

# Technical Information

## Field Xpert SMT50

Universal, high-performance tablet PC for device configuration



### Application

The Field Xpert SMT50 tablet PC for device configuration enables mobile plant asset management in non-hazardous areas. It is suitable for commissioning and maintenance staff. It manages Endress+Hauser and third-party field instruments with a digital communication interface and documents the progress of the work. The SMT50 is designed as a complete solution. It comes with a pre-installed driver library and is an easy-to-use, touch-enabled tool for managing field devices throughout their entire life cycle.

### Your benefits

- Robust tablet with large 12" display and a battery runtime of up to 8 hours.

- Touch-enabled device configuration software with a direct link to the Netilion Platform for optimized plant asset management.
- 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.

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## About this document

### Symbols used

#### 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 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.

##### NOTICE

This symbol contains information on procedures and other facts which do not result in personal injury.

#### Symbols for certain types of information

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

## Function and system design

### Function

The Field Xpert SMT50 tablet PC for universal device configuration supports a variety of protocols, the Endress+Hauser service protocols, and connection to Endress+Hauser Bluetooth field devices. The field devices can be connected 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 has more than 3000 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. Further device drivers (DTMs) can be installed additionally. The generic HART DTM and PROFIBUS profile DTMs also enable operation of all the important basic functionalities of the relevant field devices.

#### Supported field devices and protocols

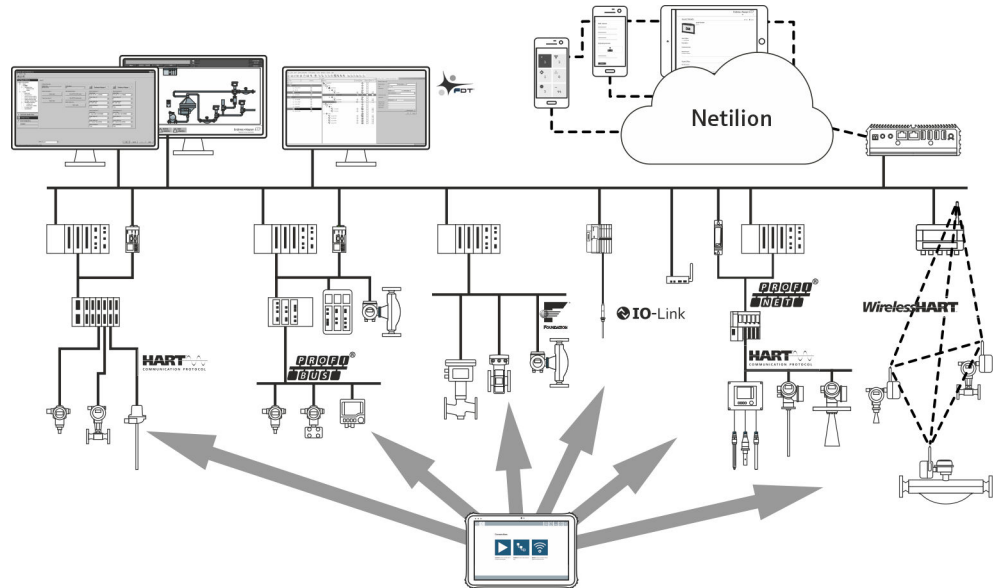
Endress+Hauser field devices and 3rd-party field devices

- HART
- PROFIBUS DP/PA
- FOUNDATION Fieldbus
- Modbus
- IO-Link

**Endress+Hauser service protocols**

- CDI
- ISS
- IPC
- PCP

**System design**



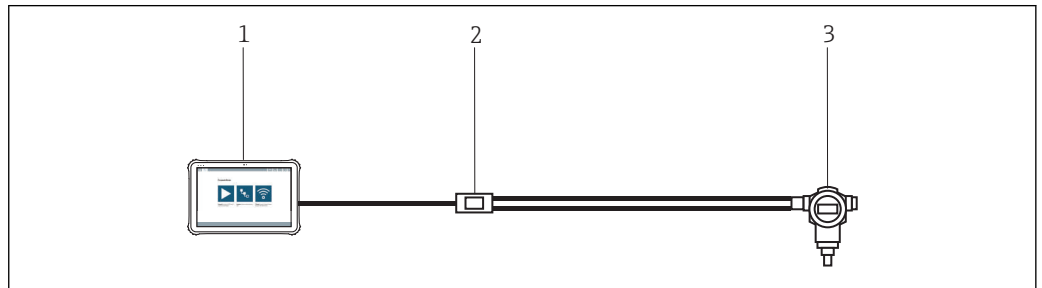
The following communication methods are supported by the Field Xpert SMT tablet PC:

Communication	Interface/modem/gateway
HART	Commubox FXA195 (4 to 20 mA)
	MACTek Bluetooth modem (4 to 20 mA)
	Memograph RSG45 (4 to 20 mA)
	MACTek USB modem (4 to 20 mA)
	FieldPort SFP50
	Fieldgate SFG250
	Tank Scanner NXA820 BARTEC add-on module
HART via PROFINET together with Fieldgate PAM SFG600	
PROFIBUS	Softing PROFusb
	Softing PBpro USB
	FieldPort SFP50
	Fieldgate SFG500
FOUNDATION Fieldbus	NI USB
	Softing FFusb
	FieldPort SFP50
Bluetooth	
Modbus	Modbus serial
WirelessHART	Wireless HART adapter SWA70
	WirelessHART Fieldgate SWG70
Endress+Hauser service interfaces	Commubox FXA291
	Commubox FXA193

Communication	Interface/modem/gateway
	TXU10 V2
	TXU10 V1
	CDI USB
	CDI TCP/IP
IO-Link	FieldPort SFP20

**HART point-to-point connection via Commubox FXA195**

This diagram shows a HART point-to-point connection with an FXA195 USB/HART modem. If an FXA195 is connected to the computer, the Field Xpert SMT50 tablet PC can connect to the device automatically.



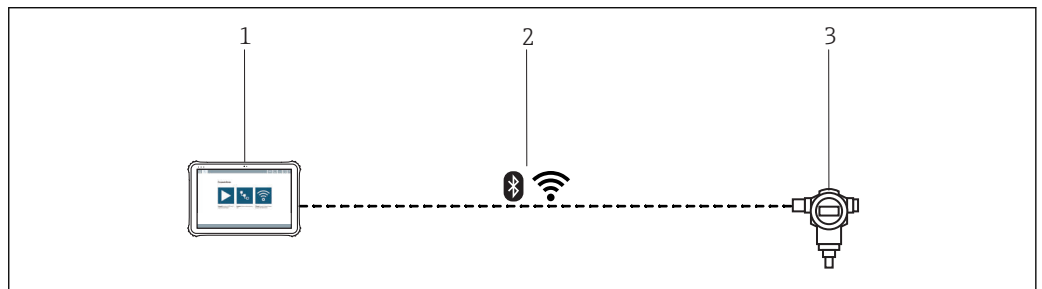
1 Point-to-point connection with a HART field device

- 1 Field Xpert SMT50 tablet PC
- 2 HART Commubox FXA195
- 3 Field device

To establish communication with the HART device, a resistor of at least 250 Ω must be provided in the circuit. The way in which this is done depends upon the system architecture and power source used. Please read the FXA195 manual carefully.

**Connection via WLAN and Bluetooth**

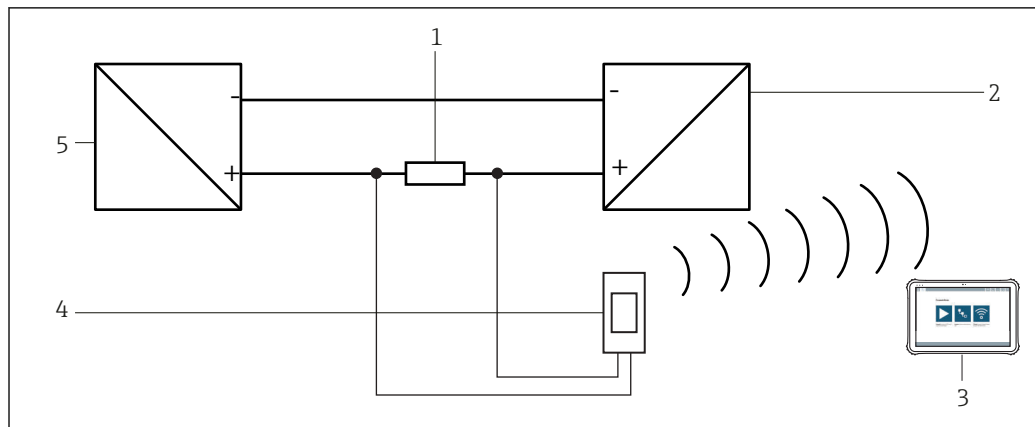
This diagram shows how to establish a connection to a WLAN-enabled or Bluetooth-enabled Endress+Hauser device.



2 Connection via WLAN and Bluetooth

- 1 Field Xpert SMT50 tablet PC
- 2 WLAN or Bluetooth
- 3 Field device

### HART point-to-point communication via FieldPort SFP50

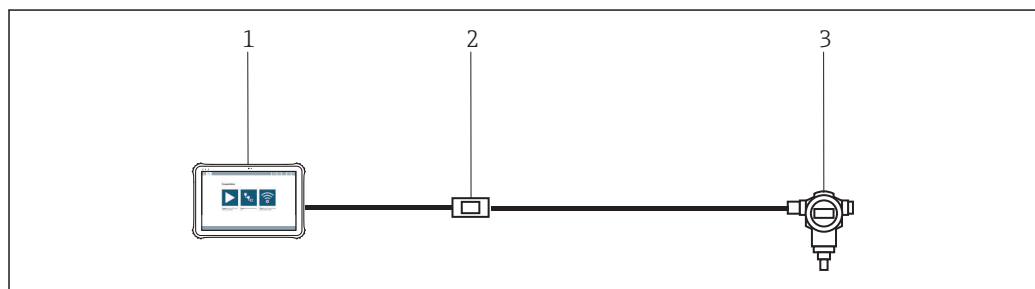


3 Point-to-point connection via a load resistor

- 1 Load resistor: 250 to 1 100  $\Omega$
- 2 HART device
- 3 Field Xpert SMT50 tablet PC
- 4 FieldPort SFP50
- 5 Transmitter power supply unit

### CDI point-to-point connection

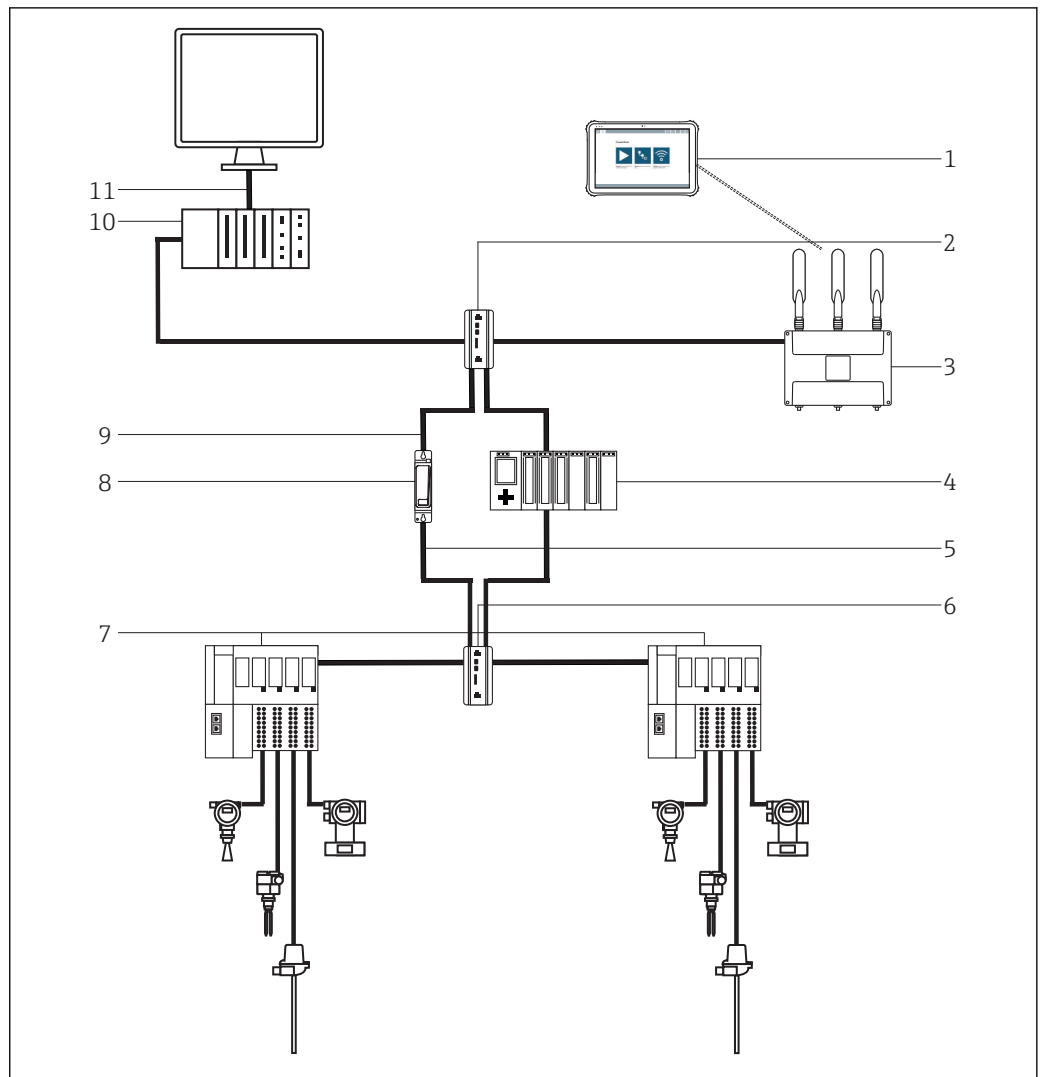
This diagram shows a CDI point-to-point connection with a Commubox FXA291 interface. If this Commubox is connected to the computer, the Field Xpert SMT50 tablet PC can connect to the device automatically.



4 CDI point-to-point connection with a field device

- 1 Field Xpert SMT50 tablet PC
- 2 Commubox FXA291 CDI
- 3 Field device with CDI interface

**HART via PROFINET**

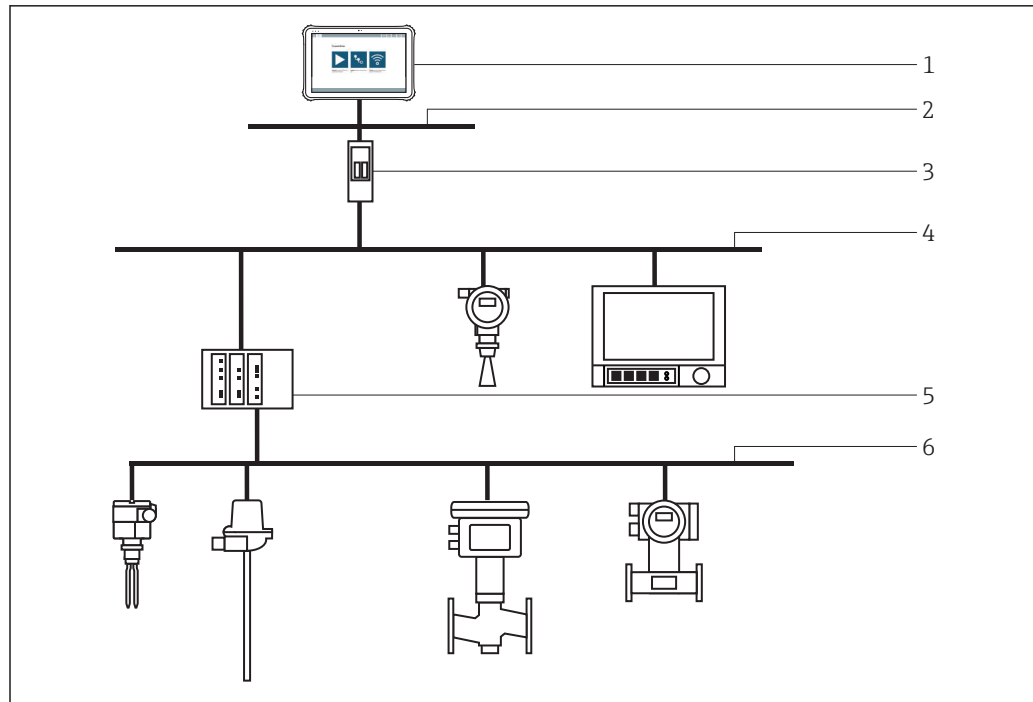


5 Network architecture

- 1 Field Xpert SMT50 tablet PC
- 2 Switch
- 3 Wireless router
- 4 PROFINET controller
- 5 PROFINET segment ETH1
- 6 PROFINET switch
- 7 Siemens ET200SP IM 155-6PN HF
- 8 Fieldgate PAM SFG600
- 9 Plant network PAM Client ETH2
- 10 Firewall
- 11 Office network

**PROFIBUS point-to-bus connection**

This diagram shows how the connection from PROFIBUS DP to PROFIBUS PA can be established using a Siemens DP/PA link or a Pepperl+Fuchs SK3.



6 PROFIBUS point-to-bus connection via Fieldgate SFG500

- 1 Field Xpert SMT50 tablet PC
- 2 Ethernet
- 3 Fieldgate SFG500
- 4 PROFIBUS DP
- 5 Segment coupler
- 6 PROFIBUS PA

#### Communication and data processing

USB	2 x USB 2.0 + 1 x USB 3.0
Wireless LAN	802.11 a/b/g/n   2.4 GHz + 5.8 GHz dual-band Wi-Fi
Bluetooth	Bluetooth 4.0 (BLE) Class 1.5   Transmission distance: 10 meters
Wireless WAN + GPS	Integrated 4G module + U-blox NEO-7

## Power supply

#### Battery

Replaceable, rechargeable lithium polymer battery

Type	R11AH
Voltage	7.4 V <sub>DC</sub>
Power	6300 mAh(45 Wh)
Battery life	Up to 8 h

## Performance characteristics

#### Hardware

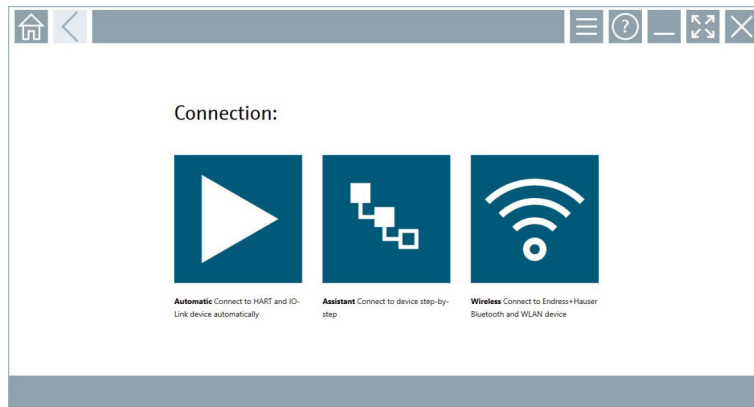
CPU	Intel® Skylake Core m3-6Y30
Working memory	4GB DDR3L
Storage	128GB M.2 SSD



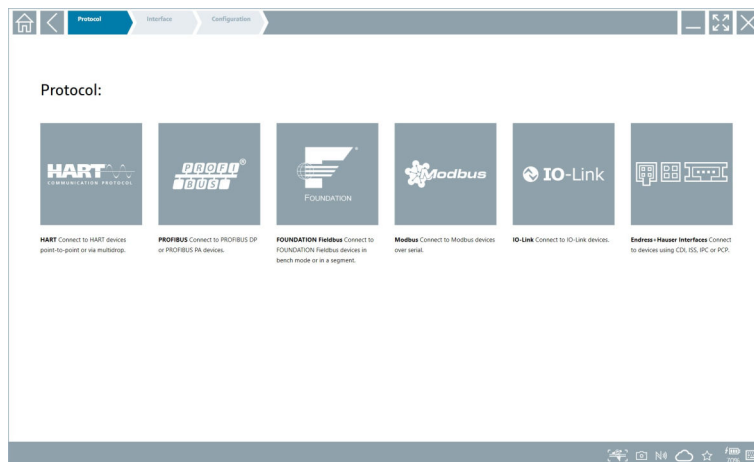
User interface	Screen size: 12.2" (30.98cm) Resolution: 1920 × 1200 Touch screen: 10-point capacitive (Corning Gorilla Glass 3) Brightness: 280 cd/m <sup>2</sup>
Audio	2 x loudspeakers (0.8 Watt) 3.5 mm audio out
Camera	2 MP camera on the front 5 MP camera on the rear
Connections	Video: 1 x mini HDMI 1.4a Serial ports: 1 x RS-232 (COM1) + 1 x RS-485 (COM2)
Expansion slots	SIM slot: 1 x micro SIM Expansion: 1 x micro SD

**Software**

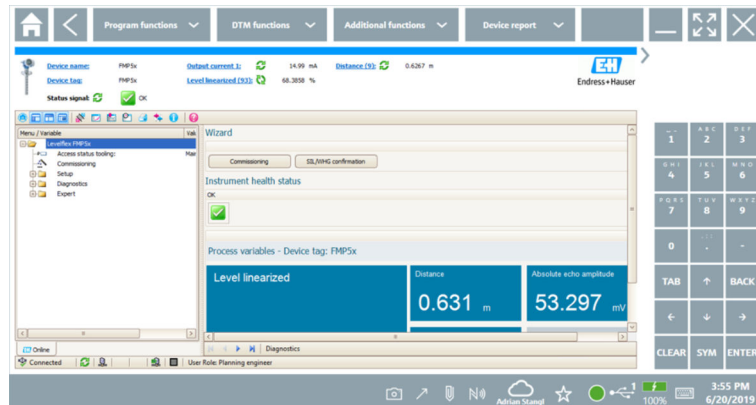
Operating system	Windows 10 IoT Enterprise
Configured software	Touch-enabled device configuration software optimized for Field Xpert
Standard software	Standard configurable Windows graphical user interface with icons, short cuts etc.



**7** Start screen with one-click automatic scan button



**8** Protocol selection for manual selection of connection



9 Device configuration

## Environment

**Ambient temperature range** -20 to 60 °C (-4 to 131 °F)

**Storage temperature** -20 to 60 °C (-4 to 140 °F)

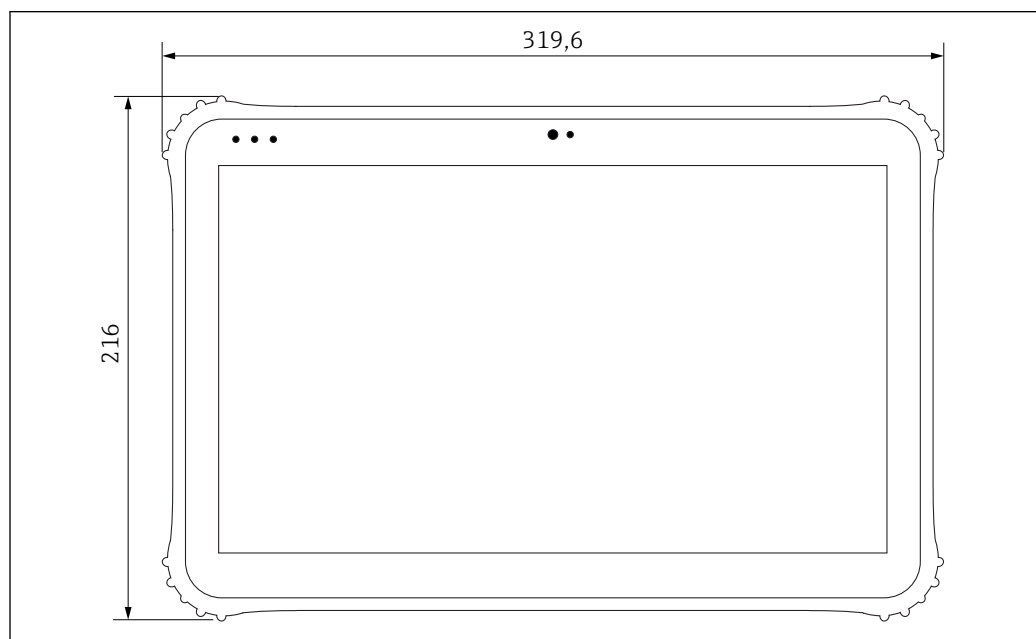
**Humidity** 5 to 95%

**Degree of protection** IP65

**Shock resistance** MIL-STD-810G

## Mechanical construction

**Design, dimensions** Standard version: 319.6 mm · 216 mm · 23.4 mm (11.75 in · 8.5 in · 0.9 in)



10 Front view

**Weight** 1.5 kg (3.3 lb)

## Operation

- Automatic connection to field devices or via wizard
- Choice of languages within Field Xpert software:  
AR, CS, DE, ES, FI, FR, ID, IT, JA, KO, NL, PL, PT, RU, EN, SV, TH, TR, VI, ZH
- DTM graphical user interface and language depend on the device and supplier

## Certificates and approvals

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**CE mark** Field Xpert SMT50 meets all the legal requirements of the relevant EU directives. The manufacturer has affixed the CE mark as confirmation that the Field Xpert SMT50 has been successfully tested.

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**Radio approval** GCF, KC, CE, NCC, RCM, NBTC, FAC, ICASA, FCC/PTCRB, IC

## Ordering information

Please contact your Endress+Hauser Sales Center for detailed information on the product structure:  
[www.addresses.endress.com](http://www.addresses.endress.com) or at [www.endress.com/smt50](http://www.endress.com/smt50)

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**Scope of delivery** The scope of delivery comprises:

- Field Xpert SMT50 tablet PC with handle
- AC charger (100 to 240 V<sub>AC</sub>, 1.5 A, 50 to 60 Hz) with device cable EU, US, UK, CH, IT, ZA, AU
- Software and interfaces/modem as per order

## Accessories

Optional accessories:

- X-strap
- Shoulder strap
- Leather case
- Office docking station (2 x USB, 1 x 1 Gbit Ethernet, 1 x RS232)
- Battery charger
- Device cable EU, US, UK, CH, IT, AU

Please contact your Endress+Hauser Sales Center for detailed information on accessories:  
[www.addresses.endress.com](http://www.addresses.endress.com) or at [www.endress.com/smt50](http://www.endress.com/smt50)

## Supplementary documentation

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Field Xpert SMT50

Operating Instructions BA02053S

## 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.

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.

Modbus is the registered trademark of Modicon, Incorporated.

IO-Link® is a registered trademark of the IO-Link Community c/o PROFIBUS User Organization, (PNO) Karlsruhe/ Germany - [www.io-link.com](http://www.io-link.com)

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