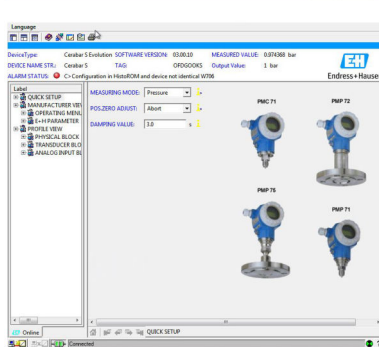
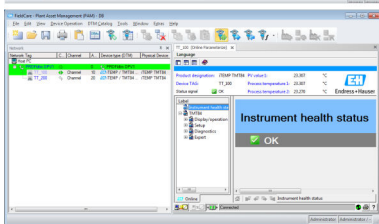
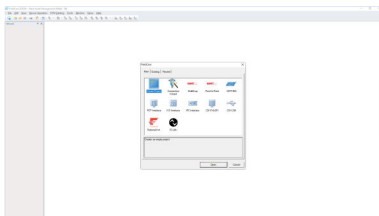


# Technical Information

## FieldCare SFE500

Universal device configuration

Universal field device configuration tool for HART, PROFIBUS, FOUNDATION Fieldbus, Modbus, IO-Link, EtherNet/IP and PROFINET



### Application

- Configuration and management of smart field devices in a facility
- Easy device configuration, maintenance management, condition-based maintenance and life cycle management
- Can be adapted to different needs depending on the license, and is therefore upgradeable at any time

### Your benefits








- Supplied with a complete library of certified DTMS (Device Type Manager) for operation of all Endress+Hauser field devices, has CommDTMs for HART, PROFIBUS, FOUNDATION Fieldbus, IO-Link and Endress+Hauser protocols
- Operates all third-party gateways, actuators, remote I/O systems and sensors supporting the FDT standard
- Ensures full functionality for all Endress+Hauser and third-party field devices with DTMs and offers generic operation with standardized parameters for any third-party fieldbus device that does not have a vendor DTM
- Integrates all registered HART and FOUNDATION Fieldbus as well as IO-Link field devices without DTMs using iDTM technology
- Scans, identifies, assigns DTMs and adds devices to network automatically
- Enables connection to the Endress+Hauser life cycle management tool (LCM)

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## Document information

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

## Function and system design

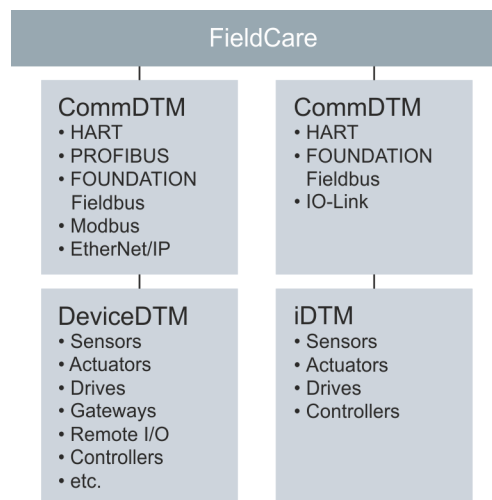
### Function

FieldCare enables the configuration of smart field devices in an application. All configuration and communication information is carried in Device Type Management (DTM) programs (DeviceDTMs and CommDTMs) supplied by the individual vendor.

If a DTM is not available, access is possible via iDTM for HART, FOUNDATION Fieldbus and IO-Link.

FieldCare has the following advantages:

- Open technology, independent of device and system supplier
- Independent of device type (sensor, actuator, remote I/O etc.)
- Full support of installed base
- Full device functionality
- Independent of the communication protocol
- Vertical integration through nested communication enables centralized access to field devices, which in turn enables plant-specific asset management



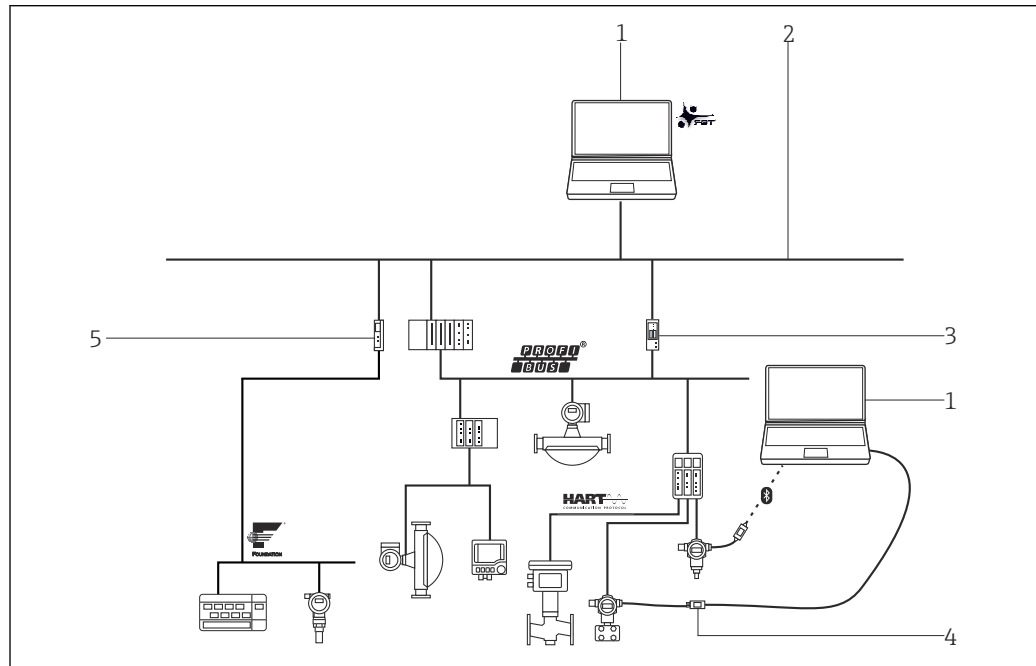
### System design

#### Network connection

Depending on the communication interface offered by the field device, FieldCare may be connected via a network or point-to-point to a powered field device. The software is installed on a Windows PC or laptop, and the connection is established via a network card, an appropriate interface card or a

USB or Bluetooth modem. Access may be via a gateway with CommDTM, or if it supports FDT, via a controller. The physical architecture is mirrored by the **nested** CommDTMs and DeviceDTMs.

The devices are configured via Device DTMs. If the device does not have a native DTM, but is registered at FieldComm Group, then it can be operated by the appropriate iDTM. Similarly, IO-Link devices can be found and downloaded via the IODDFinder (<https://ioddfinder.io-link.com>) and operated with the IODD Interpreter DTM. Interfaces such as PROFIBUS DP/PA couplers must be either transparent or be supplied with a CommDTM if access is to be made to the connected devices. Field devices with 4 to 20 mA without HART, binary or pulse/frequency outputs cannot be operated.

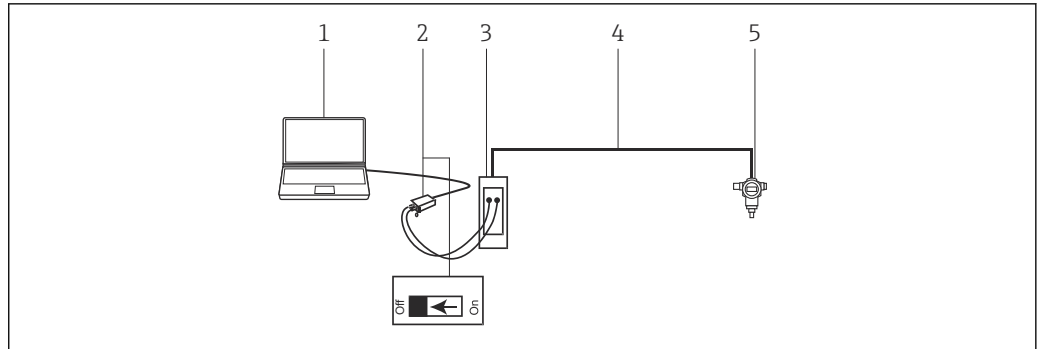


1 Sample FieldCare architecture showing centralized access to a HART, FOUNDATION Fieldbus and PROFIBUS network via gateway and Ethernet.

- 1 FieldCare
- 2 Ethernet
- 3 Ethernet/PROFIBUS gateway e.g. Fieldgate SFG500
- 4 Commubox FXA195
- 5 Ethernet/FOUNDATION Fieldbus gateway

### HART point-to-point connection

The diagram shows a HART point-to-point connection via a HART power supply using the FXA195 USB/HART modem. Since the power supply has a communication resistor, the communication resistor of the FXA195 must be switched off. The connection can be made at the power supply module or the device terminals as required.



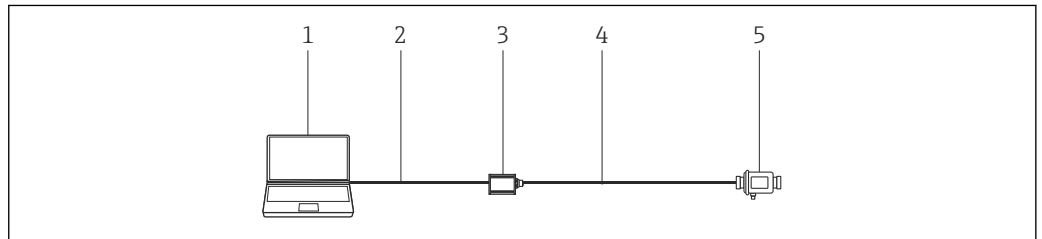
2 Point-to-point connection with a HART field device

- 1 FieldCare
- 2 Commubox FXA195 with switchable communication resistor
- 3 HART power supply e.g. RMA422, RN221N with communication resistor
- 4 HART 4 to 20 mA
- 5 Field device

If there is no communication resistor in the 4 to 20 mA signal loop, the USB modem FXA195 should be connected via the HART terminals of the field device. In this case, the communication resistor in the modem must be switched on.

**IO-Link point-to-point connection**

The diagram shows an IO-Link point-to-point connection of an IO-Link field device to a laptop via the FieldPort SFP20 communication interface. The IO-Link device is directly connected via the M12 connector.



A0040594

3 IO-Link point-to-point connection

- 1 FieldCare
- 2 USB
- 3 FieldPort SFP20
- 4 IO-Link
- 5 Field device

**Operation**

- Standard configurable Windows graphical user interface with icons, short cuts etc.
- Creation of projects in network (communication) and plant (logistic) views
- Projects created manually or automatically with a project setup wizard
- Standard Windows functions for saving, opening, printing, editing projects, changing workspace etc.
- FieldCare languages: DE, EN, FR, IT, ES, ZH, JA, RU
- DTM graphical user interface and language dependent on device and supplier

**System integration**

## System requirements

### Operating systems

Version	End of Microsoft support	FieldCare support status
Windows 8.1	January 2023	OK
Windows 8.1 Professional	January 2023	OK
Windows 8.1 Enterprise	January 2023	OK
Windows 10 Professional	October 2025	OK
Windows 10 Enterprise	October 2025	OK
Windows Server 2016	January 2027	OK
Windows Server 2019	January 2029	OK

### Hardware

Position	Recommended
Processor type	Intel Core i3/i5/i7 $\geq$ 1.8 GHz
Working memory	minimum 4 GB RAM
Capacity of hard drive	10.0 GB for full installation plus 4.5 GB in a temporary folder during installation on system partition  Partial installation as follows: <ul style="list-style-type: none"> <li>▪ 2 GB FieldCare and system components</li> <li>▪ 6.5 GB Endress+Hauser DTM library (HART, PROFIBUS, FOUNDATION fieldbus, EtherNet/IP, Modbus)</li> <li>▪ 800 MB Endress+Hauser protocols DTM library</li> <li>▪ 400 MB Endress+Hauser iDTM library</li> </ul>
Min. screen resolution	1280 x 768, 64,000 colors

### Software required


- Microsoft .NET 3.5
- Microsoft .NET 4.x
- PDF reader

### Supplied support software

- Microsoft .NET Version 3.5 SP1
- Microsoft Management Console version 1.2 <sup>1)</sup>
- Microsoft SQL Server 2014 Express SP3 <sup>1)</sup>
- Microsoft Windows Installer 4.5 <sup>2)</sup>

### Supported software

#### Microsoft SQL Server 2016

 FieldCare 2.15 can also use an already installed Microsoft SQL Server 2016 for operation. We are happy to assist with the setup of FieldCare in projects with this SQL Server. Please contact your Endress+Hauser sales partner.

1) Program is installed automatically by the FieldCare Installation Manager, if not already available or if a compatible version is not installed.

2) Program is installed automatically by the FieldCare Installation Manager, if not already available.

### Software specification

- Configuration and commissioning of Endress+Hauser and third-party field devices based on DTM technology.
- Supports HART, WirelessHART, PROFIBUS, FOUNDATION Fieldbus, Modbus, IO-Link and EtherNet/IP protocols.
- Supports Endress+Hauser service protocols to enable access to E+H instruments independently of the fieldbus protocol.
- Includes CommDTMs for HART, PROFIBUS, FOUNDATION Fieldbus, for the Endress+Hauser interface and gateways for remote maintenance.
- Plant view: logical view of plant with tagging and archiving.
- Document management: storage of key documents together with the device TAG.
- Inventory view: list of all devices in the plant with convenient search and filter function.
- LCM connectivity: ability to access the LCM database via networks or Internet.
- Project management: import/export of projects and settings.
- Report generation: configurable and printable reports of device settings, plant configurations, etc.
- User management: configurable list of users.
- Typical application involves up to 1,200 field devices, more on request (e.g. 20,000 field devices).
- Complete plant asset management system configurations with PAM gateways (server) and PAM clients on request. Endress+Hauser is pleased to offer advice on the system design of plant asset management maintenance stations.
- iDTM HART operates third-party HART field devices without DTM in FieldCare and contains more than 1,700 registered HART EDDs from a wide range of device manufacturers.
- iDTM FOUNDATION Fieldbus operates third-party FOUNDATION Fieldbus field devices without DTM in FieldCare and contains more than 760 registered FOUNDATION Fieldbus field devices from a wide range of device manufacturers.
- The IO-Link IODD Interpreter DTM "translates" the IODD and makes the information contained therein available to FieldCare in such a way that the parameters are provided in the same way as in a device DTM.
- With the separate Envelope Curve Viewer application, envelope curves recorded by FieldCare can also be viewed and analyzed again later offline. With the Envelope Curve Viewer, the Endress +Hauser Service Hotline can provide assistance with envelope curve analysis.
- With the Fieldgate PAM SFG600, which functions on the basis of FieldCare, device configuration for HART devices in PROFINET systems can be performed with Siemens ET 200SP HF HART remote I/O assemblies. In this case, the configuration can be performed using a mobile Field Xpert SMT70 tablet PC, which then has easy access to up to 1024 HART devices in a PROFINET segment of the system.
- FieldCare provides support via EtherNet/IP Rockwell system architectures with the relevant CommDTM from Rockwell.
- Online and offline software license management (SLM) helps the software license manager professionally manage the licenses.
- Simplified access to the Heartbeat Flow Verification DTM for the faster verification of flowmeters.

### Condition monitoring (optional)

Extracts data from selected devices and, depending on the way they are set up, generates alarms directly in the FieldCare maintenance station to alert the user to a potential maintenance requirement.

- Independent solution for the maintenance task
- Focus on critical devices and beneficial information
- NE107 compliant
- Support for HART field devices with relevant DTD
- Support for PROFIBUS field devices - Profile 3.0 and higher - with relevant DTD

### CommDTMs

#### FieldCareCommDTMs

Identifier	Log	Application
CDI communication	Endress+Hauser	FXA291/RSG45/RSG35: CDI interface, CDI USB, CDI TCP/IP
IPC FXA193/FXA291	Endress+Hauser	FXA193/FXA291: IPC level/pressure interface
PCP TXU10/FXA291	Endress+Hauser	TXU10/FXA291: PCP interface

Identifier	Log	Application
ISS FXA193/FXA291	Endress+Hauser	FXA193/FXA291: ISS flow interface
HART Communication	HART	FXA195 or Pepperl+Fuchs VIATOR (USB/HART) HART point-to-point connection
SFG250	HART	SFG250 Ethernet/HART gateway: direct connection from Ethernet to HART field devices
FXA520	HART	FXA520 Ethernet/HART gateway: pass through connection to HART devices
WirelessHART	WirelessHART, HART, HART IP	SWG70 gateway, SWA70 adapter: connection to WirelessHART field devices
NXA820	HART	NXA820 Tankvision inventory management tank scanner
RSG45	HART	RSG45 Memograph M - Advanced Data Manager
SFG500	PROFIBUS	SFG500: Ethernet/PROFIBUS DP gateway with NAMUR NE107 instrument diagnosis
DP/PA Link	PROFIBUS	Siemens DP/PA Link: Connection to PROFIBUS PA devices
ET 200M	PROFIBUS	Siemens ET-200M: Remote IO PROFIBUS DP/HART
ET 200iSP	PROFIBUS	Siemens ET-200iSP: Remote IO PROFIBUS DP/HART
PROFIdtm DPV1	PROFIBUS	FXA720: Ethernet/PROFIBUS DP connection
PROFIBUS Master DV-V1	PROFIBUS	Softing TH LINK: Ethernet/PROFIBUS DP connection
FOUNDATION Fieldbus H1 CommDTM	FOUNDATION Fieldbus	National Instruments NI-FBUS USB-8486: connection to FOUNDATION Fieldbus H1
Modbus	Modbus serial, Modbus TCP	Schneider Modbus communication
SFP20	IO-Link	FieldPort SFP20: IO-Link master
EtherNet/IP	EtherNet/IP	Schneider Electric

Please pay attention to the individual release notes for the FieldCare communication DTMs. The system requirements of the DTMs may differ from the FieldCare system requirements.

#### *Third-party DTMs*

Endress+Hauser recommends an integration test for the use of third-party DTMs, particularly if the DTMs are not certified. A number of DTMs for third-party remote I/Os are known to support FieldCare depending on the network architecture. Please contact your Endress+Hauser sales representative for further information.

#### *Security recommendations*

- Restrict physical and electronic access to field devices, networks, computers and systems to a group of authorized persons and use a role-based access system
- Use a correctly configured firewall that blocks all data that do not comply with security specifications; disable ports that are not used and use a Demilitarized Zone or an Intrusion Detection System to enhance security
- Establish an organized, real-time patch management process for all products, e.g. operating systems, Internet browsers, programs, apps, databases and drivers
- Run anti-virus software on the PC
- Establish detailed guidelines and processes to only allow authorized persons access to the PC or other equipment
- Only use hardware, software, firmware and other electronic content from trusted sources

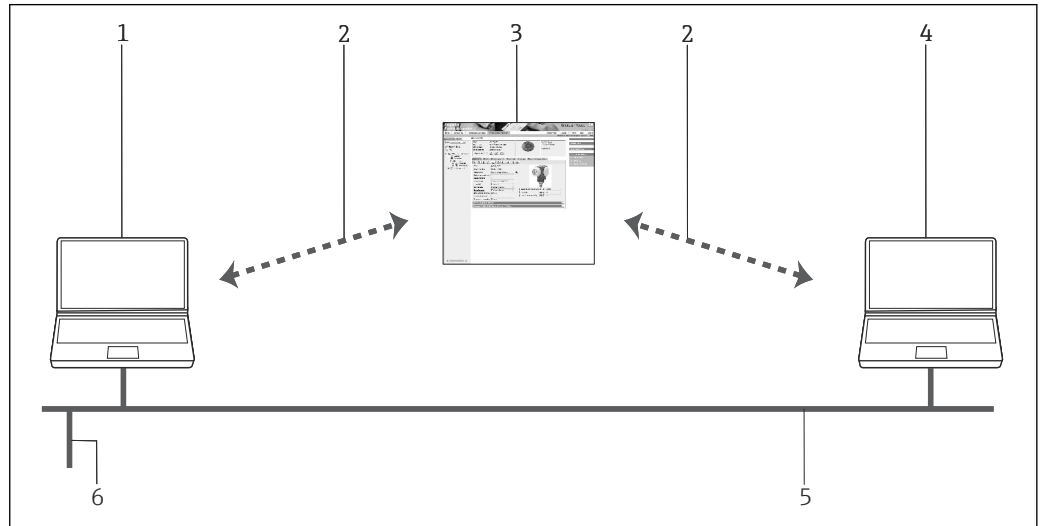


**Interfaces to Endress+Hauser tools and databases**

*LCM interface (optional)*

FieldCare can be connected to the LCM databases (W@M Portal or Enterprise). This allows the user access to the common equipment record (CER), spare part finder as well as various LCM applications such as comparison of current to historic device configurations.

Device configuration reports and verification reports can be automatically uploaded with FieldCare to the LCM application (W@M) to provide end-to-end documentation for the associated asset.



4 Interface to LCM

- 1 FieldCare
- 2 Internet interface
- 3 W@M Portal
- 4 W@M Enterprise
- 5 Ethernet
- 6 Network connection on system

*Start interface (Launch interface)*

FieldCare can be embedded into or started from any SCADA application by using FCL files.

**Ordering information**

Detailed information about the product structure is available:

- In the Product Configurator on the Endress+Hauser website: [www.endress.com/SFE500](http://www.endress.com/SFE500)
- From the Endress+Hauser Sales Center: [www.addresses.endress.com](http://www.addresses.endress.com)

**Additional documentation**

**FieldCare SFE500**

- Getting Started KA01303S/04/EN
- Operating Instructions BA00065S/04/EN
- Tutorial for FieldCare Projects SD01928S/04/EN
- Competence Brochure CP00001S/04/EN

**DeviceCare SFE100**

- Technical Information TI01134S/04/EN
- Innovations IN01047S/04/EN

**Plant Asset Management**

Fields of Activity FA00024S/04/EN

## Registered trademarks

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

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

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.

Ethernet/IP is the registered trademark of ODVA, Michigan USA.

Modbus is the registered trademark of Modicon, Incorporated.

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

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