Technical Information
Field Xpert SMT70

Universal, high-performance tablet PC for device configuration in Ex Zone 2 and non-Ex areas

Application

The Field Xpert SMT70 tablet PC for device configuration enables mobile plant asset management in hazardous (Ex Zone 2) and non-hazardous areas. It is suitable for commissioning and maintenance staff. 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 SMT70 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.

The integrated LTE Modul ensures that the tablet is online even if Wi-Fi is not available.

Your benefits

- High-performance, robust tablet with large 11.6" display and a battery runtime of up to 14 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

Table of contents

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.
ℹ	**Tip** Indicates additional information.
📖	Reference to documentation
📄	Reference to page
🖼	Reference to graphic
👁	Visual inspection

Function and system design

The Field Xpert SMT70 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 2,700 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.
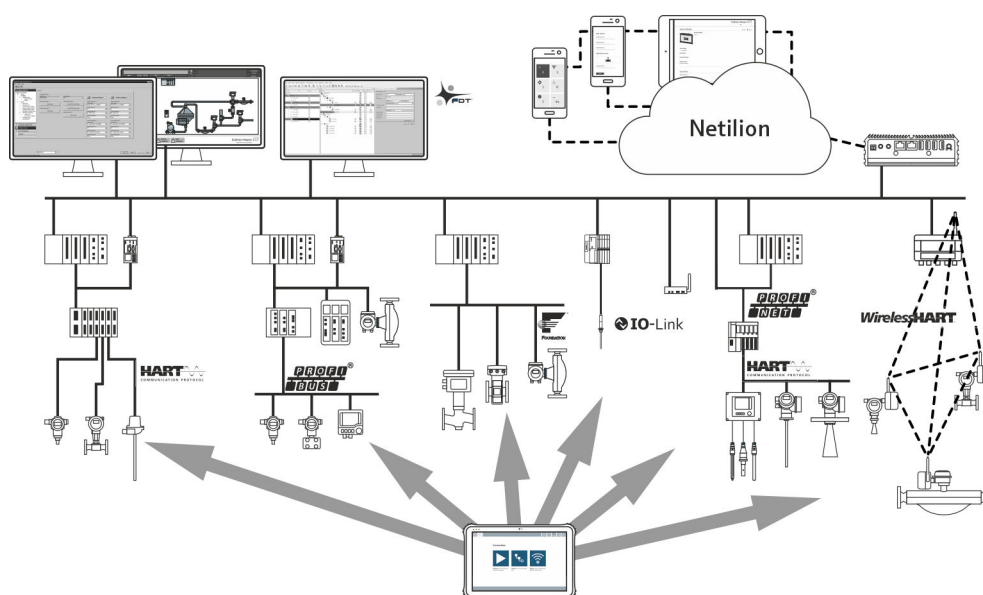
Supported field devices and protocols
Endress+Hauser field devices and 3rd-party field devices
- HART
- PROFIBUS DP/PA
- FOUNDATION Fieldbus
- Modbus
- IO-Link

Endress+Hauser service protocols
- CDI
- ISS
- IPC
- PCP

🖼 *1 Network architecture*

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

Communication	Interface/modem/gateway	Use in non-hazardous zone permitted?	Use in hazardous zone permitted?
HART	Commubox FXA195 (4 to 20 mA)	Yes	No
	MACTek Bluetooth modem (4 to 20 mA)	Yes	Yes
	Memograph RSG45 (4 to 20 mA)	Yes	No
	MACTek USB modem (4 to 20 mA)	Yes	No
	FieldPort SFP50	Yes	Yes
	Fieldgate SFG250	Not applicable	Not applicable
	Tank Scanner NXA820	Not applicable	Not applicable
	BARTEC add-on module	Yes	Yes
PROFIBUS	Softing PROFIusb	Yes	No
	Softing PBpro USB	Yes	No
	FieldPort SFP50	Yes	Yes
	Fieldgate SFG500	Not applicable	Not applicable
FOUNDATION Fieldbus	NI USB	Yes	No
	Softing FFusb	Yes	No
	FieldPort SFP50	Yes	Yes
Bluetooth		Yes	Yes
Modbus	Modbus serial	Yes	No
WirelessHART	Wireless HART adapter SWA70	Yes	Yes
	WirelessHART Fieldgate SWG70	Yes	Yes
Endress+Hauser service interfaces	Commubox FXA291	Yes	No
	Commubox FXA193	Yes	No

Communication	Interface/modem/gateway	Use in non-hazardous zone permitted?	Use in hazardous zone permitted?
	TXU10 V2	Yes	No
	TXU10 V1	Yes	No
	CDI USB	Yes	No
	CDI TCP/IP	Yes	Yes
IO-Link	FieldPort SFP20	Yes	No

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 SMT70 tablet PC can connect to the device automatically.
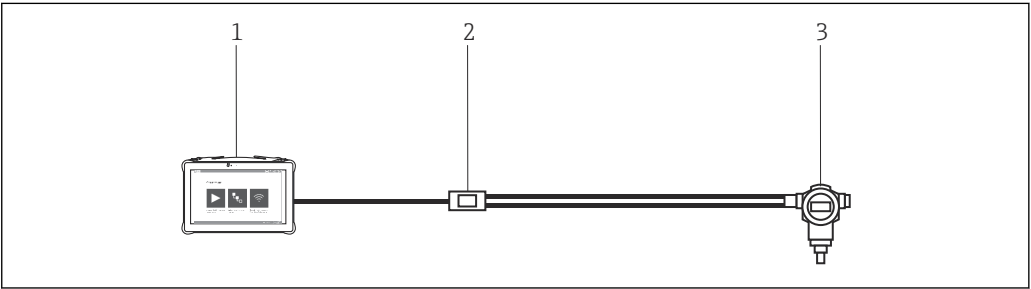
2   Point-to-point connection with a HART field device

1   Field Xpert SMT70 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.
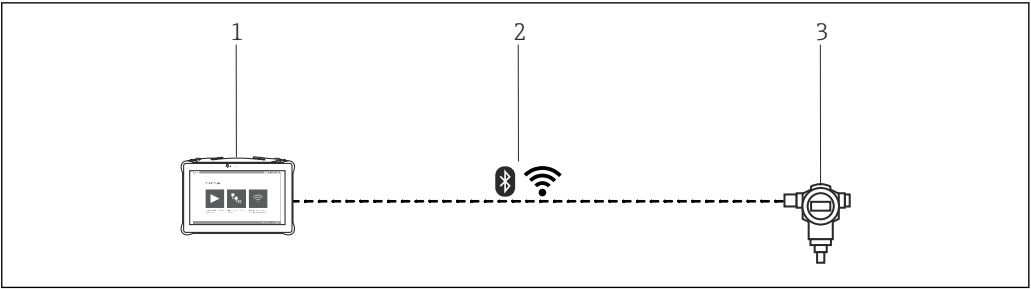
3   Connection via WLAN and Bluetooth

1   Field Xpert SMT70 tablet PC
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   Field Xpert SMT70 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 SMT70 tablet PC can connect to the device automatically.

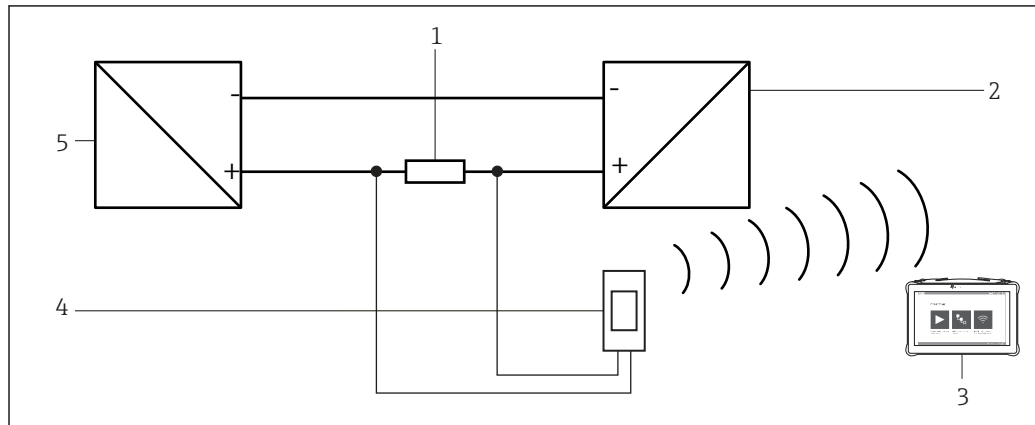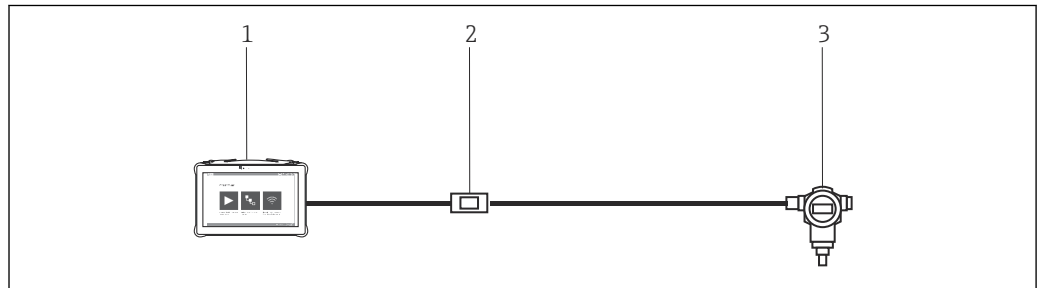 *5   CDI point-to-point connection with a field device*

1   Field Xpert SMT70 tablet PC
2   Commubox FXA291 CDI
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   Field Xpert SMT70 tablet PC
2   Ethernet
3   Fieldgate SFG500
4   PROFIBUS DP
5   Segment coupler
6   PROFIBUS PA

Communication and data processing

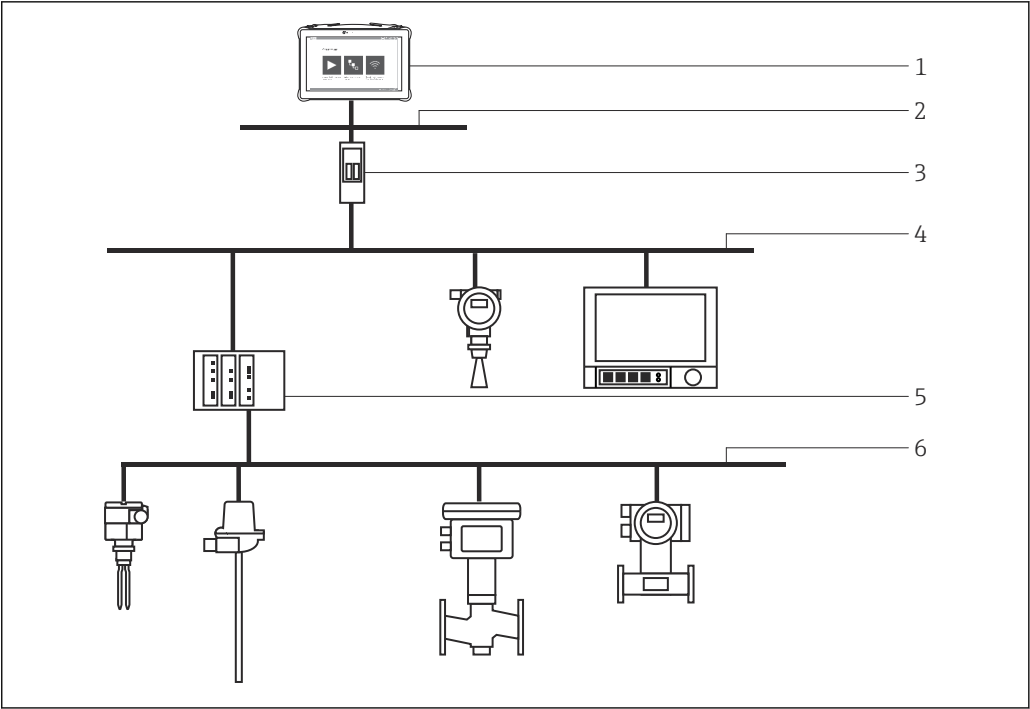| USB	2 x USB 3.0
Wireless LAN	Intel Wireless AC7260 802.11 a/b/g/n/ac, DUAL Band WLAN
Bluetooth	Bluetooth 4.0 BLE, Class 1
Wireless WAN + GPS	4G LTE WWAN + 12 channel GPS (optional)

Power supply

Supply voltage

Voltage	19 V
Current	3.42 A
Capacity	65 W

Battery

Replaceable, rechargeable lithium polymer battery

Type	R11AH	R11AH2
Voltage	11.1 V_{DC}	11.1 V_{DC}
Capacity	4 100 mAh (45 Wh)	7 800 mAh (86 Wh) (optional)
Battery life	Up to 7 h	Up to 14 h

Performance characteristics

Hardware

CPU	Intel Core i5-5200U or better (2.2 to 2.7 GHz)
Working memory	8 GB with DDR3L adapter
Memory	256 GB SSD M2-SATA in the robust version
Display	11.6" (1920 x 1080) LCD display, with Gorilla Glass protector Capacitive multi-touch screen Optical bonding, sunlight readable, LCD (1 000 Nit) Ambient light sensor
Keys	On/off Volume Touch button for Windows Touch button for barcode/camera Programmable touch button
Audio	Speaker 70 dB @ 0.5 m Microphone
Scanner	1D/2D barcode scanner
Camera	2 MP camera on the front 5 MP camera on the back with autofocus and LED flash with 1 500 mcd Supports geotagging (optional)
Sensor	Integrated acceleration sensor, gyroscope and eCompass
Connections	Headphones output jack Microphone input jack Docking port Extension connection for add-on modules HF pass-through socket for WWAN and GPS
Expansion slots	Micro SD card slot, support for SDHC/SDXC SIM card slot for WWAN data communication

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.
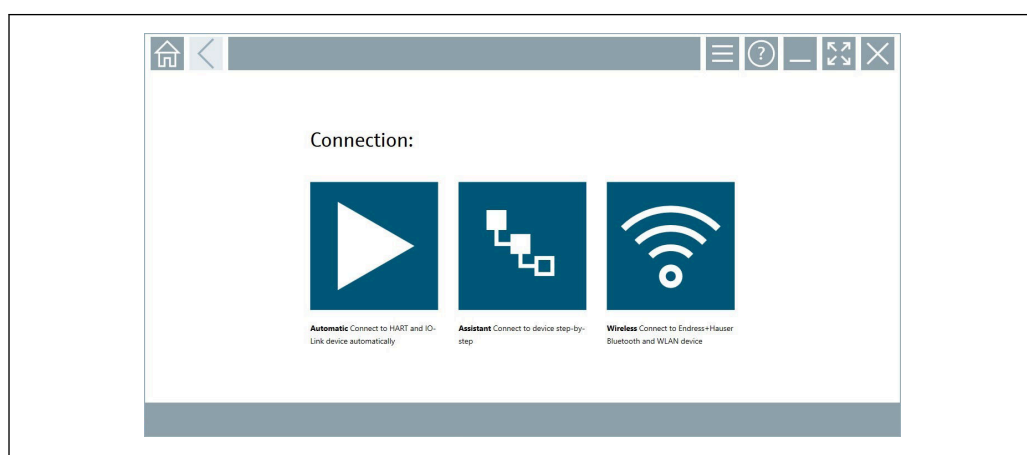
🖻 *7*   *Start screen with one-click automatic scan button*
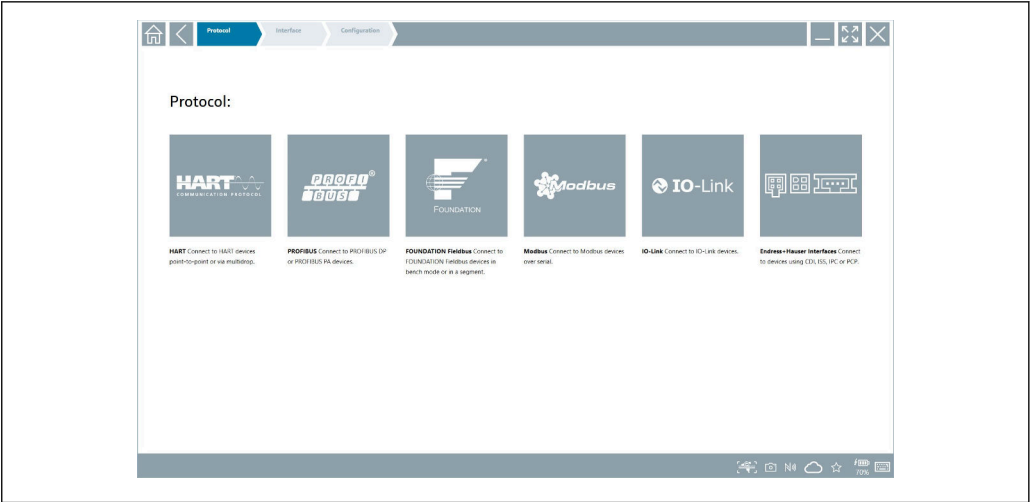
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🖼 *8   Protocol selection for manual selection of connection*
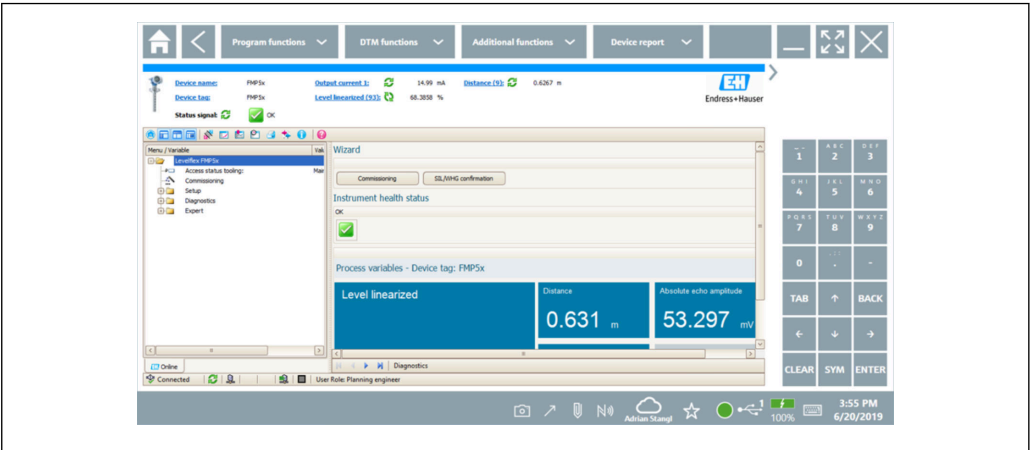
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🖼 *9   Device configuration*

Environment

Ambient temperature range	−10 to 55 ℃ (14 to 131 ℉)
Storage temperature	−20 to 60 ℃ (−4 to 140 ℉)
Humidity	5 to 95%
Operating height	Max. 4 572 m (15 000 ft)
Degree of protection	IP65
Vibration resistance	MIL-STD 810G 514.6 Procedure I Cat. 24, Fig. 514.6E-1
Shock resistance	• MIL-STD 810G 516.6 Procedure IV • 6 impacts from a height of 1.2 m (4 ft) onto plywood over concrete

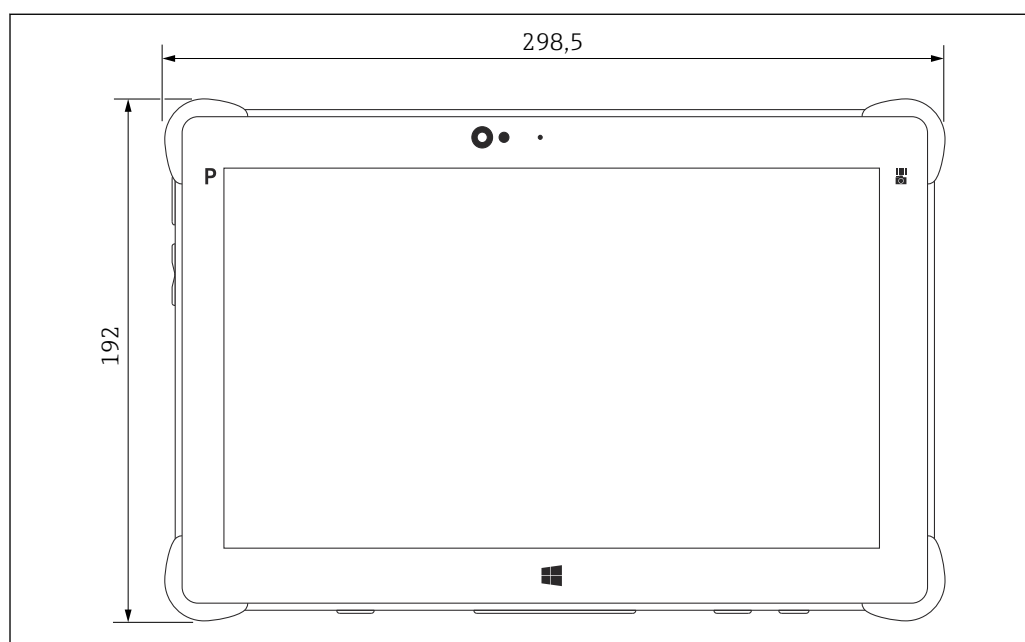|	
Electromagnetic compatibility (EMC)	Interference conformance to: • EN 55022: 2010+ AC: 2011 • EN 55022 Class B • EN 61000-3-2 • EN 61000-3-3 Interference immunity: • EN 55024: 2010 • IEC 61000-4-2 • IEC 61000-4-3 • IEC 61000-4-4 • IEC 61000-4-5 • IEC 61000-4-6 • IEC 61000-4-8 • IEC 61000-4-11

Mechanical construction

Design, dimensions	Standard version: 298.5 mm · 192 mm · 20 mm (11.4 in · 7.48 in · 0.78 in)

◙ *10   Front view*

Weight	1.2 kg (2.65 lb) with standard battery

Materials	Outer housing: MN-3600 type polycarbonate
	Inner housing: AlMg metal, type AZ91D

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 SMT70 tablet PC with handle
- 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

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 SMT70 Operating Instructions BA01709S/04/EN
- Field Xpert SMT70 Innovation Brochure IN01069S/04/EN

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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.

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