

Operating Instructions

FieldPort SFP20

USB interface for configuration of IO-Link devices



Revision history

Product version	Operation Instructions	Changes	Comments
1.00.xx	BA01984S/04/EN/01.19	–	–
1.00.xx	BA01984S/04/EN/02.22	New: barcode on rear	–

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1 About this document

1.1 Document function

These Operating Instructions provide all of the information that is required in various phases of the life cycle of the device including:

- Product identification
- Incoming acceptance
- Storage
- Installation
- Connection
- Operation
- Commissioning
- Troubleshooting
- Maintenance
- Disposal

1.2 Symbols

1.2.1 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.

1.2.2 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.

Symbol	Meaning
	Reference to documentation.
	Reference to page.
	Reference to graphic.
	Notice or individual step to be observed.
	Series of steps.
	Result of a step.
	Help in the event of a problem.
	Visual inspection.

1.2.3 Symbols in graphics

Symbol	Meaning	Symbol	Meaning
1, 2, 3,...	Item numbers		Series of steps
A, B, C, ...	Views	A-A, B-B, C-C, ...	Sections
	Hazardous area		Safe area (non-hazardous area)

1.3 Acronyms used

Acronyms	Meaning
AC	Alternating Current
DC	Direct Current
DTM	Device Type Manager (device driver for FDT)
FDT	Field Device Tool
ID	Identification number of sensor or actuator
IODD	IO Device Description

1.4 Documentation

FieldPort SFP20
Technical Information TI01489S/04/EN

1.5 Registered trademarks

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

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

2 Basic safety instructions

2.1 Requirements for personnel

The personnel for installation, commissioning, diagnostics and maintenance must fulfill the following requirements:

- ▶ Trained, qualified specialists must have a relevant qualification for this specific function and task.
- ▶ Personnel must be authorized by the plant owner/operator.
- ▶ Be familiar with federal/national regulations.
- ▶ Before starting work: personnel must read and understand the instructions in the manual and supplementary documentation as well as the certificates (depending on the application).
- ▶ Personnel must follow instructions and comply with general policies.

The operating personnel must fulfill the following requirements:

- ▶ Personnel are instructed and authorized according to the requirements of the task by the facility's owner-operator.
- ▶ Personnel follow the instructions in this manual.

2.2 Designated use

The FieldPort SFP20 connects IO-Link-enabled devices to a laptop or tablet.

In conjunction with an FDT application, the FieldPort SFP20 offers the following options:

- Readout of current parameter settings
- Configuration of devices
- Readout of current measured values and other process values

The FieldPort SFP20 is not suitable for continuous operation.

2.3 Workplace safety

For work on and with the device:

- ▶ Wear the required personal protective equipment according to federal/national regulations.

2.4 Operational safety

Risk of injury!

- ▶ Operate the device only if it is in proper technical condition, free from errors and faults.

- ▶ The operator is responsible for the interference-free operation of the device.

Modifications to the device

Unauthorized modifications to the device are not permitted and can lead to unforeseeable dangers:

- ▶ If, despite this, modifications are required, consult with Endress+Hauser.

Repair

To ensure continued operational safety and reliability:

- ▶ Repairs must be performed by the manufacturer only.

2.5 Product safety

This device is designed in accordance with good engineering practice to meet state-of-the-art safety requirements, has been tested, and left the factory in a condition in which it is safe to operate.

The device fulfills general safety requirements and legal requirements. It also complies with the EU/EC directives listed in the device-specific EU Declaration of Conformity. Endress+Hauser confirms this by affixing the CE mark to the device.

2.6 IT security

Our warranty is valid only if the device is installed and used as described in the Operating Instructions. The device is equipped with security mechanisms to protect it against any inadvertent changes to the settings.

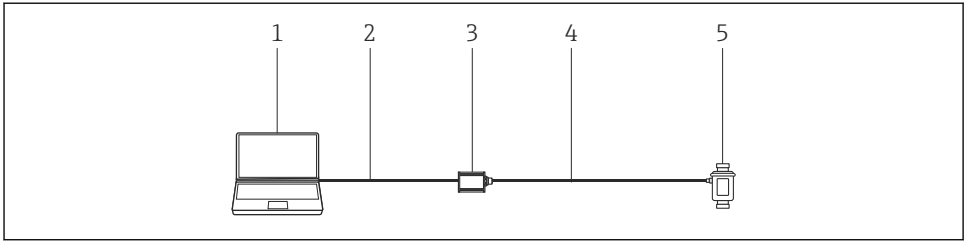
IT security measures, which provide additional protection for the device and associated data transfer, must be implemented by the operators themselves in line with their security standards.

3 Product description

3.1 Product design

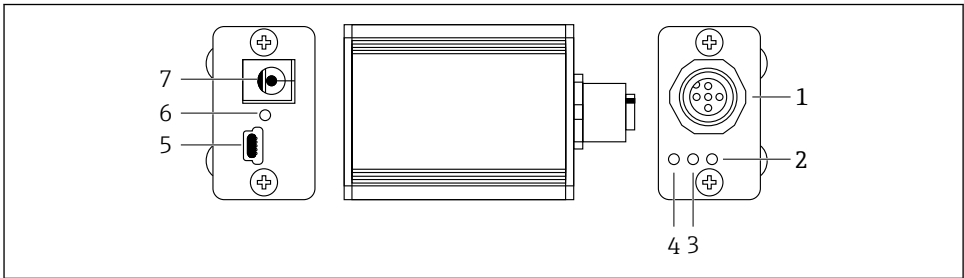
The FieldPort SFP20 connects an IO-Link device to a laptop or tablet via a point-to-point connection. The IO-Link device is configured via an FDT application, such as the FieldCare SFE500.

The FieldPort SFP20 is powered via the USB interface of the laptop or tablet. If the power supply is not sufficient, you can also power the FieldPort SFP20 via the power unit.



 1 IO-Link point-to-point connection

- 1 Laptop / tablet with FDT application, e.g. FieldCare SFE500
- 2 USB connecting cable: USB A – Mini USB B
- 3 FieldPort SFP20
- 4 Connecting cable or M12-M12 connector
- 5 IO-Link device



A0041401

 2 Design of FieldPort SFP20

- 1 M12 connector, for connecting IO-Link device
- 2 "Error" LED (red)
- 3 "C2 (D1/DO)" LED (yellow)
- 4 "C1 (C/Q)" LED (green)
- 5 Mini USB B, for connecting PC via USB connecting cable provided
- 6 "PWR" LED (yellow)
- 7 Supply voltage 24 V_{DC}, for connecting power unit provided

4 Incoming acceptance and product identification

4.1 Incoming acceptance

- Check the packaging for visible damage arising from transportation
- Open the packaging carefully
- Check the contents for visible damage
- Check that the delivery is complete and nothing is missing
- Retain all the accompanying documents



The device may not be put into operation if the contents are found to be damaged beforehand. In this case, please contact your Endress+Hauser Sales Center:

www.addresses.endress.com

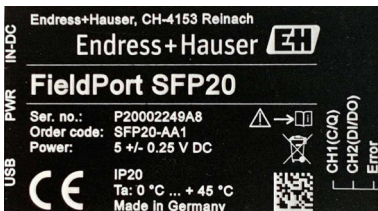
Return the device to Endress+Hauser in the original packaging where possible.

Scope of delivery

- FieldPort SFP20
- Power unit 24 V_{DC}
- USB connecting cable
- Operating Instructions

4.2 Product identification

4.2.1 Nameplate



4.2.2 Manufacturer's address

Endress+Hauser Process Solutions AG

Christoph Merian-Ring 12

4153 Reinach

Switzerland

www.endress.com

4.3 Storage and transport



Always use the original packaging when transporting the product.

4.3.1 Ambient temperature range

0 to 45 °C (32 to 113 °F)

4.3.2 Storage temperature

-40 to 80 °C (-40 to 176 °F)

4.3.3 Humidity

95 % non-condensing

5 Electrical connection

5.1 Connecting the FieldPort SFP20

NOTICE

Incorrect supply voltage!

An incorrect supply voltage may cause damage to the device.

- If necessary, operate the FieldPort SFP20 via the power unit provided.

Connecting the FieldPort SFP20

1. Make sure the device is de-energized.
2. Connect a laptop / tablet to the Mini USB B socket of the FieldPort SFP20 using the USB connecting cable provided.
3. Use a connecting cable to connect the IO-Link device to the FieldPort SFP20. The connecting cable can be a 3- or 4-pin cable with M12 connector or the optional M12-M12 connector.



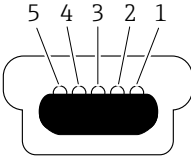
If the power requirement of the IO-Link device is greater than 80 mA, connect the power unit provided to the 24 V DC socket of the FieldPort SFP20, and connect the power unit to the supply voltage.

A USB port supplies 500 mA at 5 V as standard. Without a power adapter, the FieldPort SFP20 supplies approx. 80 mA at 24 V DC. For many IO-Link devices, a power supply of 80 mA is sufficient. If the IO-Link device needs more power, such as during start-up, you must use the power unit provided.

5.2 Connection diagrams

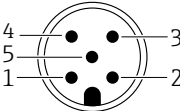
5.2.1 Connection diagram, USB

Connection diagram, Mini USB B at FieldPort SFP20

Connection diagram	Contact	Signal	Description
 A0041402	1	+5 V	VBUS: +5 V _{DC} / 500 mA
	2	D-	Data-
	3	D+	Data+
	4	ID	nc: not used
	5	GND	Ground (0 V)

5.2.2 IO-Link connection diagram

Connection diagram, IO-Link at FieldPort SFP20, M12 connector, 5-pin, A code

Connection diagram	Contact	Signal	Description
 A0041403	1	+24 V	Supply voltage: +24 V _{DC}
	2	SIO	SIO: CH2 (DI/DO)
	3	GND	Supply voltage: 0 V
	4	IO-Link	IO-Link: CH1 (C/Q)
	5	-	nc: not used

6 Operation options

The FieldPort is used as an interface between an IO-Link device and a laptop or tablet. The IO-Link device is configured via an FDT application, such as the FieldCare SFE500.

 Product description: →  7

7 Commissioning

 Product description: →  7
IODD Manager: →  12

8 Operation

8.1 LEDs

LED	Color	Status	Meaning
PWR	Yellow	lit	Supply voltage via USB port
		flashing	Undervoltage or overload if voltage supplied via USB port
CH1 (C/Q)	Green IO- Link mode	flashing slowly	No IO-Link connection
		flashing quickly	Pre-operational status
		lit	IO-Link connection is performing data exchange (operational status)
	Yellow	lit	Switch status of digital output
CH2 (DI/DO)	Yellow	lit	Switch status of digital output
Error	Red	lit	Error: short-circuit, data transmission error

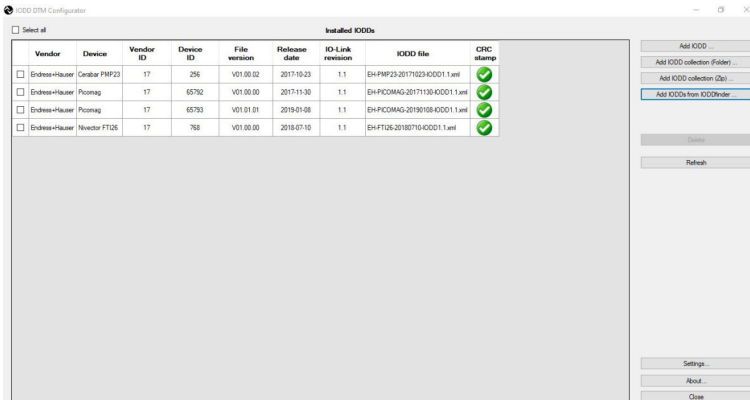
8.2 IODD Manager

To import an IODD into an FDT application, you will need an IODD-DTM configurator. When an IODD interpreter is installed, the "IODD DTM Configurator" is created automatically.



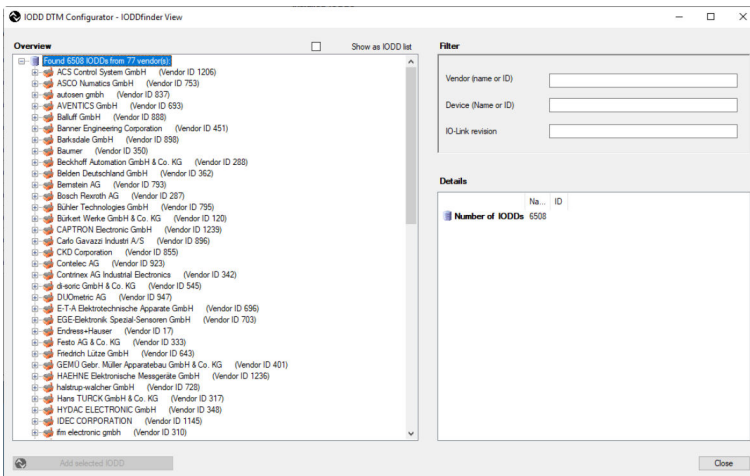
1.
- Call up the **IODD DTM Configurator** either via the Windows Start menu or the desktop icon.

↳ The following view is displayed:

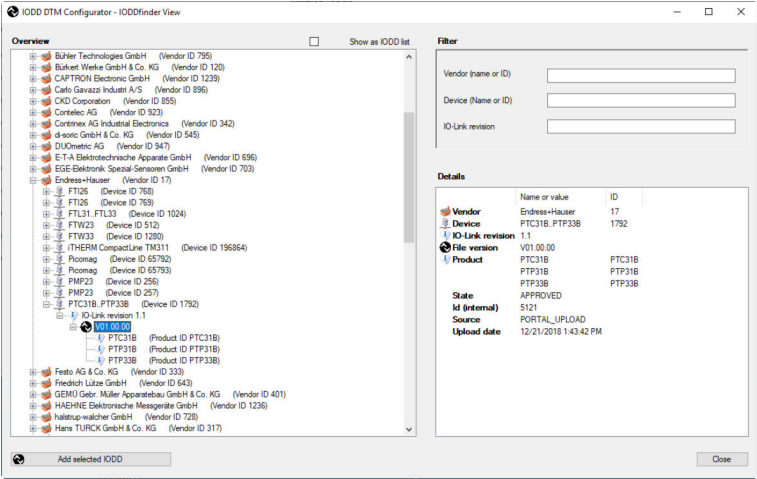


2. Click the **Add IODDs from IODDfinder** button.

↳ All IODDs of all manufacturers are listed in the "IODDfinder View".



3. Select the desired IODD.



4. Click the **Add selected IODD** button.
5. Open the FDT application.
6. Update the DTM catalog of the FDT application.

9 Diagnostics and troubleshooting

9.1 General troubleshooting

LED	Possible cause	Troubleshooting
Error: lit red.	Data transmission error	Transmit the data again.
	A short circuit occurs	Replace FieldPort SFP20.

10 Repair

10.1 General information

NOTICE

Unauthorized opening of device!

Opening the device may cause damage.

- If the device is in need of repair, always contact your Endress+Hauser Sales Center:
www.addresses.endress.com

10.2 Return

The requirements for safe device return can vary depending on the device type and national legislation.

1. Refer to the website for more information:
<http://www.endress.com/support/return-material>
2. Return the device if repairs or a factory calibration are required, or if the wrong device was ordered or delivered.

10.3 Disposal



If required by the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE), the product is marked with the depicted symbol in order to minimize the disposal of WEEE as unsorted municipal waste. Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to Endress+Hauser for disposal under the applicable conditions.

11 Accessories

Optional accessories:
M12-M12 connector

Please contact your Endress+Hauser Sales Center for detailed information on accessories:
www.addresses.endress.com or at www.endress.com/sfp20

12 Technical data



For detailed information on the "technical data": see the Technical Information TI01489S



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www.addresses.endress.com

For more Endress+Hauser product please visit: www.ainstru.com

Mail: Sales@ainstru.com