

The product meets the legal requirements of the relevant EU/EG directives. The manufacturer confirms successful testing of the product by affixing to it the CE mark.

Ordering information

Detailed ordering information is available from your nearest sales organization www.addresses.endress.com or in the Product Configurator at www.endress.com:

1. Select the product using the filters and search field.
2. Open the product page.
3. Select **Configuration**.

Product Configurator - the tool for individual product configuration
- Up-to-the-minute configuration data
- Depending on the device: Direct input of measuring point-specific information such as measuring range or operating language
- Automatic verification of exclusion criteria
- Automatic creation of the order code and its breakdown in PDF or Excel output format
- Ability to order directly in the Endress+Hauser Online Shop

Scope of delivery

The scope of delivery comprises:
- Field Xpert tablet PC
- AC charger (100 to 240 V_{AC}, 1.5 A, 50 to 60 Hz) with connecting cable EU, US, UK, CH, IT, ZA, AU
- Software and interfaces/modem as per order

Accessories

Device-specific accessories

The accessories currently available for the product can be selected at www.endress.com:

1. Select the product using the filters and search field.
2. Open the product page.
3. Select **Spare parts & Accessories**.

Documentation

For an overview of the scope of the associated Technical Documentation, refer to the following:
- *Device Viewer* (www.endress.com/deviceviewer): Enter the serial number from the nameplate
- *Endress+Hauser Operations app*: Enter serial number from nameplate or scan matrix code on nameplate.

Standard documentation

Field Xpert SMT77
- Innovation brochure IN01136S
- Technical Information TI01418S
- Operating Instructions BA01923S

Registered trademarks

Windows 10 IoT Enterprise® is a registered trademark of Microsoft Corporation, Redmond, Washington, USA.

Intel® Core™ is a registered trademark of Intel Corporation, Santa Clara, USA.

BARTEC is a registered trademark of BARTEC Top Holding GmbH, Bad Mergentheim/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.

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

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