



## Software Manual

## Baumer Sensor Suite

EN-US

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# 1 About this document

## 1.1 Purpose

The present manual describes the structure and functions of *Baumer Sensor Suite (BSS)* and is intended to support software installation and use. Furthermore, it describes connection and use of supported IO-Link-devices and *Baumer CANopen* as well as their use with the software.

## 1.2 Warnings in this manual

Warnings draw attention to potential personal injury or material damage. The warnings in this manual indicate different hazard levels:

Symbol	Warning term	Explanation
	<b>DANGER</b>	Indicates an imminent potential danger with high risk of death or serious personal injury if not being avoided.
	<b>WARNING</b>	Indicates potential danger with medium risk of death or (serious) personal injury if not being avoided.
	<b>CAUTION</b>	Indicates a danger with low risk, which could lead to light or medium injury if not avoided.
	<b>NOTE</b>	Indicates a warning of material damage.
	<b>INFO</b>	Indicates practical information and tips that enable optimal use of the devices.

## 1.3 Labels in this manual

Identifier	Usage	Example
<i>Dialog element</i>	Indicates dialog elements.	Click the <b>OK</b> button.
<i>Unique name</i>	Indicates the names of products, files, etc.	<i>Internet Explorer</i> is not supported in any version.
Code	Indicates entries.	Enter the following IP address: 192.168.0.250

## 1.4 Applicable documents

- Download from [www.baumer.com](http://www.baumer.com):
  - Interface manual
  - Sensor-specific product documentation

## 2 Introduction

*Baumer Sensor Suite (BSS)* is a software for evaluation, selection and parameterization of supported IO-Link devices and *Baumer* CANopen appliances. By intuitive visualization of sensor functions, the software further supports application engineers in the implementation of IO-Link and Baumer CANopen devices.

Further to *Baumer* IO-Link devices and *Baumer* CANopen devices, *BSS* can also be used for parameterization of IO-Link devices from other manufacturers for which *IO Device Description (IODD)* is available.

The software provides a modular architecture with varied screen views for different tasks. The *BSS* basic version provides the views *Catalog*, *Device Library* and *Device Cockpit*.

View	Description
<b>Catalog</b>	This view provides all supported <i>Baumer</i> IO-Link devices and Baumer CANopen devices with related detailed technical information.
<b>Device Library</b>	This view provides an overview of existing IODDs (IO Device Descriptions) enables IODD import and deletion as well as information on IODD contents. Hence, you can availability of the required parameters in the IO-Link device or detailed IO-Link device-specific parameterization options prior to sensor use.
<b>Device Cockpit</b>	This view enables device connection, parameterization and diagnostics. The dashboard enables individual views of device data. Other views provide both tabular and raw data view. Add-ons offering device-optimized, predefined graphical presentation of device functions are available for connectable Baumer products.



### INFO

#### Create user account

A free user account is required for accessing the *Baumer Sensor Suite*.

## 3 Installation

### 3.1 System requirements

<b>Operating system</b>	Windows 10 (64 bit)
<b>Memory requirements</b>	500 MB
<b>Random Access Memory</b>	2 GB RAM; Recommended: 4 GB RAM
<b>Resolution</b>	Recommended: 1920 x 1080 px
<b>Interface</b>	USB, USB-C port, Ethernet or WIFI (depending on deployed Master)

#### Supported parameterization adapters

IO-Link Master	Interface	Sensor connection
<i>Baumer CM59I IO-Link Master</i>	Profinet	max. 8
<i>Baumer USB IO-Link Master</i>	USB	1
<i>Baumer USB-C CAN Adapter</i>	USB-C	1
<i>Baumer USB-C IO-Link Master</i>	USB-C	1
<i>Baumer 8-Port IO-Link Master</i>	Ethernet	max. 8
<i>Control IO-Link Master</i>	Ethernet	max. 8
<i>IFM IO-Link Master</i>	Ethernet	max. 8
<i>Ixxat VCI4 CAN</i>	USB	1
<i>SensControl</i>	WIFI	1

### 3.2 BSS installation

#### Instruction:

- Download the installation file (*BssSetup\_[Version].zip*) at website <https://www.baumer.com/bss>.
- Unzip the ZIP file.
- Double click to execute unzipped file (MSI file).
  - ✓ The installation dialog opens.
- Follow the dialog instructions.

#### Result:

- ✓ The *Baumer Sensor Suite* has been installed to your PC.

### 3.3 BSS Update

Each software start will automatically search for updates if internet connection is present. A software update being available will provide an info window for direct update upload.

As an alternative, you can manually search for updates:

#### Instruction:

- Click  icon (**About**) in the side bar bottom left.
  - ✓ The software will automatically search for updates.
- An update being available will provide the new version together with an **Install** button.
- Click the **Install button** to upload.
  - ✓ BSS is being updated.
- Restart the software once upload has been completed.

## 3.4 Uninstall BSS

### **Instruction:**

- a) Uninstall the software using the *Windows* control panel
  - or -
  - double-click to execute software setup file again and next select **Remove**.
- b) Follow the dialog instructions.

### **Result:**

- ✓ *BSS* is being uninstalled from the computer.



### **INFO**

The previously created user account will remain after uninstallation. The software *BSS* is required. to delete the user account.

---

### **Also see about this**

-  [Create user account \[ 8\]](#)

## 4 Getting started

### 4.1 Starting BSS

**Condition:**

⇒ The software has been installed.

**Instruction:**

- ◆ Double-click the *BSS* icon  to run the software.

**Result:**

- ✓ Software opens and provides the view last used.



### INFO

The first software start after installation requires login in your user account. If you do not yet have a user account with *Baumer*, you are required to create one first.

**Also see about this**

 [Create user account \[▶ 8\]](#)

### 4.2 Create user account

Accessing the *Baumer Sensor Suite* requires a free user account. To create your user account please enter a valid e-mail address.

There are 2 types of user accounts:

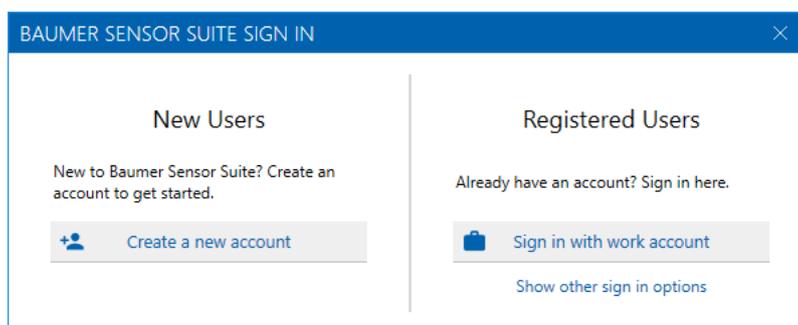
- **Work Account**
  - If you register with your company's email address and your company's user management supports *Microsoft Azure Active Directory*, your user account will be created as **Work Account**. This user account supports single sign-on.
- **Personal Account**
  - Not meeting the requirements for **Work Account** will create the user account as **Personal Account**. This user account requires login username and password.

**Condition:**

- ⇒ Internet connection is present.
- ⇒ No user is logged in *BSS*.

**Instruction:**

- Start *BSS*.
  - ✓ A dialog window opens.



- Click **Create a new account**.
  - ✓ Window **Account Registration** opens.

- c) Fill in the mandatory fields and confirm *EULA* and Privacy Policy.
- d) Complete your registration with **Register**.
  - ✓ You will receive an email from *noreply@baumer.com*.
- e) Open the email.
- f) **Work Account**: Click **Complete registration now**.
  - ✓ You will be redirected to a page requiring you to share permissions for the cloud service.
- g) Click **Accept**.
  - or -
- h) **Personal Account**: You will receive an initial password for *BSS* login.  
After initial *BSS* login you are asked to change the password.

**Result:**

- ✓ You can log in with the previously created user account.

**INFO**

In the event of any registration or login **Work Accounts** problems see troubleshooting in the annex.

**Also see about this**

- [BSS registration \[▶ 10\]](#)
- [Problems in creating a work account \[▶ 43\]](#)

**4.2.1****Delete user account**

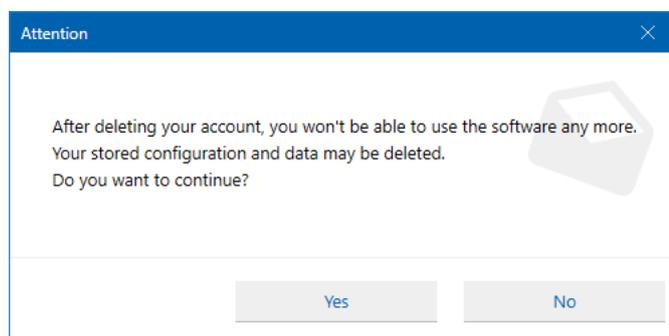
Deleting your user account is only enabled in *BSS*.

**Condition:**

- ⇒ Internet connection is present.
- ⇒ Log in *BSS* with the user account to be deleted.

**Instruction:**

- a) Click  icon in the header (**User Account**).
  - ✓ You are provided with user administration functions.
- b) Click button **Delete account**.
  - ✓ A dialog will open.



- c) Confirm deletion of your user account with **Yes**.

**Result:**

- ✓ The user account is being deleted.

**Also see about this**

- [BSS registration \[▶ 10\]](#)

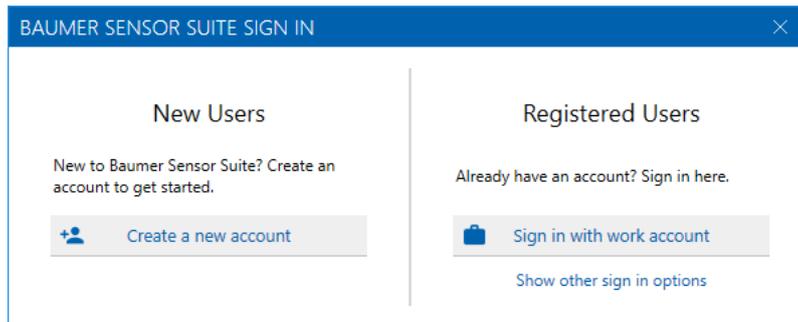
### 4.3 BSS registration

**Condition:**

- ⇒ Internet connection is present.
- ⇒ No user is logged in *BSS*.
- ⇒ Your user account has been created.

**Instruction:**

- a) Start *BSS*.
  - ✓ A dialog window opens.



- b) **Work account:** Click **Sign in with work account**.
- c) Click on your Active Directory account.
  - or -
- d) **Personal account** click button **Sign in with personal account**.  
Should the button not be visible, click first **Show other sign in options**.
- e) Sign in with your username and password.

**Result:**

- ✓ You are logged on. If registration was successful, you will be redirected to *BSS*.



#### INFO

After successful registration, the software is accessible even offline, i.e. without internet connection. Online functionalities that require internet connection (e.g. software update) are not accessible.

**Also see about this**

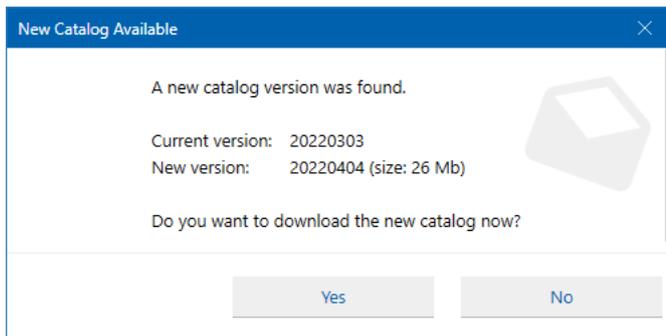
- [Create user account \[▶ 8\]](#)

## 4.4 Product catalog updates

It is recommended to update the product catalog after *BSS* installation.

**Instruction:**

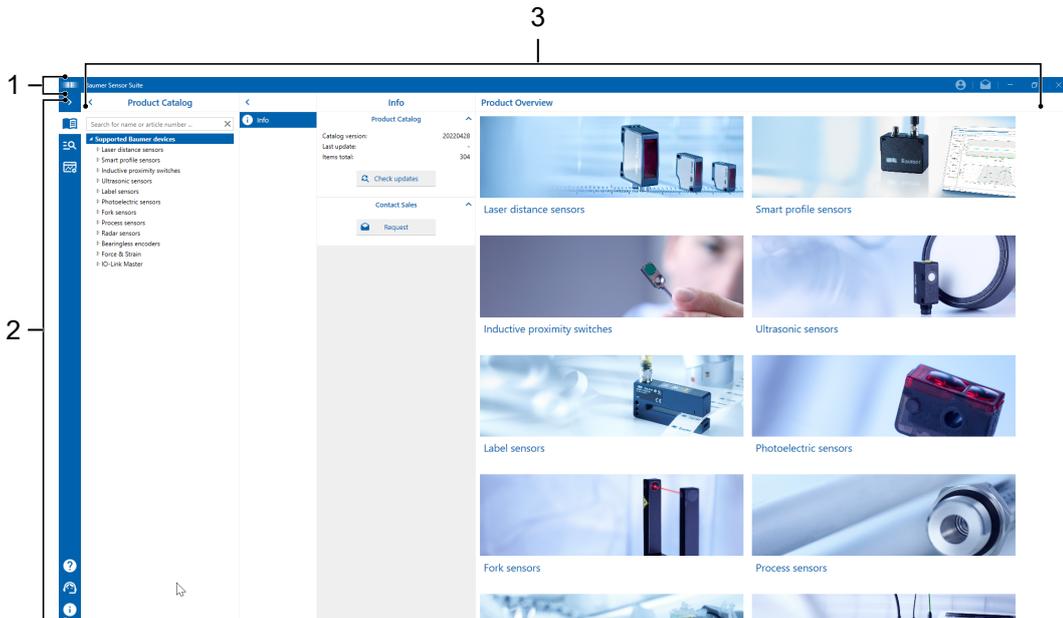
- a) Open view **Product Catalog** in the sidebar top left.
- b) Under tab **Product Catalog** select first menu item **Supported Baumer Devices**.
- c) Under tab **Info** click **Check updates**.
  - ✓ The software will automatically search for updates.
- d) If any, the available software update is displayed.



- e) Click the **Yes button** to start the update.
  - ✓ The product catalog update runs in the background.

# 5 Structure and operation

## 5.1 Structure



III. 1: General structure BSS

1	Header section	2	Sidebar
3	Workspace		

### 5.1.1 Header

The header is found in the top section of the user interface. The header is always visible, no matter of the currently applied screen view.

	<ul style="list-style-type: none"> <li>User log out.</li> <li>Delete account of the currently logged-in user.</li> </ul>
	<ul style="list-style-type: none"> <li>The mailbox shows/collects all <i>BSS</i> messages. The messages are classified as <i>Info</i>, <i>Warning</i> and <i>Error</i>.</li> </ul>

### 5.1.2 Sidebar

At the left of the user interface is the sidebar. The sidebar is always visible, no matter of the currently applied screen view.

	<ul style="list-style-type: none"> <li>View <b>Product Catalog</b></li> </ul>
	<ul style="list-style-type: none"> <li>View <b>Device Library</b></li> </ul>
	<ul style="list-style-type: none"> <li>View <b>Device Cockpit</b></li> </ul>
	<ul style="list-style-type: none"> <li>Show helpful information (tutorials), manuals and FAQ.</li> </ul>
	<ul style="list-style-type: none"> <li>Template for software <b>Feedback</b>(e.g. error messages).</li> </ul>
	<ul style="list-style-type: none"> <li>Open dialog <b>About</b>.</li> <li>Show information on software and licensing.</li> <li>Search for software updates and execute.</li> </ul>

### 5.1.3 Workspace

The workspace differs according to the selected view and is described in the related chapters.

## 5.2 Operation

Software user intervention is with keyboard and mouse.

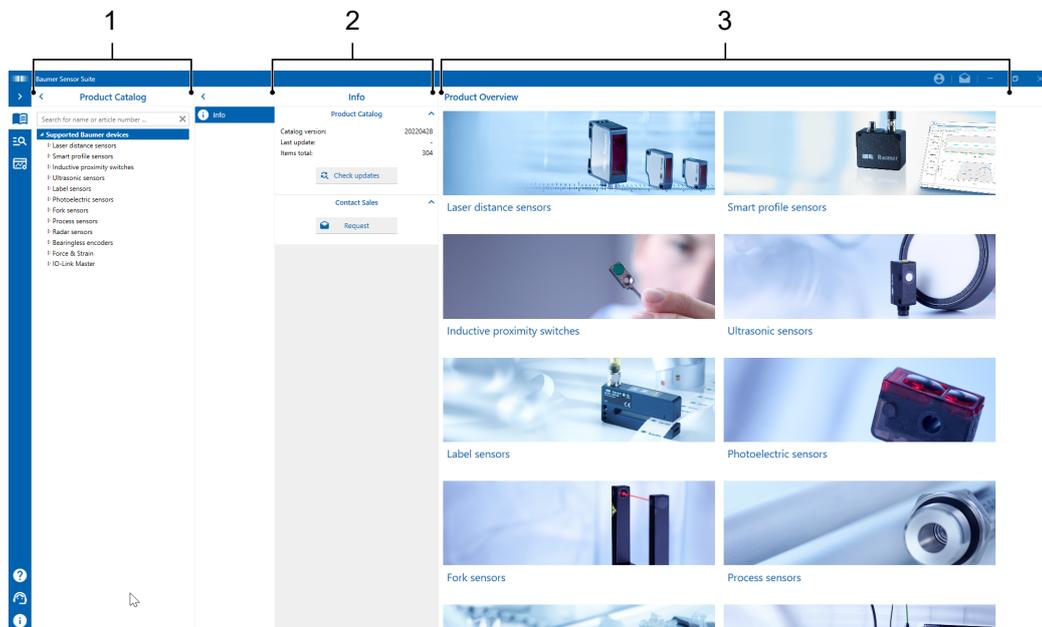
### Overview of frequently used / recurring symbols

Symbol	Function/Description
<	Flip section in to the left.
>	Flip section out to the right.
^	Flip section in to the top.
v	Flip section out to the top.
	Edit area/text (e.g. change names).
	Search device.
	Connect device.
	Play tutorials.

## 6 Apply Product Catalog

View **Product Catalog** provides all supported *Baumer* devices. Additional information can be obtained for each product (e.g. technical data, dimensional drawings).

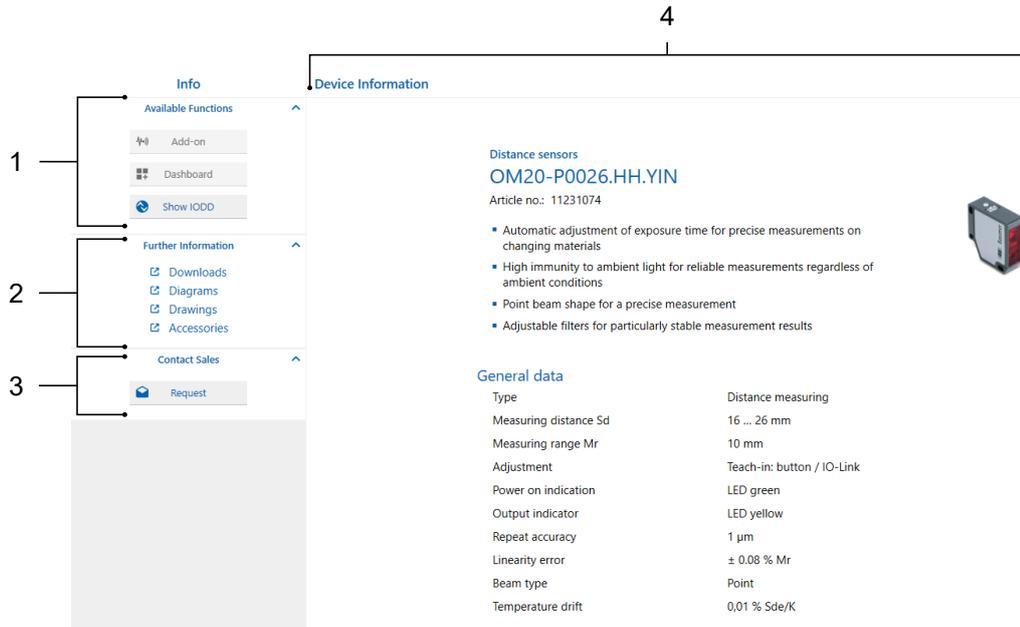
### 6.1 View Product Catalog



III. 2: View **Product Catalog** (example)

1	<b>Product Catalog</b>	<ul style="list-style-type: none"> <li>Product catalog of all supported <i>Baumer</i> devices.</li> <li>On top of the product structure is a search field.</li> </ul>
2	<b>Info</b>	<ul style="list-style-type: none"> <li>Additional information as selected in <b>Product Catalog</b>. When selecting a device, here you will be provided with links to further technical information and a link to sales request.</li> </ul>
3	<b>Product Overview</b>	<ul style="list-style-type: none"> <li>Content as selected in <b>Product Catalog</b>. When selecting a device is selected, here you are provided with the related product image, description and technical data (<b>Device Information</b>).</li> </ul>

**Device Information**



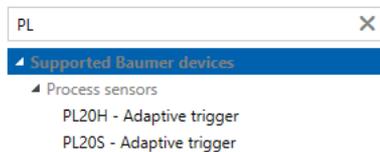
III. 3: View when selecting a device

1	<b>Available Functions</b>	<ul style="list-style-type: none"> <li>The functions available for the selected device in the <i>BSS</i>.</li> <li>Having selected an IO-Link device. <b>Show IODD</b> delivers its IODD.</li> </ul>
2	<b>Further Information</b>	<ul style="list-style-type: none"> <li>Further information on the selected Device.</li> <li>Click the link to have the information opened in the browser.</li> </ul>
3	<b>Contact Sales</b>	<ul style="list-style-type: none"> <li>Button <b>Request</b> will submit an e-mail to <i>Baumer</i> Sales, requesting further information on the selected IO-Link device.</li> </ul>
4	<b>Device Information</b>	<ul style="list-style-type: none"> <li>Technical data of the selected device.</li> </ul>

**6.2 Search device**

**Instruction:**

- Enter name or part number of the *Baumer* device you are looking for in the search field in column **Product Catalog**.  
If the entire name is not known, enter the first characters only of the product name (e.g. *PL*).



**Result:**

- The list below the search field yields all matching *Baumer* devices.
- In the list **Supported Baumer devices** navigate to the *Baumer* device you are looking for.  
- or -  
Click on the product image in column **Product Overview**.

### 6.3 Retrieving the IODD of the IO-Link device

**Instruction:**

- a) Navigate to the desired IO-Link device in the **Product Catalog**.
- b) Under **Info** click on button **Show IODD**.

**Result:**

- ✓ The IODD of the IO-Link device is reported in view **Device Library**.

**Also see about this**

 [Use Device Library \[▶ 17\]](#)

### 6.4 Submit order request

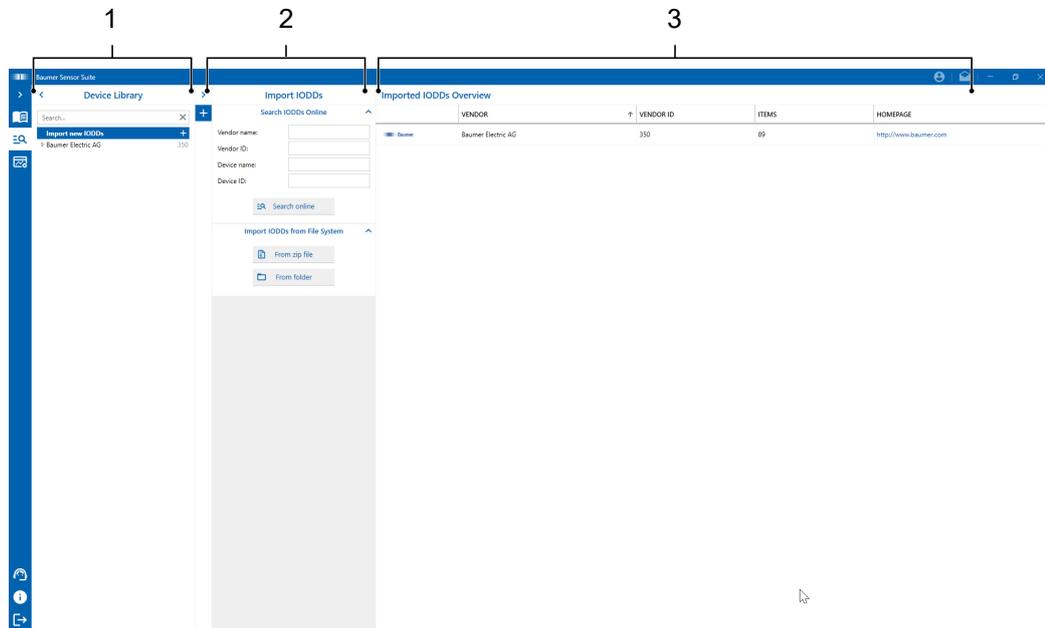
**Instruction:**

- a) Navigate to the desired device in the **Product Catalog**.
- b) Under **Info**, click button **Request**.
  - ✓ Email template opens.
- c) Enter e-mail text if required.
- d) Submit.

## 7 Use Device Library

View **Device Library** provides an overview of all existing IODDs, for import, deletion or related content information.

### 7.1 Import IODD



III. 4: **Device Library**: Import New IODDs

1	<b>Device Library</b>	<ul style="list-style-type: none"> <li>List of all device files (IODD files) available in the system with search field</li> <li>Search for IODDs</li> </ul>
2	<b>Import IODDs</b>	<ul style="list-style-type: none"> <li>IODD import</li> </ul>
3	<b>Imported IODDs Overview</b>	<ul style="list-style-type: none"> <li>List of all imported IODD files</li> </ul>

There are different options for IODDs import:

- Searching an online library.
- Using ZIP files or folders.

**Condition:**

⇒ View **Device Library** is open.

**Instruction:**

- In **Device Library** select **Import new IODDs**.

### 7.1.1 Online search and import of IOdds

**Instruction:**

- a) In the **Import IOdds** enter vendor name, vendor ID, device name, or device ID.
- b) Click on button **Search online**.
  - ✓ You are provided with all hits of the search. IOdds already existing in the **Device Library** are ticked. Example (search for **Device ID 217**):

Select IOdds to Import							
VENDOR	VENDOR ID	DEVICE	DEVICE ID	ARTICLE NO.	IO-LINK REV.	VERSION	
<input type="radio"/>	EGE-Elektronik Spezia...	703	LDS 1000 GAPL	217	P11388	1.0	V1.0.3
<input type="radio"/>	EGE-Elektronik Spezial...	703	LDS 1000 GAPL	217	P11388	1.1	V1.0.6
<input checked="" type="checkbox"/>	Baumer	350	O200.ZR-GW11.72CV/E026	217	11231245	1.1	V1.0
<input checked="" type="checkbox"/>	Baumer	350	O200.ZR-GW11.72CV/E026_H006	217	11231263	1.1	V1.0
<input checked="" type="checkbox"/>	Baumer	350	O200.ZR-GW11.72NV/E026	217	11231246	1.1	V1.0
<input checked="" type="checkbox"/>	Baumer	350	O200.ZR-GW11.72NV/E026_H006	217	11231264	1.1	V1.0

Number of articles listed: 6  
Total number of articles found online: 6

Combine same Device IDs  
 Hide imported IOdds

Import Cancel

III. 5: Search result with IOdds selected for import (example)

- c) Optional: Tick the checkbox at **Hide imported IOdds** to hide already imported IOdds.
- d) Tick the checkbox of the IOdds to be imported.
- e) Click **Import**.

**Result:**

- ✓ The selected IOdds are being imported and can be accessed in the **Device Library**.

### 7.1.2 Import IOdd from the file system

**Instruction:**

- a) In **Import IOdds** select **From zip file** or **From folder**.
  - ✓ The file browser opens.
- b) Navigate to the desired ZIP file or folder.
- c) Open the file or select the directory.

**Result:**

- ✓ The selected IOdds are being imported and can be accessed in the **Device Library**.

## 7.2 Delete IODD

**Condition:**

⇒ View **Device Library** is open.

**Instruction:**

- a) Select the IODD to be deleted.
- b) Click **Details**.
- c) Click **Remove IODD**.
  - ✓ A safety query pops up.
- d) Confirm with **Ok**.

**Result:**

✓ The IODD is deleted from the **Device Library**. IODD must be re-imported if required.

**Also see about this**

 [Import IODD \[▶ 17\]](#)

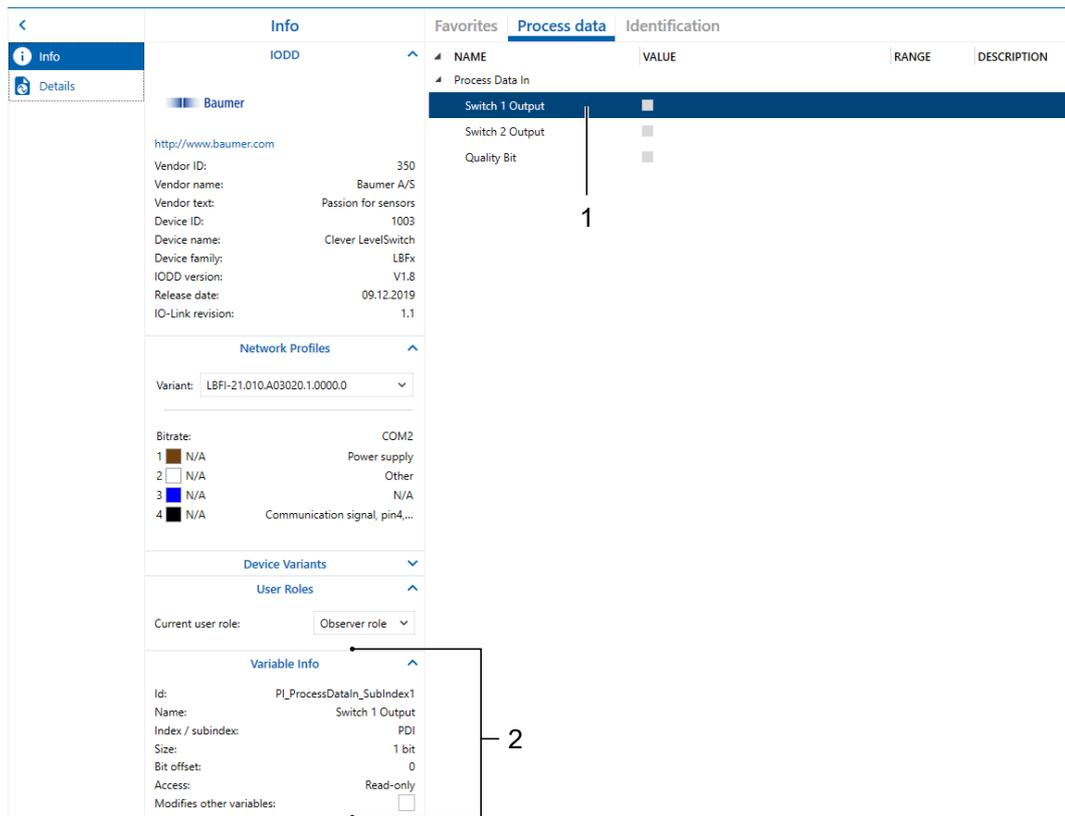
### 7.3 Show IODD

Having selected an IODD the following views are available:

- View **Info**
- View **Details**
- IODD content

#### View Info

View **Info** reports further IODD data and all device variants the selected IODD is applicable for. Selecting an IODD parameter in the column far right (1), provides further information on the selected variable in the area **Variable Info** (2).



III. 6: View **Info** for selected parameters (example)



#### INFO

Using the arrows, you can optionally hide the submenu items for a better overview.

#### View Details

View **Details** provides options for working with the IODD.

<b>Open location</b>	<ul style="list-style-type: none"> <li>■ Shows the selected IODD in the file system.</li> </ul>
<b>Show XML file</b>	<ul style="list-style-type: none"> <li>■ Shows the contents of the selected IODD file in the source text (XML).</li> </ul>
<b>Remove IODD</b>	<ul style="list-style-type: none"> <li>■ Delete the selected IODD.</li> </ul>

## IODD content

The content of the IODD is presented in groups (e.g. **Process data**, **Identification**, ...). Groups are displayed according to the selected IODD.

Favorites				Process data				Identification				Observation				Parameter				Diagnosis			
NAME		VALUE		RANGE		DESCRIPTION																	
▶ Remote Operation (Testing / Simul...																							
▶ Remote Signal																							
Enable		0: Disabled				+												Enables/Disables the remote operation mode. If enabled the sensor signal is interrupted and replaced with a remote					
Selection		0: Sensor Input Signal (mV/V)				+												Selects the signal that can be set in the register "Remote Operation Signal.Value".					
Value		0		ppth		7.9228E+28												Is the remote operation enabled, the selected signal can be set by writing the corresponding value into this register.					
▶ Auxiliary Signals																							
▶ Device Status																							

III. 7: Example of data grouped in an IODD

## 8 Use Device Cockpit

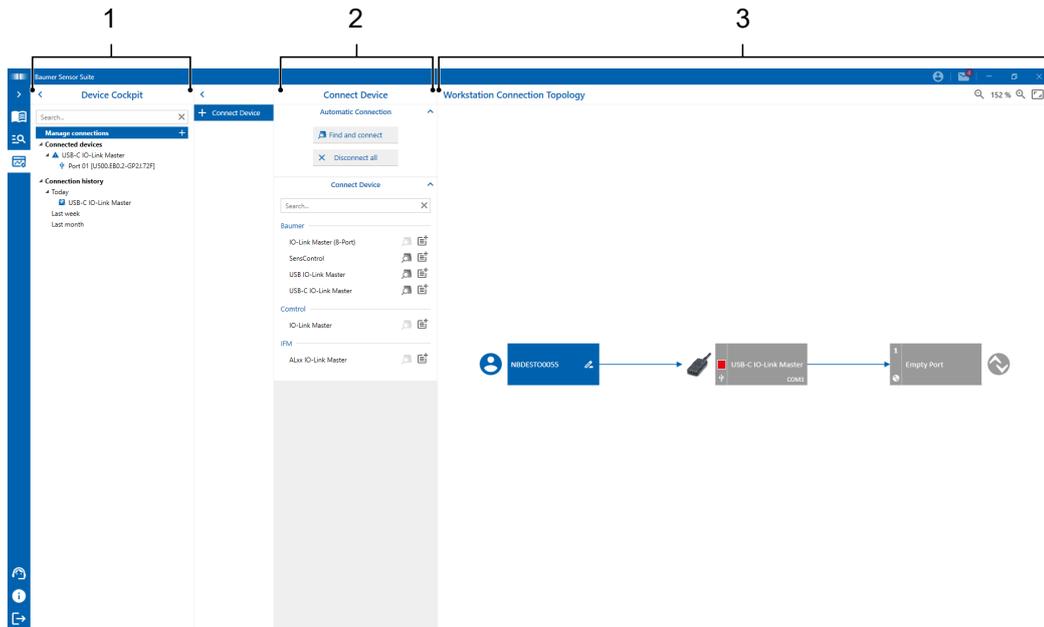
View **Device Cockpit** is for parameterization and visualization of connectable devices.

### 8.1 Connecting a supported device



#### INFO

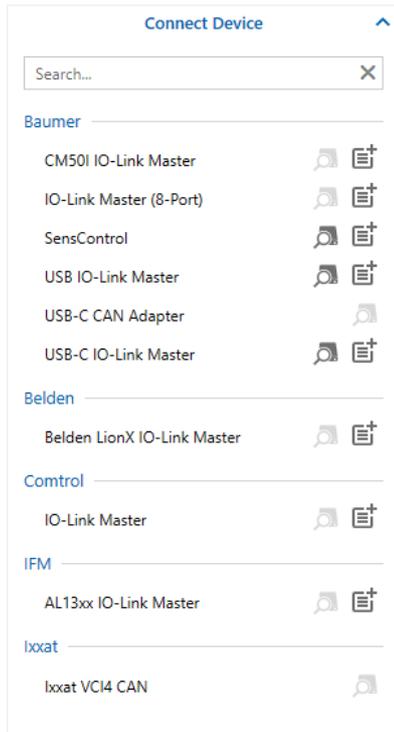
The annex provides information on supported parameter adaptors and remarks for connection.



III. 8: View **Device Cockpit** (example)

1	<b>Device Cockpit</b>	<ul style="list-style-type: none"> <li>■ <b>Manage connections</b> opens the settings for connecting supported devices.</li> <li>■ The currently connected devices are listed under <b>Connected devices</b>.</li> <li>■ <b>Connection history</b>, provides an overview of previously connected devices with the option for reconnection.</li> </ul>
2	<b>Connect Device</b>	<ul style="list-style-type: none"> <li>■ Connecting supported devices (automatically or manually).</li> <li>■ Disconnecting connected devices.</li> </ul>
3	<b>Workstation Connection Topology</b>	<ul style="list-style-type: none"> <li>■ Shows the device topology.</li> <li>■ Several supported devices interconnected via parameterization adaptor provides you here with a selection of individual devices (click) for parameterization respectively visualization.</li> </ul>

Under tab **Connect Device** you can select the options for connection/disconnection of supported devices.



III. 9: Tab **Connect Device**

Control element	Function
<b>Find and connect</b>	Attempt to establish automatic connection of all presently connected devices.
<b>Disconnect all</b>	Disconnects every existing connection to a connected device.
	Automatic attempt to establish connection to the relevant parameterization adapter.
	Open the connection settings of the corresponding parameterization adapter.

**Instruction:**

- Establish connection of the selected devices to your computer using the parameterization adaptor.
- Open view **Device Cockpit**.
- Under tab **Device Cockpit** click on **Manage connections**.
- Click on **Find and connect** in tab **Connect Device**.

**Result:**

- ✓ BSS will automatically establish connection to the connected supported devices. In the next step, at right you are provided with a topology of every successfully connected device.



**INFO**

Several parameterization adapters can be connected all at once. The topology shows every connected device.

### 8.1.1 Interrupt all connections

One click will suffice to disconnect all connected devices.

**Instruction:**

- a) Open view **Device Cockpit**.
- b) Click on button **Manage connections**.
- c) Under tab **Connect Device** click on **Disconnect all**.

**Result:**

- ✓ All existing connections are being disconnected.

### 8.1.2 Disconnect connection to a parameterization adapter

Several parameterization adapters being connected allows you to disconnect a particular one.

**Instruction:**

- a) Open view **Device Cockpit**.
- b) Click on **Connected devices**.
- c) Click on the parameterization adapter that is to be disconnected.
  - ✓ Tab **Info** appears.
- d) Click on **Disconnect**.

**Result:**

- ✓ The connection to the selected parameterization adapter is disconnected.

### 8.1.3 Restore the connection to a parameterization adapter

Previously connected parameterization adapters are displayed in the **Device Cockpit** view under **Connection history**. To reconnect one of these parameterization adapters, make sure that the corresponding parameterization adapter is connected to your computer.

**Instruction:**

- a) Open view **Device Cockpit**.
- b) Click on **Connection history**.
- c) Click on the parameterization adapter that is to be reconnected.
  - ✓ Tab **Info** of the selected device is displayed.
- d) Click on **Reconnect**.

**Result:**

- ✓ The connection to the selected parameterization adapter is re-established.



#### INFO

With this option, the connection to the parameterization adapter is established more quickly than with the **Find and connect** option, as the system does not first search for all connected devices.

---

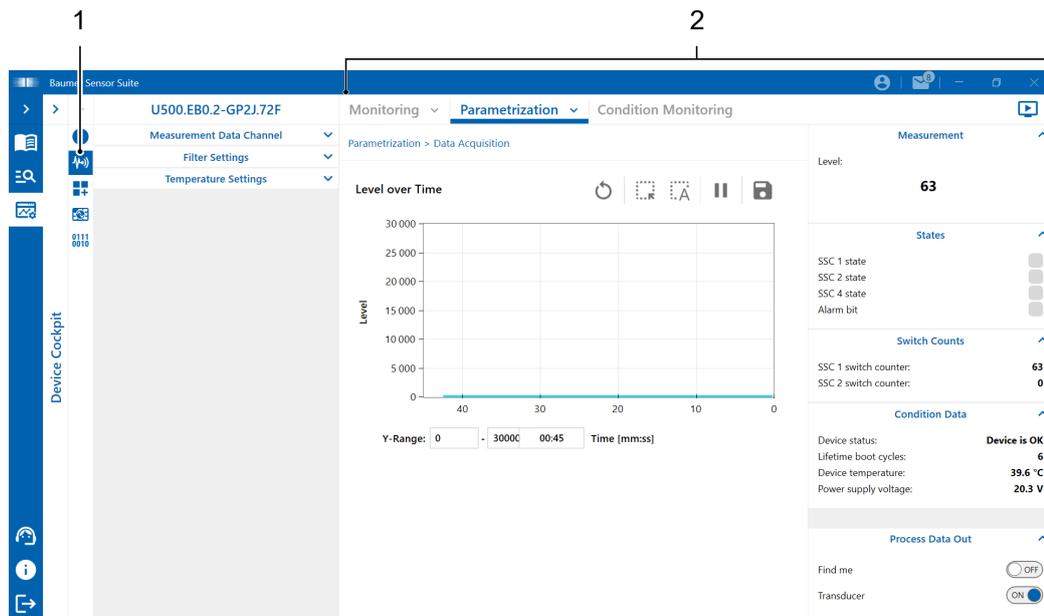
## 8.2 Parameterizing the sensor

There are several options for editing sensor parameterization.

Sensor type	Parameters/settings can be changed via:	
IO-Link		Add-on (if available)
		Dashboard
		IODD table
		Raw Data
CANopen		Add-on (if available)
		Dashboard
		PDO/SDO table
		Raw Data

### 8.2.1 Working with add-ons

Add-ons offer sensor-specific options for optimized parameterization and monitoring. Add-on functions and options change according to sensor.



Ill. 10: View **Device Cockpit** at open add-on (example)

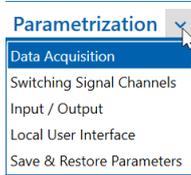
1		<ul style="list-style-type: none"> <li>Button to open add-ons.</li> </ul>
2	View Add-On	<ul style="list-style-type: none"> <li>View <b>Monitoring</b> for measured value readout.</li> <li>View <b>Parameterization</b> for parameterization.</li> <li>Some sensors additionally provide view <b>Condition Monitoring</b> to indicate secondary diagnostic data.</li> </ul>

### Selecting the add-on submenu

Add-on specific details on functions and information for display are provided in submenus.

**Instruction:**

- ◆ Click the corresponding add-on ▾ button.
- ✓ The drop-down menu opens.



III. 11: Drop-down menu example

- ◆ Select and click menu item.

### 8.2.1.1 Monitoring

The **Monitoring** function delivers measuring data and current parameters. In this view, parameter change is disabled.

The tooltips provide detailed explanation on individual submenu parameters. Click icon ⓘ to view a specific tooltip parameter.

### 8.2.1.2 Parametrization

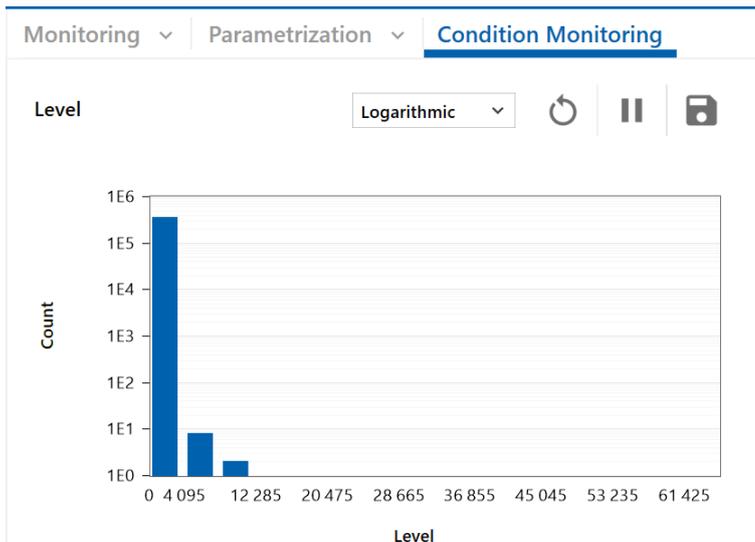
There are 2 different ways for parameter change:

- Enter the required value straight in the parameter input field.
- Drag the diagram slider to the required value.

### 8.2.1.3 Condition Monitoring

Function **Condition Monitoring** provides additional data on sensor operation.

The histogram provides the number of events over time and allows for several options for presentation, reset or export (e.g. logarithmic, linear, standardized, ...).



III. 12: A histogram example can be found in **Condition Monitoring**

## 8.2.2 Using the Dashboard

The **Dashboard** provides an overview for accessing important information, measured values and parameters of the connected device. The information to be displayed can be personalized according to your preferences. You can save and load your personalized settings.

### 8.2.2.1 Show dashboard

The **Dashboard** provides an overview for accessing important sensor-specific information, measured values and parameterization. You can personalize the information to be displayed according to your preferences. The individual settings can be saved and reloaded.

#### Condition:

⇒ A sensor is connected to **BSS**.

#### Instruction:

- Open view **Device Cockpit**.
- In tab **Device Cockpit** at **Connected devices**, select the IO device you wish to come in the dashboard view.
- Click on the device name below. Example:

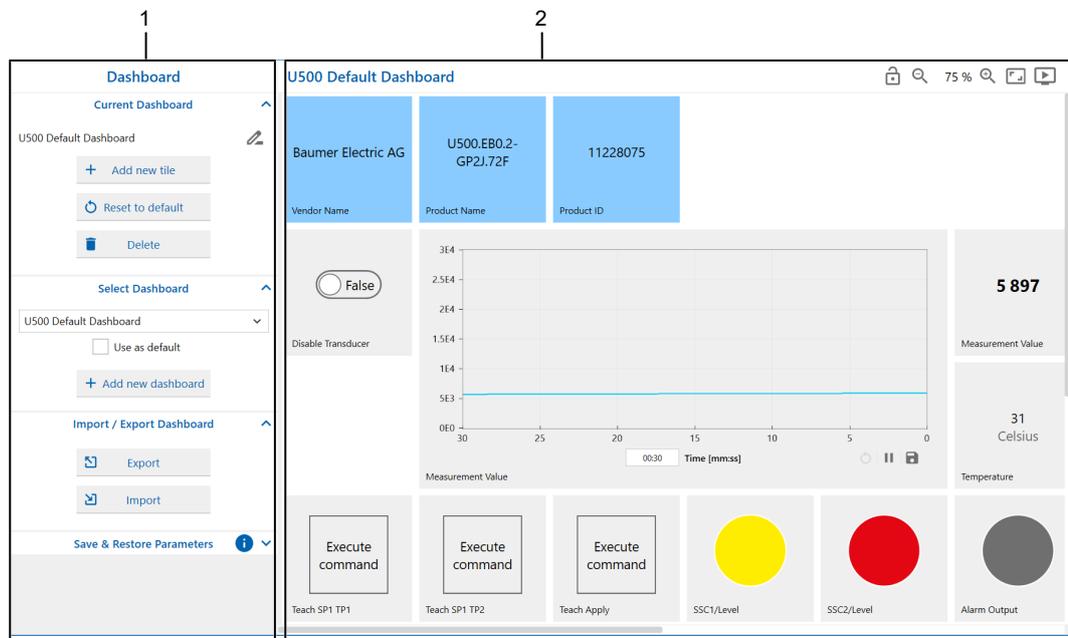


✓ Tab **Info** will open the device-related submenu.

- Click  icon (**Dashboard**).

#### Result:

✓ You are provided with the dashboard view of the selected device.



III. 13: View **Default Dashboard** and Dashboard Management (Example)

1 Dashboard management

2 Selected dashboard

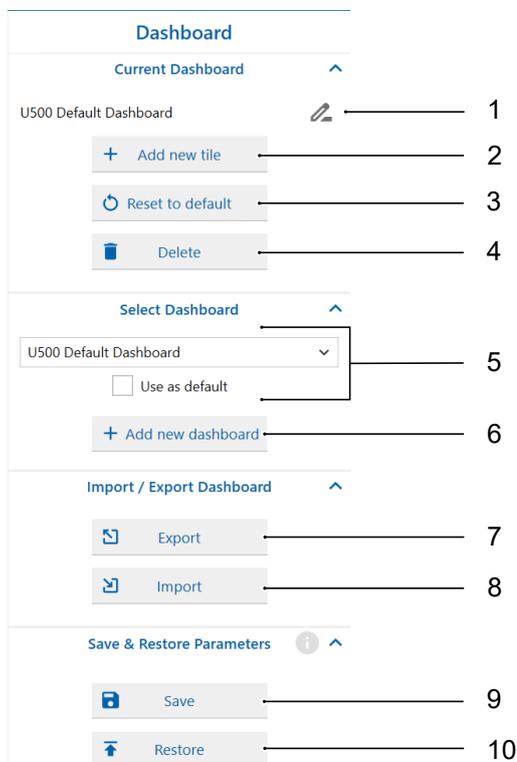
All *Baumer devices* feature a sensor-specific **Default Dashboard**. Therefore, though the **Default Dashboard** of individual IO-Link devices will look similar, the tiles however may be different.

**Structure Default Dashboard**

- Top line: Product data
- Below: process and diagnostic data
- Upper corner at right:
  - Change size: 🔍 75 % 🔍
  - Enable/disable full screen mode: 🖥️
  - Show help video: ▶️

You can edit the **Default Dashboard** according to your wishes.

**8.2.2.2 Customize dashboard**



III. 14: Tab **Dashboard**

1		<ul style="list-style-type: none"> <li>■ Click the pencil to change the name of the dashboard which is currently on screen.</li> <li>■ Press <b>Esc</b> key to cancel.</li> </ul>
2	<b>Add new tile</b>	<ul style="list-style-type: none"> <li>■ Insert a new tile in the on-screen dashboard.</li> </ul>
3	<b>Restore to default</b>	<ul style="list-style-type: none"> <li>■ Restore dashboard default.</li> </ul>
4	<b>Delete</b>	<ul style="list-style-type: none"> <li>■ Delete the currently selected dashboard.</li> </ul>
5	<b>Select Dashboard</b>	<ul style="list-style-type: none"> <li>■ If having created several dashboards, use the drop-down list to select the dashboard to be provided on-screen.</li> <li>■ Tick checkbox <b>Use as default</b> to define the selected dashboard as <b>default dashboard</b>.</li> </ul>

6	<b>Add new dashboard</b>	<ul style="list-style-type: none"> <li>■ Create new dashboard.</li> <li>■ You can choose an existing template or start with a blank dashboard.</li> <li>■ You can edit the dashboard name during creation.</li> </ul>
7	<b>Export</b>	<ul style="list-style-type: none"> <li>■ Export the selected dashboard.</li> </ul>
8	<b>Import</b>	<ul style="list-style-type: none"> <li>■ Importing a dashboard.</li> <li>■ Only dashboards created for the same sensor type as the connected one enable import.</li> </ul>
9	<b>Save</b>	<ul style="list-style-type: none"> <li>■ Save the current parameter settings.</li> </ul>
10	<b>Restore</b>	<ul style="list-style-type: none"> <li>■ Restore the factory settings in the currently selected device.</li> </ul>

### 8.2.2.2.1

#### Adding new tiles

##### **Instruction:**

- ◆ To add a new tile, click button **Add new tile**.
- or -
- Scroll to a free tile in the Dashboard and click on "+".

##### **Result:**

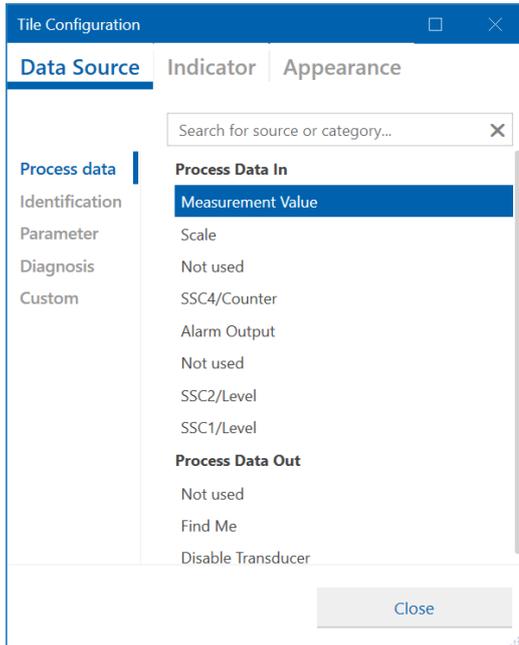
- ✓ Dialog **Tile Configuration** will open.

##### **Also see about this**

 [Tile configuration \[▶ 30\]](#)

8.2.2.2.2 **Tile configuration**

Creating a new tile will open dialog **Tile Configuration**. Alternatively, open dialog with a click on  at an existing tile.



III. 15: Dialog **Tile Configuration**

<b>Data Source</b>	Selecting the data source to be displayed. Accessible data sources (may slightly differ according to sensor): <ul style="list-style-type: none"> <li>■ Process data</li> <li>■ Identification</li> <li>■ Parameter</li> <li>■ Diagnostic tools</li> </ul>
<b>Indicator</b>	Selecting the presentation of the data source selected at <b>Data Source</b> . The following indicators are accessible for selection according to data source: <ul style="list-style-type: none"> <li>■ Numeric indicator</li> <li>■ Live chart indicator</li> <li>■ Circular gauge indicator</li> <li>■ Linear gauge indicator</li> <li>■ Range state indicator</li> <li>■ Sparkline indicator</li> </ul> The indicator can be personalized as well (e.g. scaling, unit, ...). The settings depend on the selected indicator.
<b>Appearance</b>	Customize tile appearance: <ul style="list-style-type: none"> <li>■ Tile title</li> <li>■ Tile size</li> <li>■ Tile background color</li> </ul>

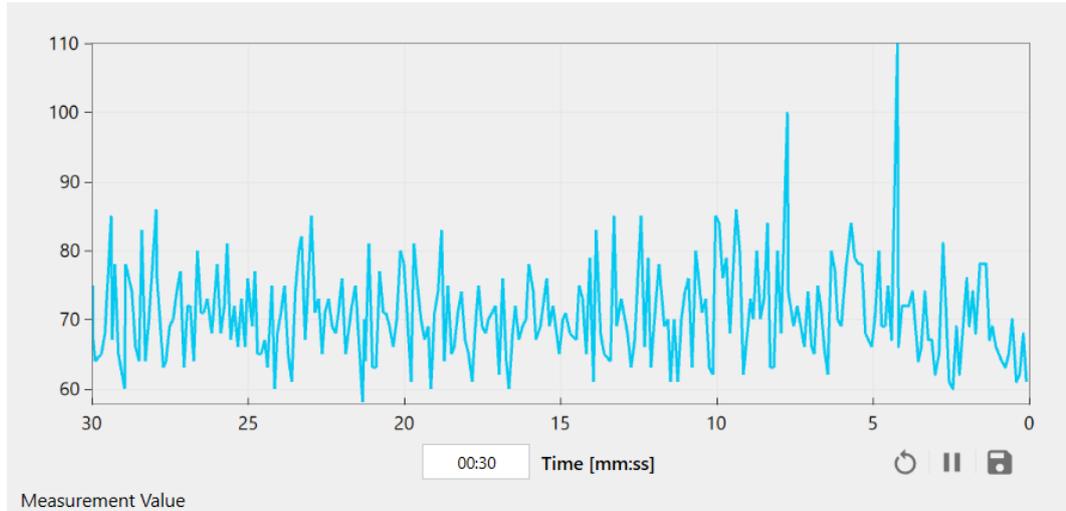


**INFO**

Changes in configuration will be immediately applied and displayed so that the effects are straight visible on screen.

### 8.2.2.2.3 Configuration example

**Live chart indicator** is one of the most important indicators, in the following please find a configuration example.



Ill. 16: Configuration example Live chart indicator

**Instruction:**

- a) Open the tile configuration dialog.
  - ✓ Dialog **Tile Configuration** will open.
- b) Select data source in tab **Data Source**.
- c) Go to tab **Indicator**.
- d) Select **Live chart indicator** in the drop-down list.
- e) Enter the scaling settings in section **Scale**.
  - The scaling factor allows parameterization (for context information click icon ⓘ).
  - You can also enter a device text and select the range of the y-axis using the start/end value or the min/max range (in mode **Automatic**).
  - You may also change the given time.
- f) Under **Signal**, select an additional signal from the drop-down list to be shown in the live chart.
  - You can also change the colors for the **True-State** and **False-State** states.

### 8.2.2.3 Save/restore parameters

Parameter settings can be transferred from one sensor to another.

**Save parameters**

**Instruction:**

- a) Click on **Save**.
  - ✓ Dialog window opens.
- b) Select "save all parameters of this IO-Link device".
  - Alternatively -
  - Select "save dashboard-configured parameters only".
- c) Click **Ok**.
  - ✓ File manager opens.
- d) Select memory location and click **Save**.

**Restore parameters**

- a) Click on the button **Restore**.
  - ✓ Dialog window opens.
- b) Select file including the saved parameters.
- c) Click **Open**.

For more information, click on .

### 8.2.3 Changing parameters via the IODD table

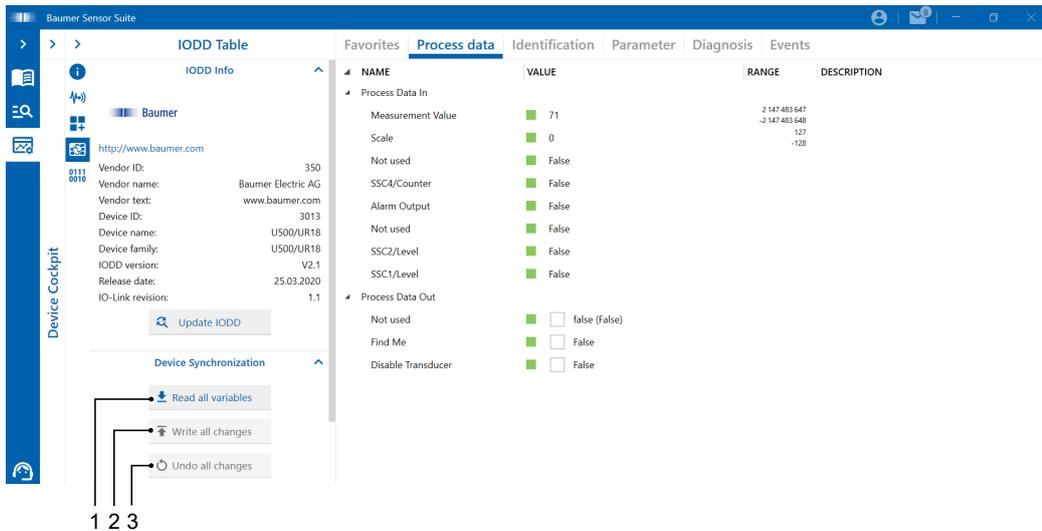
#### Instruction:

- a) Open view **Device Cockpit**.
- b) Under tab **Device Cockpit** at **Connected devices**, select the device to be parameterized.
- c) Click on the device name below. Example:



- ✓ Tab **Info** will open the device-related submenu.

- d) Click on  (**IODD Table**).



III. 17: View **IODD Table** (example)

1	<b>Read all variables</b>	<ul style="list-style-type: none"> <li>■ Readout of the current device settings.</li> <li>■ In the next step you can change parameterization as desired to be written into the device using <b>Write all changes</b>.</li> </ul>
2	<b>Write all changes</b>	<ul style="list-style-type: none"> <li>■ Every change is adopted in the device.</li> </ul>
3	<b>Undo all changes</b>	<ul style="list-style-type: none"> <li>■ Deletes every change not yet written into the device.</li> </ul>

#### Also see about this

 [Using the Dashboard](#) [▶ 27]

### 8.2.4 Changing parameters via the PDO/SDO table

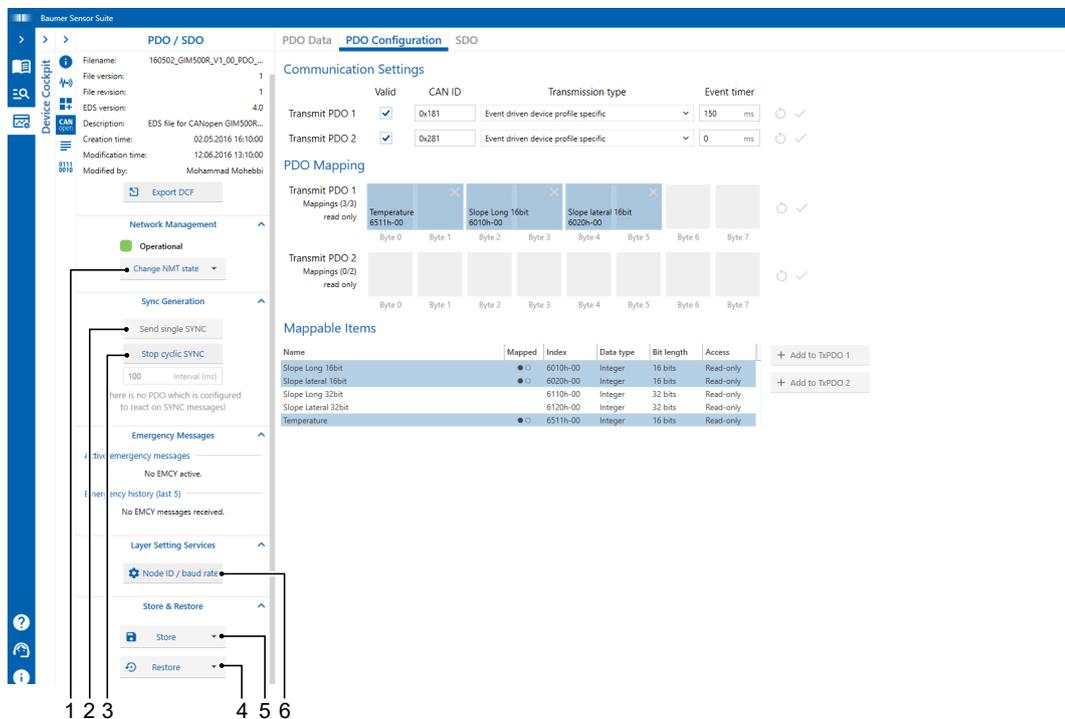
**Instruction:**

- a) Open view **Device Cockpit**.
- b) Under tab **Device Cockpit** at **Connected devices**, select the device to be parameterized.
- c) Click on the device name below. Example:



✓ Tab **Info** will open the device-related submenu.

d) Click on **CAN open (PDO/SDO)**.



III. 18: View **PDO / SDO Table** (example)

1	<b>Change NMT state</b>	<ul style="list-style-type: none"> <li>■ Will change the NMT status. You have the following options:                             <ul style="list-style-type: none"> <li>▪ Enter pre-operational</li> <li>▪ Start node</li> <li>▪ Stop node</li> <li>▪ Reset communication</li> </ul> </li> </ul>
2	<b>Send single SYNC</b>	<ul style="list-style-type: none"> <li>■ Transmits a single sync command.</li> </ul>
3	<b>Start cyclic SYNC</b> <b>Stop cyclic SYNC</b>	<ul style="list-style-type: none"> <li>■ Starts/stops cyclical synchronization. Interval can be specified in the text box below.</li> </ul>

4	<b>Store</b>	<ul style="list-style-type: none"> <li>■ Saves the values. Either all values or only those of a specific range will be saved. You have the following options: <ul style="list-style-type: none"> <li>▪ All</li> <li>▪ Communication</li> <li>▪ Application</li> <li>▪ Manufacturer</li> </ul> </li> </ul>
5	<b>Restore</b>	<ul style="list-style-type: none"> <li>■ Loads the previously saved values. Either all values or only those of specific range will be restored (loaded). You have the following options: <ul style="list-style-type: none"> <li>▪ All</li> <li>▪ Communication</li> <li>▪ Application</li> <li>▪ Manufacturer</li> </ul> </li> </ul>
6	<b>Node ID / baud rate</b>	<ul style="list-style-type: none"> <li>■ Opens a dialog box to adjust node ID and baud rate.</li> </ul>



## INFO

Not every function is accessible in every section.

### Also see about this

 [Using the Dashboard \[▶ 27\]](#)

## 8.2.5

### Use raw data

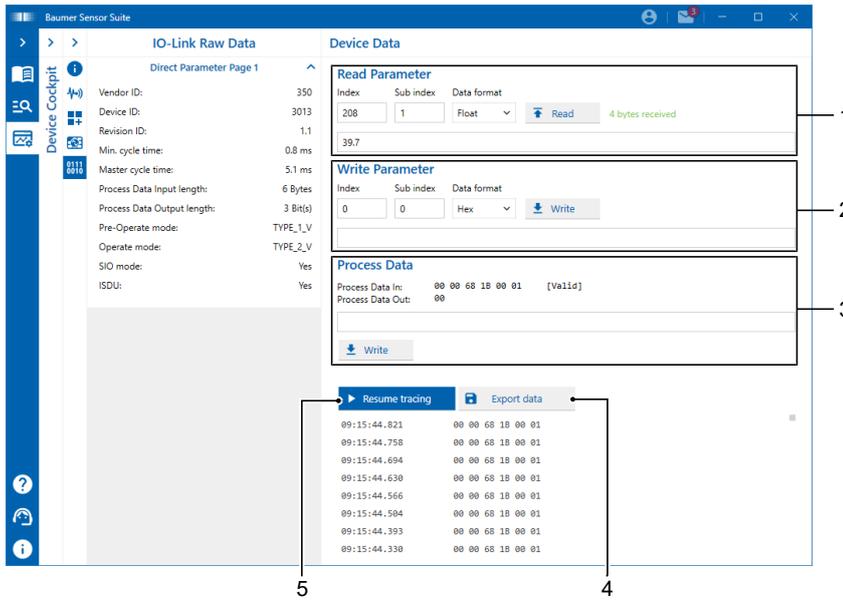
#### Instruction:

- a) Open view **Device Cockpit**.
- b) Under tab **Device Cockpit** at **Connected devices**, select the device to be parameterized.
- c) Click on the device name below. Example:



- ✓ Tab **Info** will open the device-related submenu.

- d) Click on  (**Raw Data**).



III. 19: View **Raw Data** (example)

1	<b>Read Parameter</b>	Read parameter value out of sensor.
2	<b>Write Parameter</b>	Write parameter value to sensor.
3	<b>Process data</b>	Show process data (PDI). <b>IO-Link only:</b> Write process data (PDO) to sensor.
4	<b>Export data</b>	Export tracing data.
5	<b>Resume Tracing</b> <b>Halt Tracing</b>	Start / stop tracing. During tracing, PDI data output is via time.

### 8.2.6 Use parameter sets



#### INFO

This function is not available for CANopen devices.

A parameter set is a file with file extension *.parameter*. The file includes the entire parameterization of a specific device. A parameter set can only ever be used for a specific device type.

#### 8.2.6.1 Create parameter set

Parameterization can be transferred from one sensor to another. This simplifies configurations in conjunction with other application-specific information.

**Instruction:**

- a) Navigate to add-on or a dashboard of the device you want to save parameterization for.
- b) Select menu item **Save & Restore Parameters Sets** -> **Save**.
- c) Select a file name and save the parameter set.

### 8.2.6.2 Display/edit parameter set

**Instruction:**

- a) Navigate to the device to be configured with the parameter set.
- b) Select menu item **Parameter Sets**.
  - ✓ You are provided with the common table showing the entire parameterization of the selected device.
- c) Load the desired parameter set with **Parameter Set File -> Open**.
  - or -
  - Load the desired parameter set via making an entry in **file history**.
- d) Edit the values in this table as required. The status of the displayed value can be seen from the color mark next to the indicator field.
- e) Save your changes with **Parameter Set File -> Save** or **Parameter Set File -> Save as**.

For more information, click on .

## 9 Annex

### 9.1 IO-Link master

#### 9.1.1 Connect Baumer USB-C IO-Link Master



Ill. 20: Product image *Baumer USB-C IO-Link Master*

**Instruction:**

- a) Connect the *Baumer USB-C IO-Link Master* to your PC USB-C port.
- b) Connect the selected IO-Link device to the other end of the *Baumer USB-C IO-Link Master*.

**Result:**

- ✓ *Baumer USB-C IO-Link Master* and the connected IO-Link device can now be connected to the BSS for visualization and parameterization of the IO-Link device.

#### 9.1.2 Connecting Baumer USB IO-Link Master



Ill. 21: Product image *Baumer USB IO-Link Master*

**Instruction:**

- a) Connect the *Baumer USB IO-Link Master* to your PC's USB port.
- b) Connect the selected IO-Link device to the other end of *Baumer USB IO-Link Master*.

**Result:**

- ✓ *Baumer USB-C IO-Link Master* and the connected IO-Link device can now be connected to BSS for visualization and parameterization of the IO-Link device.

### 9.1.3 Connecting Baumer 8-port IO-Link Master



Ill. 22: Product image *Baumer 8-Port IO-Link Master*

#### Hardware configuration of Baumer 8-Port IO-Link Master

##### **Instruction:**

- Plug the power supply cable into port **PWR In** of *Baumer 8-Port IO-Link Master*.
- Connect supply unit to the mains.
- Connect the selected IO-Link device to the selected port of *Baumer 8-Port IO-Link Master*.
- Connect Ethernet cable to port **ETH 1** of *Baumer 8-Port IO-Link Master*.
- Connect Ethernet cable to you PC's Ethernet port.
  - alternatively -
  - Connect Ethernet cable to your PC's USB port using an USB adapter (optionally available as an accessory).

#### Allocating an IP address

Prior to connecting *Baumer 8-Port IO-Link Master* to *BSS*, you must establish a connection between IO-Link Master and your computer. Doing so requires assigning the IO-Link Master an IP address.



#### **INFO**

The exact procedure depends on the used *Windows* version.

#### How to, taking *Windows 10* as an example

- Open menu **Settings > Network and Internet > Network and Sharing Center > Change adapter settings**.
- Right-click on the adapter *Baumer 8-Port IO-Link Master* is connected to.
- Click **Settings** and enter your password.
  - This process may require administrator rights. Alternatively, you may use the software *DHCP Switch*.
- Double-click **Internet Protocol, Version 4 (TCP/IPv4)**.
- Enter IP address being in the same range as the IP address of *Baumer 8-Port IO-Link Master*.
- Save with **OK**.

### MODBUS/TCP activation

- a) Enter the default IP address of *Baumer 8-Port IO-Link Master* in browser search field:  
192.168.0.250.  
Having assigned the IO-Link Master an individual IP address you will be required to enter it.
  - ✓ You are automatically redirected to the web server.
- b) Click on **Configuration**.
- c) Click on **MODBUS/TCP**.
- d) Click on **EDIT**.
- e) Set to **Enable**.
- f) Save.

#### Result:

- ✓ Configuration completed. *Baumer 8-Port IO-Link Master* and the connected IO-Link devices are now ready to run BSS.

### 9.1.4 Connecting Baumer SensControl

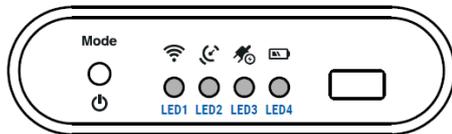


III. 23: Product image SensControl

### SensControl hardware configuration

#### Instruction:

- a) Connect sensor to the *SensControl* device port.
- b) Press and hold **Mode** until all LEDs light up (approx. 1 sec).



III. 24: SensControl LED display

#### Result:

- ✓ At power on, LED 1 and LED 2 flash in blue.
- ✓ After startup, *SensControl* provides WLAN in SoftAP mode (default settings).



### INFO

For further information please refer to the *SensControl* instruction manual.

### Establishing WIFI connection

- ◆ Establish connection to the SSID of *SensControl*.  
SSID information can be found at the rear side of *SensControl*.

#### **Result:**

- ✓ LED 1 of *SensControl* flashing red signals successfully established connection.
- ✓ Hardware configuration completed. *SensControl* is now ready to run *BSS*.

## 9.1.5 Connecting the Control IO-Link master



Ill. 25: Product image *Control IO-Link Master*

### Hardware configuration of Control IO-Link master

#### **Instruction:**

- a) Connect the power supply cable to port **PWR In** of *Control IO-Link Master*.
- b) Connect supply unit to the mains.
- c) Connect the selected IO-Link to the selected port of *Control IO-Link Master*.
- d) Connect the Ethernet cable to port **ETH 1** of *Control IO-Link Master*.
- e) Connect Ethernet cable to you PC's Ethernet port.
  - alternatively -
  - Connect Ethernet cable to your PC's USB port using an USB adapter (optionally available as an accessory).



#### **INFO**

The exact procedure depends on the used *Windows* version.

#### **How to, taking *Windows 10* as an example**

- a) Open menu **Settings > Network and Internet > Network and Sharing Center > Change adapter settings**.
- b) Click right on the adapter the *Control IO-Link Master* is to be connected to.
- c) Click **Settings** and enter your password.  
This process may require administrator rights. Alternatively, you may use the software *DHCP Switch*.
- d) Double-click **Internet Protocol, Version 4 (TCP/IPv4)**.
- e) Enter an IP address which is in the same range as the IP address of *Control IO-Link master*.
- f) Save with **OK**.

### MODBUS/TCP activation

- a) Enter the default IP address of *Control IO-Link master* in the browser search field:  
192.168.1.250.  
If you have assigned the IO-Link Master an individual IP address, you are requested to enter it here.
  - ✓ You are automatically redirected to the web server.
- b) Click on **Configuration**.
- c) Click on **MODBUS/TCP**.
- d) Click on **EDIT**.
- e) Set to **Enable**.
- f) Save.

#### Result:

- ✓ Configuration completed. The *Control IO-Link Master* and its connected IO-Link devices are now ready for *BSS* connection.

### 9.1.6 Connecting the IFM IO-Link master



III. 26: Product image *IFM IO-Link Master*

#### Hardware configuration of the IFM IO-Link master

##### Instruction:

- a) Connect the power cable to the connector **Power IN** of the *IFM IO-Link Master*.
- b) Connect supply unit to the mains.
- c) Connect the IO-Link device to be connected to the desired port of the *IFM IO-Link master*.
- d) Connect Ethernet cable to the **IoT Port** of *IFM IO-Link Master*.
- e) Connect Ethernet cable to your PC's Ethernet port.
  - alternatively -
  - Connect Ethernet cable to your PC's USB port using an USB adapter (optionally available as an accessory).

#### Allocating an IP address

Prior to connecting *IFM IO-Link master* to *BSS*, you have to establish a connection between IO-Link master and your PC. Doing so requires assigning the IO-Link Master an IP address.



## INFO

The exact procedure depends on the used *Windows* version.

### How to, taking *Windows 10* as an example

- a) Open menu **Settings** > **Network and Internet** > **Network and Sharing Center** > **Change adapter settings**.
- b) Right-click on the adapter the *IFM IO-Link master* is to be connected to.
- c) Click **Settings** and enter your password.  
This process may require administrator rights. Alternatively, you may use the software *DHCP Switch*.
- d) Double-click **Internet Protocol, Version 4 (TCP/IPv4)**.
- e) Enter an IP address that is within the same range as the *IFM IO-Link master* IP address.
- f) Save with **OK**.

### MODBUS/TCP activation

- a) Enter the default IP address of the *IFM IO-Link master* in the search field: 192.168.1.250 into your browser.  
If having assigned the Master an individual IP address please enter here.  
✓ You are automatically redirected to the web server.
- b) Click on **Configuration**.
- c) Click on **MODBUS/TCP**.
- d) Click on **EDIT**.
- e) Set to **Enable**.
- f) Save.

#### Result:

- ✓ Configuration completed. The *IFM IO-Link master* and the connected IO-Link devices are now ready for connection to *BSS*.

## 9.2 Troubleshooting

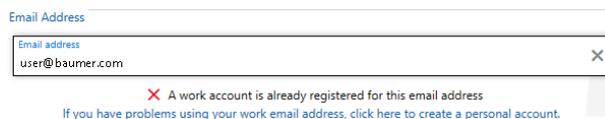
### 9.2.1 Problems in creating a work account

If you encounter logon problems with your created **Work Account** you can optionally register again and switch to **Personal Account**.

This may happen if the email address is already used or in spite of ,Active Directory**Work account** is not supported.

#### Instruction:

- a) Start registration.
- b) Enter the e-mail address to be used.  
✓ The following message appears:



- c) Click on the text in blue ***If you have problems using your work email address, click here to create a personal account.***

#### Result:

- ✓ Using the email address you can create a **Personal account**.

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