## MANUAL

# WRM-F301-IO-B15-2V15

## SmartBridge Interface



CE

🛛 IO-Link





With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"



1	Intro	Introduction				
	1.1	Content of this Document	4			
	1.2	Target Group, Personnel	4			
	1.3	Symbols Used	5			
2	Pro	duct Description	6			
	2.1	Use and Application	6			
	2.2	Application Types and Benefits	7			
	2.3	The Function of the SmartBridge Interface	7			
	2.4	The Function and Structure of the SmartBridge App	9			
	2.5	LED Indicators and Operating Elements	15			
	2.6	Interfaces and Connections	16			
	2.7	Delivery Scope and Accessories	17			
3	Inst	allation	18			
	3.1	Installing the SmartBridge Interface	18			
	3.2	Installing the SmartBridge App	19			
	3.3	Data Logging—Preparation and Activation	20			
4	Con	nmissioning	22			
	4.1	Commissioning the SmartBridge® System	22			

## 1 Introduction

## 1.1 Content of this Document

This document contains information required to use the product in the relevant phases of the product life cycle. This may include information on the following:

- Product identification
- Delivery, transport, and storage
- Mounting and installation
- Commissioning and operation
- Maintenance and repair
- Troubleshooting
- Dismounting
- Disposal

## о П

## Note!

For full information on the product, refer to the further documentation on the Internet at www.pepperl-fuchs.com.

The documentation comprises the following parts:

- This document
- Datasheet

In addition, the documentation may comprise the following parts, if applicable:

- EU-type examination certificate
- EU declaration of conformity
- Attestation of conformity
- Certificates
- Control drawings
- Instruction manual
- Other documents

### Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

Only appropriately trained and qualified personnel may carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the product. The personnel must have read and understood the instruction manual and the further documentation.

Prior to using the product make yourself familiar with it. Read the document carefully.



1.2

## 1.3 Symbols Used

This document contains symbols for the identification of warning messages and of informative messages.

## Warning Messages

You will find warning messages, whenever dangers may arise from your actions. It is mandatory that you observe these warning messages for your personal safety and in order to avoid property damage.

Depending on the risk level, the warning messages are displayed in descending order as follows:



### Danger!

This symbol indicates an imminent danger.

Non-observance will result in personal injury or death.



### Warning!

This symbol indicates a possible fault or danger.

Non-observance may cause personal injury or serious property damage.



### Caution!

This symbol indicates a possible fault.

Non-observance could interrupt the device and any connected systems and plants, or result in their complete failure.

## **Informative Symbols**



### Note!

This symbol brings important information to your attention.



### Action

This symbol indicates a paragraph with instructions. You are prompted to perform an action or a sequence of actions.

## 2 Product Description

2.1 Use and Application

## **Intended Use**

The SmartBridge interface is mainly used to quickly and conveniently capture information on individual IO-Link devices via the IO-Link protocol, parameterize these devices, or detect their operating states. This is possible in the machine control without complicated programming or implementations. From the perspective of the machine control, this data is accessed completely without reaction. The SmartBridge interface can be used as both an active (master mode) and a passive communication interface (monitor mode).

## SmartBridge® System

The SmartBridge® system involves accessing sensor and actuator data in the field level of automation technology on the basis of the IO-Link protocol. It serves as a simple operating and display system for IO-Link devices (sensors and actuators), in which the data is read using the SmartBridge interface and visualized in the SmartBridge app.

The SmartBridge system consists of the SmartBridge interface (hardware) and the SmartBridge app (software) for mobile devices. The SmartBridge interface is placed between an IO-Link-capable industrial sensor or actuator (IO-Link device) and the machine control unit (PLC) in the connection line. The SmartBridge interface taps the IO-Link signal and transfers it to a tablet or smartphone via Bluetooth. The installed SmartBridge app visualizes the device data.





- 1 Ultrasonic sensor UC500
- 2 SmartBridge interface
- 3 Machine control, e.g., PLC
- 4 Mobile device such as a tablet with the SmartBridge app

IO-Link devices, such as the Pepperl+Fuchs ultrasonic sensor UC500 shown in the figure, provide a variety of process and device data (e.g., distance values, sound cone width, switching delay, device name, etc.). This data can be read and modified using the SmartBridge system.

2019-04



## 2.2 Application Types and Benefits

For the following application types, the SmartBridge® system provides a valuable advantage:

## **Clearer Application Parameterization of IO-Link Devices**

Intelligent sensors and actuators often have many functions with widely differing parameters. With the SmartBridge app, it is very simple to display and modify functions and the associated parameters.

## **Easier Commissioning of Machines and Plants**

When commissioning machines and plants, it is often the case that not all of the required control functions are implemented. In this situation, the SmartBridge system will indicate whether the parameters of the sensors and actuators are set correctly, and whether all of the data is transferred in full.

## Easier Troubleshooting in the Event of Repair or Maintenance

Troubleshooting is often a time-consuming task, especially if faults occur only sporadically. In such a case, it is helpful to log the actual function for a certain period of time, and then subsequently evaluate the data on a PC.

## **Continuous Status Monitoring of IO-Link Devices**

Some sensors or actuators are located at critical points in a machine or plant. Here, repeated deviations from the intended function can develop for a variety of reasons, such as mechanical wear, electrical faults, or climatic changes. In situations like this, continuous monitoring of the limit values or notification thresholds may be required. The SmartBridge system is also designed for permanent use in a machine or system and therefore offers easy visual monitoring of critical operation and status data.

## 2.3 The Function of the SmartBridge Interface

## Overview

The SmartBridge interface can be used in the connection line between the IO-Link device and machine control, or it can be used autonomously with one IO-Link device only. For autonomous use, an external power supply via a 24 V power supply unit or battery is required.

The SmartBridge interface features the operating modes master mode and monitor mode, which are designed for different application types. In monitor mode, the SmartBridge interface is a passive communication component. In master mode, it serves as an active component. In terms of the machine control, data is accessed via the SmartBridge interface without any reaction.

While monitor mode is suitable for recording data in an existing IO-Link connection, master mode also enables the active modification of device parameters.

Depending on the selected operating mode, the SmartBridge® system can be used for the following tasks:

Monitor mode

Displaying and recording process data

Master mode

- Displaying process and status data
- Displaying and modifying parameter data
- Recording process and status data



## **Master Mode**

In master mode, the SmartBridge interface actively communicates with the connected IO-Link device. This mode should be selected only if no additional IO-Link master module is connected on the control side.

Depending on the type of connection, 3 application types can be identified in master mode:

Master Offline

This is the default function. In this case, 1 power supply only is connected on the connection side of the SmartBridge interface directed toward the machine control. Any signal lines belonging to the IO-Link device and SmartBridge interface remain unconnected. The 24 VDC power supply can be supplied using either a power supply unit or batteries. The respective connection method must be equipped with an M12 industrial socket. Application scenarios for "offline" are pre-parameterization, function diagnostics, and the commissioning of an IO-Link device.



Figure 2.2 Connection for "Master Offline"

#### Master Inline 3-pin

In this case, the SmartBridge interface is integrated into the supply line to a machine control (PLC). For the IO-Link device, the interface serves as an IO-Link master. For the control system, it emulates the binary standard input and output signal (SIO switching signal) of the IO-Link device. Due to the emulation of the process data, this can lead to delays in transferring process values. Application scenarios for "Inline 3-pin" consist of diagnostics and parameterization of the IO-Link device within its machine or plant application and the additional transmission of binary process data.



Figure 2.3

Connection for "Master Inline 3-pin"

#### Master Inline 4/5-pin

In this case, the use of the SmartBridge interface is enabled without a time lag in the process data on the machine control. In this "special case," signal line Q2 (pin 2, input) is diverted without modification to Q1 in the SmartBridge interface, and then connected to the control system. Application scenarios for "Inline 4/5-pin" consist of diagnostics and parameterization of the IO-Link device within its application in the time-sensitive processing of process data.



Figure 2.4 Connection for "Master Inline 4/5-pin"

## **Monitor Mode**

### Monitor

In this mode, the SmartBridge interface behaves passively. It logs the IO-Link communication (line C/Q) between the IO-Link device and an IO-Link-compatible control system or an intermediate IO-Link master module. In this operating mode, the contents of the data log are displayed in the SmartBridge® app. Alternatively, these contents can also be written onto the internal microSD card with a time stamp.



Figure 2.5 Connection for "Monitor"

Application scenarios for monitor mode are:

- Logging the status of the IO-Link device
- Visualizing local process data using the SmartBridge® app
- Analyzing faults in the IO-Link communication

## 2.4 The Function and Structure of the SmartBridge App

## Function

To make sure that the process, status, and diagnostic data of an IO-Link device connected to a SmartBridge interface can be processed by the SmartBridge app, the appropriate drivers are required. After the successful registration of the SmartBridge interface in the SmartBridge app, the interface transmits the "Vendor ID" (=manufacturer) and the "Device ID" (=device type) of the connected IO-Link device to the app. Using this information, the app automatically loads the appropriate IODD (IO-Link Device Description) for the IO-Link device and, if available, the relevant GDD (Graphical Device Description) from a central data server. This requires the mobile device to have an Internet connection, at least during the initial commissioning of a new



IO-Link device. The GDD is responsible for the graphical representation of process data in the form of scales, graphs, etc., as well as buttons for parameterization. If no GDD exists for a particular sensor, a default GDD is displayed. The default GDD contains an image of the connected device and information about the "Vendor Name," "Product Name," and "Product ID."

## Structure of the SmartBridge App

The SmartBridge app consists of the menus shown below.



Figure 2.6

Depending on the user role and application type, the SmartBridge app provides different information, parameterization, and diagnostic options for the connected IO-Link device. The main functions of the 4 menus are introduced in the following section.

## "Device Discovery" Menu

This menu is shown directly after the app starts.

Men	u	De	vice Discovery
С	Discovery	2	Devices in range
4	Graphical View	31	PF_Seb - S/N: 40000003681671
E	IODD View	$\geq$	Pepperl+Fuchs GmbH OMT550-R200
\$	SmartBridge Settings	3	
0.3	🛠 APP :	SETTINGS	

Figure 2.7

The main functions of the menu are:

- Establishing a connection to the SmartBridge interface and a connected IO-Link device
- Authenticating the SmartBridge interface in the SmartBridge app via an intermediate dialog.



## "Graphical View" Menu



Figure 2.8

If a GDD is available for the connected IO-Link device, the app will switch to the **Graphical View** menu right after the connection has been successfully established. If no GDD is available, a default GDD is displayed. The default GDD contains an image of the connected device and information about the "Vendor Name," "Product Name," and "Product ID."

The Graphical View menu graphically visualizes the IO-Link device's process data.



## "IODD View" Menu

Menu		<ul> <li>Device Information</li> </ul>	$\sim$
	PF_Seb Master Offline	Vendor Name	Pepperl+Fuchs
	PepperI+Fuchs GmbH OMT550-R200	Vendor Text	www.pepperl-fuchs.com/lo-link
	DISCONNECT	Product Name	OMT550-R200-2EP-IO-V31
×	Discovery	Product Text	Distance sensor
	Graphical View	Product ID	295670-100130
Ŧ	IODD View	> Serial Number	40000074649197
e	Identification	5	
Ŧ	+ Parameter	×	
	Observation		
٩	Diagnosis	×	
÷	Process Data	>	
•	Events	<b>12</b> ×	
×	SmartBridge Settings	*	
3	APP	TTINGS	

Figure 2.9 IODD View using the example of distance sensor OMT550-R200-2EP-IO-V31

- 1 Line-by-line representation of information, functions, and device parameters in the respective menu
- 2 Menu structure of the IODD View

You can use this menu to perform the following operations for the connected IO-Link device:

- Display process data in text form,
- Set the device parameters,
- Retrieve diagnosis information.



Adjusting the Device Parameters in IODD View

Menu	← Switching Signal Channel 1	o ∕ c
C Discovery	SSC1 Config - SP Offset	2 50,0 mm
Graphical View	> SP1 500.0	600,0 mm
IODD View	DDD View > SP2	300,0 mm
Identification	> Logic	High active - Not Inverted *
표 Parameter	1 > Mode	Window *
Observation	Hysteresis	Standard *
2.0.3	APP SETTINGS	

Figure 2.10

1. Go to the device parameter settings in the "Parameter" menu (1).

 $\mapsto$  Additional menus relating to parameters or parameter groups will be displayed depending on the device.

2. Press the required value field for the parameter and change the setting or the numerical value. Confirm the changes by pressing the check mark (2) so that the data can be transferred to the device. After changing several parameters in a particular menu, you can also confirm all of your changes in a single step.

2019-04

## "SmartBridge Settings" Menu

This menu provides information about system data and settings for the SmartBridge interface.

Men			SmartBridge Settings	
	PF_Seb Master Offline		Serial Number	4000003681671
0	Pepperl+Fuchs GmbH OMT550-R200		Part Number	WRM-F301-IO-B15-2V15
	DISCONNECT		Firmware IO Link Processor	1.2.7
С	Discovery		Firmware System Processor	1.1.10
4	Graphical View	×	Location Mode	ACTIVATE
Ē	IODD View	Σ	Local Name	PF_Seb SET
\$	SmartBridge Settings	×	Interface Time	2019-03-14 16:19 RESYNC
			Startup Mode	Master Offline +
2.0.3	🏵 APP SET	TTINGS		

Figure 2.11

#### Information

- Displays the serial number and designation of the SmartBridge interface.
- Displays the firmware version of the IO-Link processor and system processor.

#### **Configuration Options**

- Location Mode: Pressing this button causes the LEDs to flash briefly so that the relevant SmartBridge can be visually identified among a number of devices.
- Local Name: Displays and offers the option to change the name of the SmartBridge interface.
- Interface Time: Indicates the time set on the SmartBridge and offers the option to synchronize it with the time set on the mobile device (e.g., for evaluation of a log file).
- Startup Mode (setting the application):
  - Monitor in monitor operating mode
  - · Master Offline in master operating mode
  - Master Inline 3-pin in master operating mode
  - Master Inline 4/5-pin in master operating mode

## "App Settings" Menu

This menu is used to adjust various settings within the SmartBridge® app.

	PF_Seb Master Offline PepperI+Fuchs GmbH	Device Descriptor Index Updated: 3/15/19, 11:58 AM	UPDATE
	OMT550-R200 DISCONNECT	Reset App Settings / Cache	RESET
3	Discovery	Reset GDD Cache	RESET
	Graphical View	Demo Mode	(J)
ſ	IODD View	CDD Tester	
\$	SmartBridge Settings	Load custom IODD/GDD	>
		Terms of use	\$
		Privacy policy	)
		Imprint	>
		Licences	>

Figure 2.12

## $\triangle$

#### Caution!

Resetting to factory settings clears data!

Please note that if you reset the SmartBridge app, all stored IODDs and GDDs belonging to previously connected IO-Link devices will be deleted. This data can be reloaded if you connect the relevant IO-Link device to the SmartBridge interface and connect to the SmartBridge app. The prerequisite for this is a working Internet connection. Before resetting the SmartBridge App, consider whether you can ensure that the conditions for reloading IODDs and GDDs are met.

#### **Configuration Options**

- Device Descriptor Index: Displays the time stamp of the locally available device catalog.
   Pressing UPDATE updates the device catalog
- Reset App Settings / Cache: Reset app settings to the factory settings
- Reset GDD Cache: Clear the GDD cache
- Demo Mode: Enable/disable demo mode
- GDD Tester: Test page with GDD elements. For developing GDDs
- Load custom IODD/GDD: Manually integrate an IODD/GDD

#### Information

- Terms of use
- Privacy policy
- Imprint
- Licenses

2019-04



## 2.5 LED Indicators and Operating Elements

## **LED Indicators**

The SmartBridge interface is equipped with 3 indicator LEDs for carrying out visual function checks and rapid diagnostics. The "Connect" LED has 1 color (blue), while the "Mode" (yellow/green) and "Power" (green/red) LEDs have 2 colors.



Figure 2.13

LED	Operating mode	Color	Status	Function
Connect		Blue	On	Establishing a connection
		Blue	Flashing	Transferring data
Power		-	Off	No supply voltage available
		Green	On	Normal operation
		Green	Flashing	Low voltage at L+
		Red	On	Overload at C/Q
		Red	Flashing	System error
Mode	Monitor mode	Yellow	On	Synchronization with IO-Link device. Communication between master and device.
	Monitor mode	Yellow	Flashing	Synchronization and data logging active
	Monitor mode	Yellow/gree n	Flashing alternately	SmartBridge interface active, but no connection to the IO-Link device
	Master mode	Green	On	Communication with IO-Link device
	Master mode	Green	Flashing	SmartBridge interface active, but no connection to the IO-Link device

Table 2.1

2019-04

## **Operating Elements**

The SmartBridge interface is mainly operated via the SmartBridge app. The only operating element is the reset button. This is only accessible after opening the cover.



Figure 2.14

- 1. Open the cover (1) of the interface using a suitable tool (e.g., a coin) by turning it counterclockwise.
- 2. Remove the cover (1).
- 3. Press the reset button (2) with a pointed object such as a ballpoint pen refill.

 $\mapsto$  The SmartBridge interface performs a restart.

4. Place the cover (1) back in the opening and secure by turning it clockwise.

## Interfaces and Connections

## Interfaces

A separate microSD card (not included in the scope of delivery) is required for data logging. The microSD card must be inserted into the intended SD card slot (2).

If you wish to transfer the data saved on the microSD card to a PC, you can choose between 2 options:

- You can remove the microSD card and read in the data on the PC using an SD card reader.
- Alternatively, you can leave the microSD card inserted and connect a USB 2.0 cable with micro USB plug to the SmartBridge interface (3). Note: A USB 2.0 cable with micro USB plug is not included in the scope of delivery!

The Bluetooth connection to the mobile device is interrupted during data transfer via USB.





2019-04

**PEPPERL+FUCHS** 



- 1 Cover
- 2 microSD card slot
- 3 USB 2.0 micro-B socket

## Connections





- 1 M12x1 connector plug, 5-pin, connection to the machine control/external 24 VDC power supply
- 2 M12x1 socket, 5-pin, connection for IO-Link device

## 2.7 Delivery Scope and Accessories

## **Scope of Delivery**

The SmartBridge interface is supplied with a mounting bracket and a Quick Start Guide.

The desired mobile device app can be downloaded from the respective app store:

- Android devices: Google Play Store
- Apple devices: Apple App Store

## **Optional Accessories**

Designation	Description
V15-G-1M-PUR-V15-G	M12 to M12 connection cable, 5-pin PUR cable, to connect the IO-Link device to the SmartBridge module
MEMORYCARD MICRO SD 2GB	MicroSD card with 2 GB storage capacity



## 3 Installation

## 3.1 Installing the SmartBridge Interface

## Mounting

If you wish to use the SmartBridge interface in a stationary position for longer periods, we would recommend the use of the supplied mounting clamp.

The mounting clamp has two 4.5 mm holes to mount the interface using screws.

- 1. Drill 2 corresponding holes to secure the SmartBridge interface.
- 2. Push the mounting clamp onto the SmartBridge interface.
- 3. Attach the SmartBridge interface in the desired location using screws. The interface is clamped by tightening the screws.

## **Electrical Connection**

Depending on the operating mode and the application, there are different connection types for the SmartBridge interface.

Master mode is split between the following applications:

Offline



Figure 3.1 Connection when "offline" in master mode

In the "offline" application, an external 24 VDC voltage supply is required for the SmartBridge interface via a power supply unit or battery/batteries.

Inline 3-pin



Figure 3.2 Connection for "inline 3-pin"





#### Inline 4/5-pin



Figure 3.3 Connection for "inline 4/5-pin"

Monitor mode has the following connection:

Monitor



Figure 3.4 Connection for "Monitor"



 $\mathbf{O}$ 

### Note!

Use the machine control to ensure the correct wiring. The SmartBridge interface is ready for operation as soon as it is connected to the 24 VDC supply voltage.

- 1. Familiarize yourself with the desired operating mode and application.
- Connect the IO-Link device to the SmartBridge interface via a connecting cable (M12 connector). Note that a 3-pin, 4-pin, or 5-pin cable must be connected, depending on the application.
- 3. Using a 2nd cordset, connect the SmartBridge interface (M12 connector) to the machine control unit (PLC), an IO-Link master, or an external 24 VDC power supply.

## 3.2 Installing the SmartBridge App

### System requirements

The SmartBridge® app is available in the respective app store (Apple App Store; Google Play). You can install it on mobile devices such as smartphones and tablets that support "Bluetooth LE" (low energy) or "Bluetooth 4.0" and use the iOS (from version 10) or Android (from version 6.0) operating systems.

#### Note!

An Internet connection is required to load the SmartBridge app during installation and to load additional driver files for the initial commissioning of a new IO-Link device.



## Downloading the SmartBridge App

- 1. Go to the relevant app store.
- 2. Search for the "SmartBridge Sensor Technology 4.0" app by Pepperl+Fuchs GmbH

Figure 3.5 App icon for SmartBridge

3. Follow the instructions to download and install the SmartBridge app.



### Note!

Required driver files for IO-Link devices (IODD: IO Device Description; GDD: Graphical Device Description) are provided by the respective IO-Link device manufacturer. The SmartBridge® app identifies a connected IO-Link device during commissioning and downloads the associated driver file from the Internet. A functioning Internet connection is required for this.

## **Testing for Successful Installation**

Open the SmartBridge® app on your mobile device by clicking on the SmartBridge icon.

SmartBridge*	
đ,	

Figure 3.6 App icon for SmartBridge

→ The "Device Discovery" menu is displayed if the app is installed correctly.

## Data logging—Preparation and Activation

### Prerequisites

The data logging function can only be used in the "Monitor" startup mode. A separate microSD card (not included in the scope of delivery) is required for this function. The microSD card must be inserted into the designated SD card slot.

If you wish to transfer the data saved on the microSD card to a PC, you will need to use a USB 2.0 cable with a micro USB plug (3). If necessary, you can do this repeatedly when operating the SmartBridge interface.

### Activation

If the SmartBridge is already active and the IO-Link device is excluded, recording of the IO-Link communication begins as soon as an SD card is inserted into the designated slot. It is recommended to insert the SD card first and then to switch on the SmartBridge. Completing the steps in this order ensures that all communication data can be recorded.

#### Note!

The Bluetooth connection is disabled during a data connection via USB.



3.3



Figure 3.7



- 1. Open the cover (1) of the interface using a suitable tool (e.g., a coin) by turning it counterclockwise.
- 2. Remove the cover (1).
- 3. Insert the microSD card into the slot (2).
- 4. Place the cover (1) back in the opening and secure by turning it clockwise.



## 4 Commissioning

## 4.1 Commissioning the SmartBridge® System

### Note!

The process outlined below applies both to the initial commissioning of the SmartBridge system and to recommissioning. Once the drivers for an IO-Link device have been downloaded via the SmartBridge app, they are stored in a library on the mobile device. In this way, recommissioning is possible with a previously known IO-Link device, even without an Internet connection (e.g., when operating in areas/plants without an Internet connection).

## Prerequisites

- The SmartBridge interface and the IO-Link device are connected.
- The SmartBridge interface is connected to a machine control or an external 24 VDC voltage supply, depending on the application selected.
- On the mobile device:
  - The SmartBridge app is installed,
  - The Bluetooth interface is activated,
  - Access to the SmartBridge app location is permitted (positioning service is enabled),
  - An Internet connection is available.
     Important: During initial commissioning and when connecting a previously unregistered IO-Link device (driver download).
- A microSD card (not included in the scope of delivery) is needed to change the interface name and device key.

## Activating the SmartBridge System

1. Start the SmartBridge app on the mobile device.

90°°	

Figure 4.1

→ The mobile device displays the **Device Discovery** start menu and detects the SmartBridge interfaces present within the detection range. All SmartBridge interfaces found are then listed under "Devices in range."



Men	u .		Device Discovery
С	Discovery	ž	Devices in range
4	Graphical View	3	PF_Seb - S/N: 40000003681671
E	IODD View	$\geq$	Pepperl+Fuchs GmbH OMT550-R200
¢	SmartBridge Settings	2	
2.0.3	APP SE	TTINGS	

2. Press the button for the (desired) SmartBridge®.

 $\mapsto$  The authentication dialog starts.

### SmartBridge® Authentication

When establishing a connection between the mobile device and the SmartBridge interface, an authentication process first takes place between the communication partners. For this, each SmartBridge interface has a unique device key. The device key is located on the back of the SmartBridge interface in the form of a QR code and as text with the name "Key." After the initial connection, the SmartBridge app remembers the device key. The user does not need to enter it again, but must simply confirm it to establish the connection.

1. From the menu, select the SmartBridge interface you would like to use and follow any further instructions.

On delivery, the interface name is "SB\_PF." The user can change this. To do so at a later point, go to "SmartBridge Settings" and "Local Name."

2. Share the device key to the mobile device: Either by typing in the **key** 

or

by reading in the **QR code** using the mobile device's camera. Tap the **Scan Code** button when using the camera.

■ Device Discovery		
Devices in range	Authentication	
SB_ENC - S/N: 400 Master Inline 3-pin Pepperl+Fuchs Incremental Rotary	Please enter key SCAN CODE CONNECT CANCEL	*







Figure 4.3

- 3. Select "SPECIALIST" as the user role to be able to use the entire range of programming features.
- The rights of each user role are defined in detail in the respective IODD. The "SPECIALIST" role has the most privileges. Users with the "OBSERVER" role are restricted to read only access to the data.

→ The SmartBridge® app automatically loads the driver files for the connected IO-Link device from the default server. The drivers are loaded from the library if the connected device type has already been connected to the SmartBridge® app.

If an associated GDD is loaded for the IO-Link device, the app will switch straight to the **Graphical View** menu. If no GDD is available, a default GDD is displayed. This contains both an image of the connected device and information about the "Vendor Name," "Product Name," and "Product ID." In this scenario, you will need to switch to IODD View to change the parameters.



Graphical View OMTS50-R200-2EP-IO-V31	Menu	← Device Information
SSC1 SSC2 Switching Signal 1 Switching Signal 2	PF_Seb Master Offline Peperl+Fuchs GmbH OMT550-R200	Vendor Name Vendor Text
	DISCONNECT	Product Name
SP	C Discovery	Product Text
200 area 	Graphical View	Product ID
SQI- Signal Quality Indicator	E IODD View	Serial Number
excellent	Identification	
MV - Measurement Value	The Parameter >	
800 ····	Observation	
500 600	Diagnosis	
20	← Process Data >	
39	📢 Events 🚺 >	
3	SmartBridge Settings	
13 29 25 36 25 40 Trins in sec Extrem range 👩 stocer range 👩 no data	2.0.3 🌪 APP SETTINGS	

Figure 4.4



### Note!

The respective manufacturer of the IO-Link devices is responsible for providing the driver files (IODD, GDD). These files are stored in a central location online, to which the SmartBridge App has access.





## Setting the Application

1. Set the desired application in the Startup Mode field.

Men		SmartBridge Settings	
(1	PF_Seb Master Offline	Serial Number	4000003681671
0	PepperI+Fuchs GmbH OMT550-R200+	Part Number	WRM-F301-IO-B15-2V15
	DISCONNECT	Firmware IO Link Processor	1.2.7
С	Discovery	Firmware System Processor	1.1.10
4	Graphical View	> Location Mode	ACTIVATE
Ē	IODD View	> Local Name	PF_Seb SET
\$	SmartBridge Settings	> Interface Time	2019-03-14 16:19 RESYNC
	Startup Mode	Master Offline	

Figure 4.5

- Application setting:
  - "Monitor" in monitor operating mode
  - "Master Offline" in master operating mode
  - "Master Inline 3-pin" in master operating mode
  - "Master Inline 4/5-pin" in master operating mode

Changing the Interface Name and Device Key



#### Note!

If you only want to change the name of the interface, a simple way of doing this is to execute the "Local Name" function in the "App Settings" menu (see chapter 2.4).

On delivery, the SmartBridge interface has the name "SB-PF" and a default device key (key, QR code). You can change both to make your system more secure against access. The interface name can be a maximum of 8 characters. The device key can be a maximum of 64 characters and consists of individual HEX numbers in the range of 0 - F. The interface name and device key are changed using a microSD card. An INI file that has been created with a simple text editor such as Notepad must be stored on this card.

- 1. Open a suitable editor such as Microsoft® Windows® Notepad.
- Enter the desired data in the editor as follows:

   LocalNameString="max. 8 characters" then press the RETURN key
   AuthKeyHex="max. 64 characters" in HEX code" then press the RETURN key

By pressing the RETURN key, each line is concluded with a line feed (CR/LF). This line feed is absolutely necessary.

2019-04



3. First, save the file under the name "ConfSBA.ini" on your PC.

→ Below is an example with the interface name "SBridge1" and the new device key "1A4F."



Figure 4.6

4. Copy the file "ConfSBA.ini" from the PC to the microSD card.



Figure 4.7

- 5. Open the cover (1) of the interface using a suitable tool (e.g., a coin) by turning it counterclockwise.
- 6. Remove the cover (1).
- 7. Insert the microSD card into the slot (3).
- 8. Press the reset button (2) with a pointed object such as a ballpoint pen refill.

 $\mapsto$  The SmartBridge interface performs a restart.

9. Press the reset button (2) again after approx. 5 s.

 $\rightarrow$  The SmartBridge interface performs an additional restart and adopts the new settings for the interface name and the device key.

10. Remove the microSD card again or leave it inserted.

→Important: If the microSD card is inserted, it is read again following a restart of the SmartBridge interface, and the data in the INI file will be processed.

11. Place the cover (1) back in the opening and secure by turning it clockwise.



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