Technical Information
Field Xpert SMT50

Universal, high-performance tablet PC for device configuration

Application

The Field Xpert SMT50 tablet PC allows technicians to perform mobile device configuration in non-hazardous areas with its seamless out-of-the-box experience. It manages Endress+Hauser and third-party field devices with a digital, wired and wireless 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 of more than 3000 devices and is an easy-to-use, touch-enabled tool for managing field devices throughout their entire life cycle.

The integrated LTE Modul ensures that the tablet is online even if Wi-Fi is not available. AT&T is supported in the USA, while Verizon is not.

Your benefits

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

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.
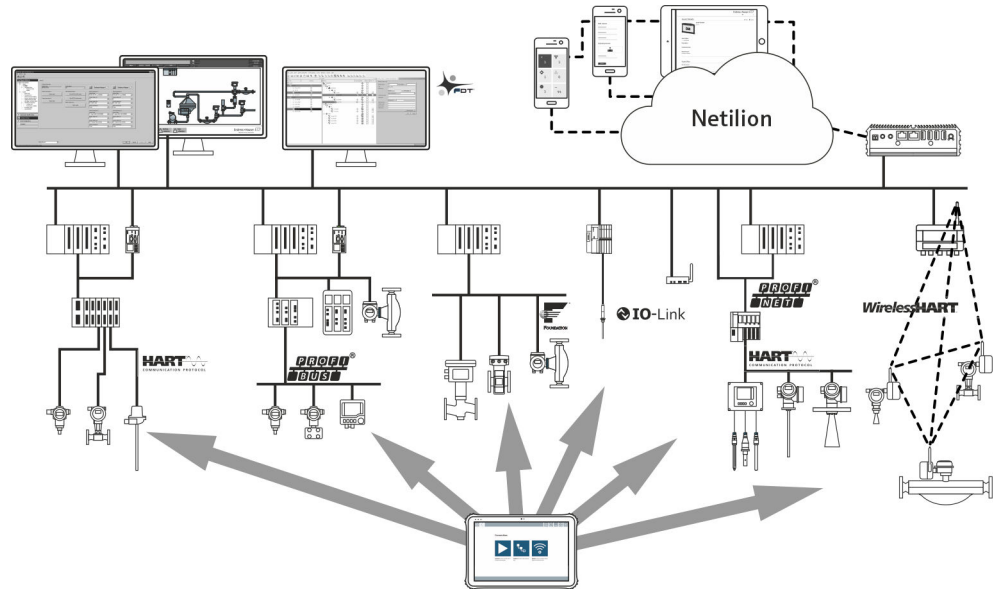
Supported field devices and protocols

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

🖼 *1   Network architecture*

The following communication methods are supported by Field Xpert:

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
	Viator Power Xpress
	Viator Bluetooth HART interface
WirelessHART	Wireless HART adapter SWA70
	WirelessHART Fieldgate SWG70
PROFIBUS	Softing PROFIusb
	Softing PBpro USB
	FieldPort SFP50
	Fieldgate SFG500
FOUNDATION Fieldbus	NI USB
	FieldPort SFP50
	Softing FFusb
Modbus	Modbus serial
Endress+Hauser service interfaces	Commubox FXA291 CDI
	Commubox FXA291 IPC, ISS, PCP
	Commubox FXA193 IPC, ISS

Communication	Interface/modem/gateway
	TXU10 V2 CDI
	TXU10 V2 PCP
	TXU10 V1 PCP, CDI
	CDI USB
	CDI TCP/IP
Bluetooth	Endress+Hauser Bluetooth devices
WIFI	Endress+Hauser WIFI devices
IO-Link	FieldPort SFP20

Network connection

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.
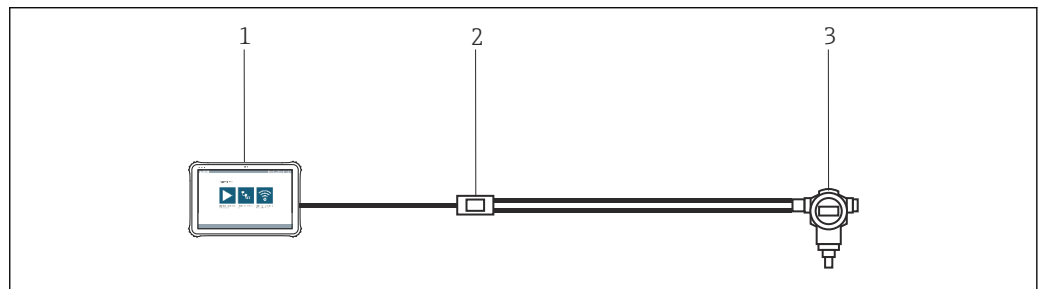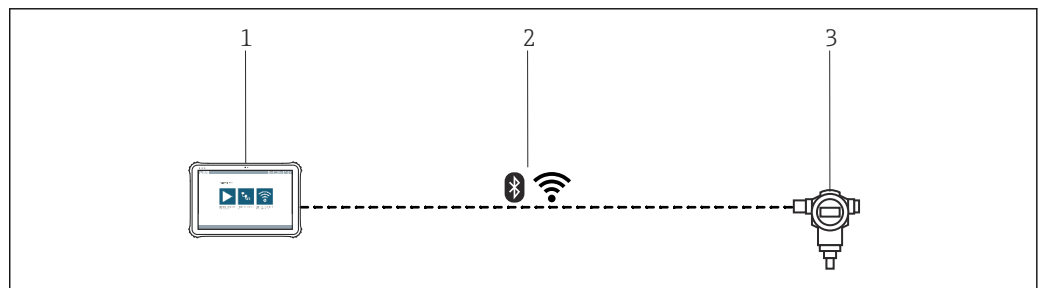

2   Point-to-point connection with a HART field device

1   Tablet PC Field Xpert SMT50
2   HART Commubox FXA195
3   Field device

To be able 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.

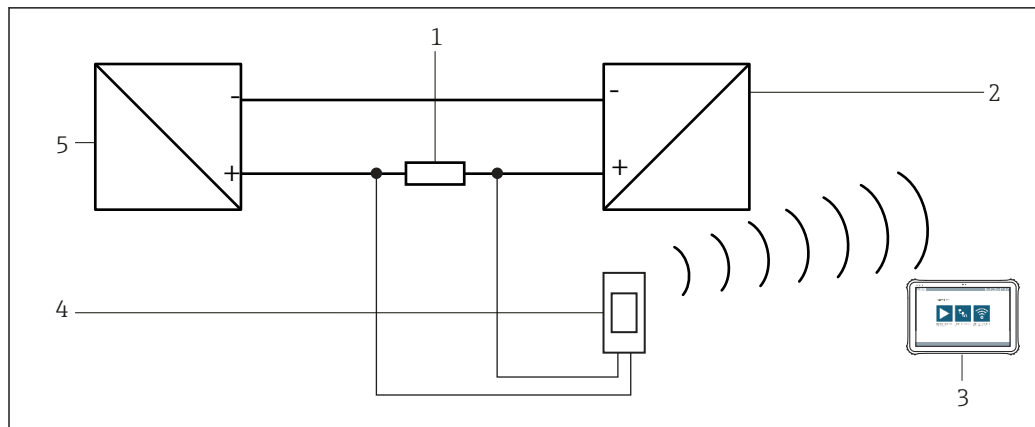### Connection via WLAN and Bluetooth

This diagram shows how a connection can be established to an Endress+Hauser device with WLAN or Bluetooth capabilities.

3   Connection via WLAN and Bluetooth

1   Tablet PC Field Xpert SMT50
2   WLAN or Bluetooth
3   Field device

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

4 *Point-to-point connection via a load resistor*

1 Load resistor: 250 to 1 100 Ω
2 HART device
3 Tablet PC Field Xpert SMT50
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.
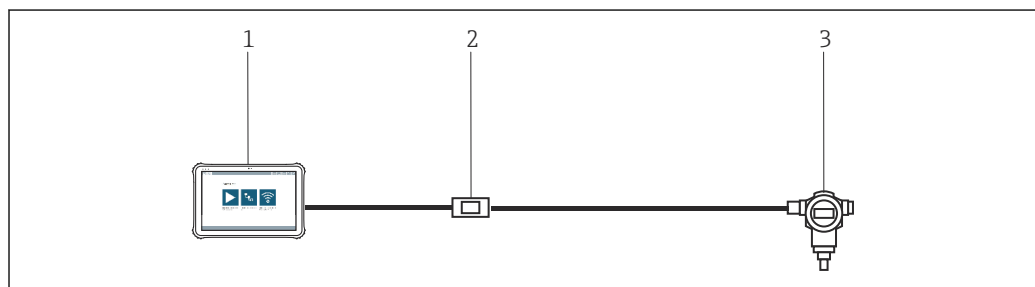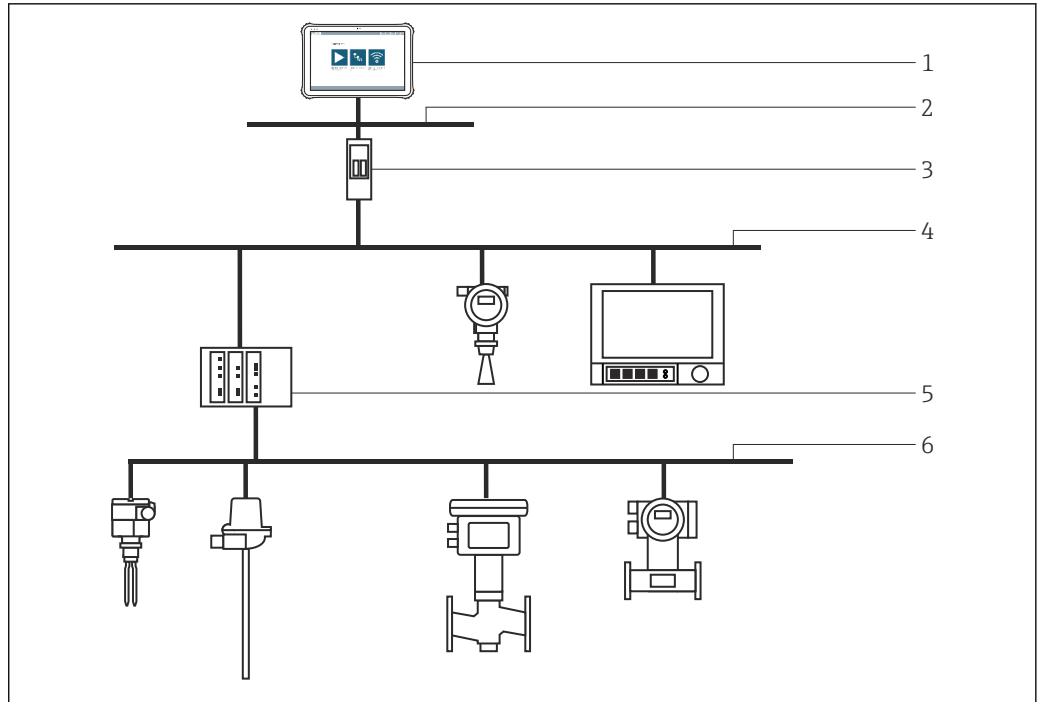

5 *CDI point-to-point connection with a field device*

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

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   Tablet PC Field Xpert SMT50
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_{DC}
Power	6 300 mAh(45 Wh)
Battery life	Up to 8 h

Performance characteristics

Hardware	CPU	Intel® Skylake Core m3-6Y30 or better
	Working memory	4 GB DDR3L
	Memory	128 GB M.2 SSD

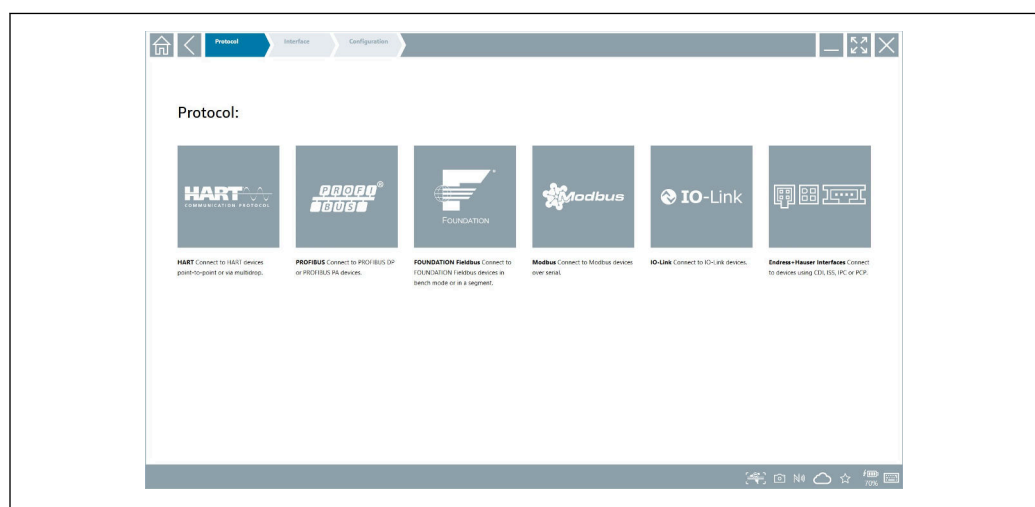| Display	Screen size: 12.2" (30.98cm) Resolution: 1920 × 1200 Touch screen: 10-point capacitive (Corning Gorilla Glass 3) Brightness: 280 cd/m²
Audio	2 x loudspeakers (0.8 Watt) 3.5 mm audio out
Camera	2 MP camera on the front 5 MP camera or better, on the rear
Connections	Video: 1 x mini HDMI 1.4a 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

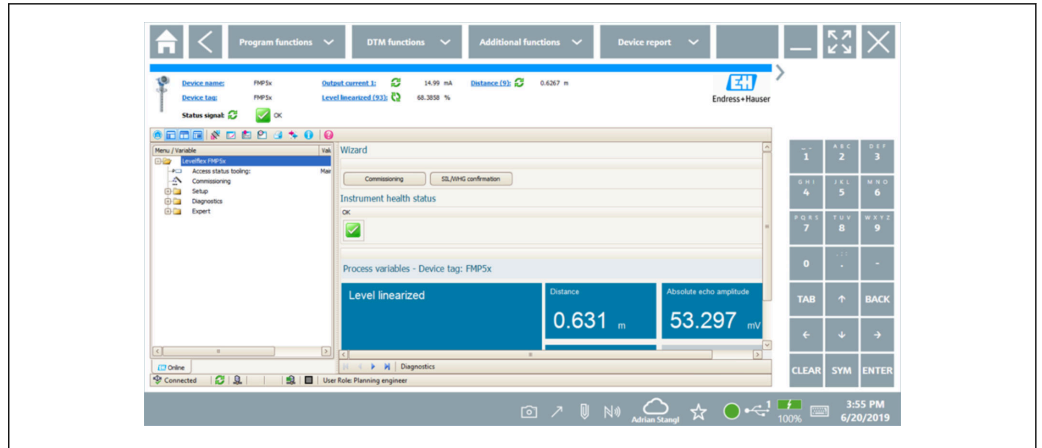| Operating system	Windows 10 LTSC
Configured software	Touch-enabled device configuration software optimized for Field Xpert
Standard software	Standard configurable Windows user interface with icons, shortcuts, etc.
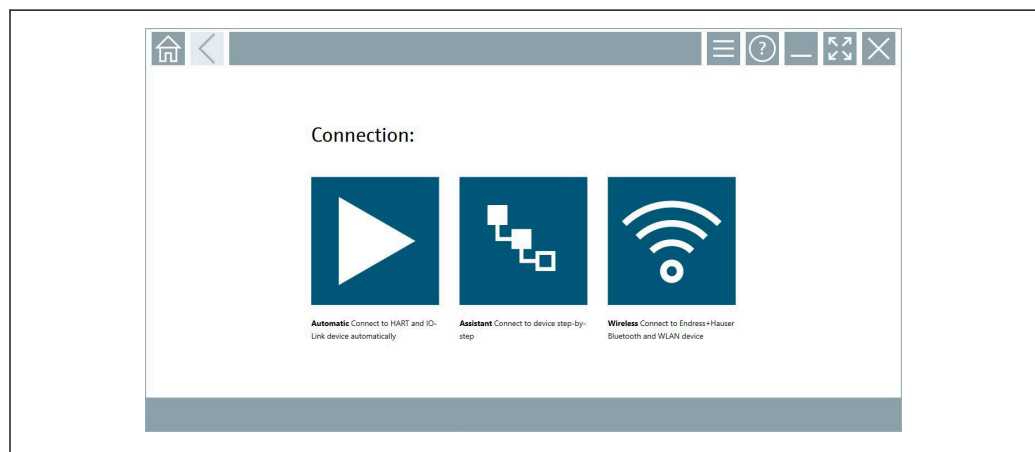
🖻 7   *Start screen with one-click automatic scan button*

🖻 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
Vibration resistance	MIL-STD 810G 514.6 Procedure I Cat. 24, Fig. 514.6E-1
Shock resistance	MIL-STD-810G
Electromagnetic compatibility (EMC)	Interference conformance to: • EN 55022: 2010+ AC: 2011 • EN 55022 Class B • EN 61000-3-2 • EN 61000-3-3 Interference immunity: • EN 55024: 2010 • IEC 61000-4-2 • IEC 61000-4-3 • IEC 61000-4-4 • IEC 61000-4-5 • IEC 61000-4-6 • IEC 61000-4-8 • IEC 61000-4-11

Mechanical construction

Design, dimensions	Standard version: 319.6 mm · 216 mm · 23.4 mm (11.75 in · 8.5 in · 0.9 in)
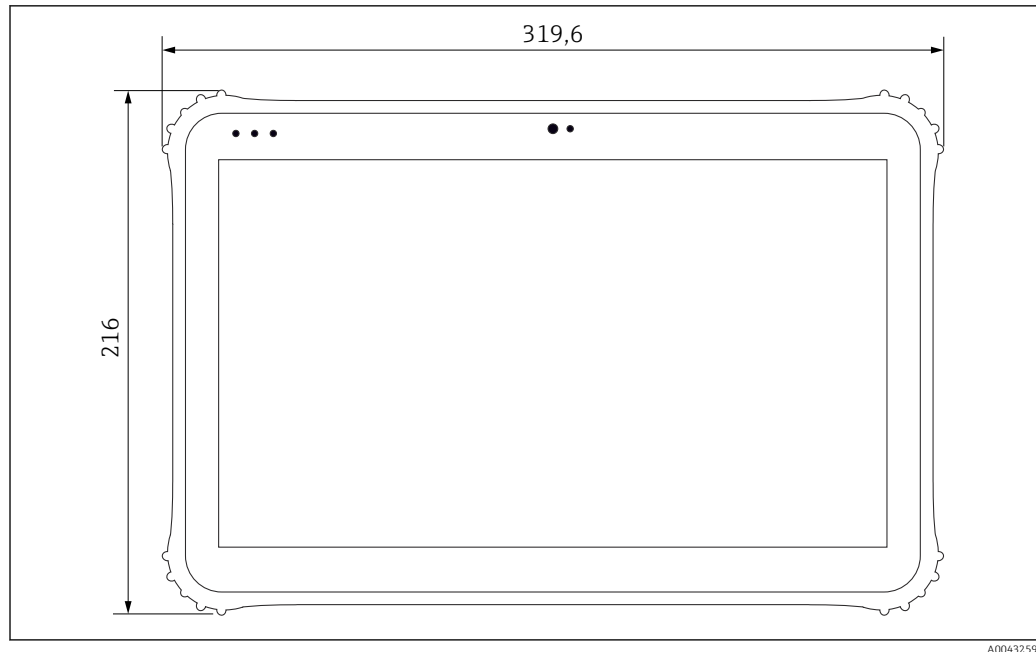
🖼 10   Front view

Weight	1.5 kg (3.3 lb)

Display and user interface

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

Certificates and approvals

The latest approvals for the product are available from www.endress.com:

1. Select the product using the filters and search field.
2. Open the product page.
3. Select **Downloads**.
   ↳ A list of all approvals and declarations appears.

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**.

i **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 SMT50 tablet PC with handle
- AC charger (100 to 240 V_{AC}, 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

Accessories currently available for the product can be selected via the Product Configurator 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

Standard documentation	Field Xpert SMT50 Operating Instructions BA02053S/04/EN
	Field Xpert SMT50 Innovation Brochure IN01172S/04/EN

Registered trademarks

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Modbus is the registered trademark of Modicon, Incorporated.

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