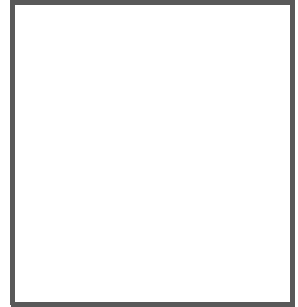


MANUAL

## WEB-INTERFACE AS-I GATEWAY



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"

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## 1. Introduction

### Congratulations

You have chosen a device manufactured by Pepperl+Fuchs. Pepperl+Fuchs develops, produces and distributes electronic sensors and interface modules for the market of automation technology on a worldwide scale.

Before installing this equipment and put into operation, read this manual carefully. This manual contains instructions and notes to help you through the installation and commissioning step by step. This makes sure bring such a trouble-free use of this product. This is for your benefit, since this:

- ensures the safe operation of the device
- helps you to exploit the full functionality of the device
- avoids errors and related malfunctions
- avoids costs by disruptions and any repairs
- increases the effectiveness and efficiency of your plant

Keep this manual at hand for subsequent operations on the device.

After opening the packaging please check the integrity of the device and the number of pieces of supplied.

### Symbols used

The following symbols are used in this manual:



#### **Information!**

*This symbol indicates important information.*



#### **Attention!**

*This symbol warns of a potential failure. Non-compliance may lead to interruptions of the device, the connected peripheral systems, or plant, potentially leading to total malfunctioning.*



#### **Warning!**

*This symbol warns of an imminent danger. Non-compliance may lead to personal injuries that could be fatal or result in material damages and destruction.*

### Contact

If you have any questions about the device, its functions, or accessories, please contact us at:

Pepperl+Fuchs GmbH  
Lilienthalstraße 200  
68307 Mannheim  
Telephone: +49 621 776-4411  
Fax: +49 621 776-274411  
E-Mail: [fa-info@pepperl-fuchs.com](mailto:fa-info@pepperl-fuchs.com)

## 2. Declaration of conformity

### 2.1 Declaration of conformity

This product was developed and manufactured under observance of the applicable European standards and guidelines.



#### **Information!**

*A Declaration of Conformity can be requested from the manufacturer.*

The product manufacturer, Pepperl+Fuchs GmbH, D-68307 Mannheim, has a certified quality assurance system that conforms to ISO 9001.

### 3. Safety

#### 3.1 Symbols relevant to safety



**Information!**

*This symbol indicates important information.*



**Attention!**

*This symbol warns of a potential failure. Non-compliance may lead to interruptions of the device, the connected peripheral systems, or plant, potentially leading to total malfunctioning.*



**Warning!**

*This symbol warns of an imminent danger. Non-compliance may lead to personal injuries that could be fatal or result in material damages and destruction.*

#### 3.2 General notes on safety

Only instructed specialist staff may operate the device in accordance with the operating manual.

User modification and or repair are dangerous and will void the warranty and exclude the manufacturer from any liability. If serious faults occur, stop using the device. Secure the device against inadvertent operation. In the event of repairs, return the device to your local Pepperl+Fuchs representative or sales office.

The connection of the device and maintenance work when live may only be carried out by a qualified electrical specialist.

The operating company bears responsibility for observing locally applicable safety regulations.

Store the not used device in the original packaging. This offers the device optimal protection against impact and moisture.

Ensure that the ambient conditions comply with regulations.

#### 3.3 Disposal



**Information!**

*Electronic waste is hazardous waste. Please comply with all local ordinances when disposing this product!*

*The device does not contain batteries that need to be removed before disposing it.*

#### 4. User documentation for Web-Interface AS-i Gateway

Status date: April 2016

Software Version: Firmware 50975

Applet 50976



**Information!**

*Using the Safe Link, it is necessary to use the software ASIMON, including subordinate programs (AS-i Control Tools), for the diagnostics instead of the built-in Web server!*

**Introduction**

To use the Web-Interface the device with the Ethernet port must be connected to an IP-based network and have an IP configuration which can be reached by the client computer (the configuration may be static or assigned via DHCP).

Alternately a point-to-point connection between the device and the client PC can be created using a "crossed" network cable. In this case the IP configurations must be manually set.

The client PC requires a common Web browser and an installed Java runtime environment version 1.6.0 or higher. This can be downloaded from <http://java.com>, or the common Web browsers will prompt for missing Java support and point to a corresponding download page.

The Web-Interface is reached by invoking the IP address of the device from the browser. A start page appears with the warning that outputs may be reset.

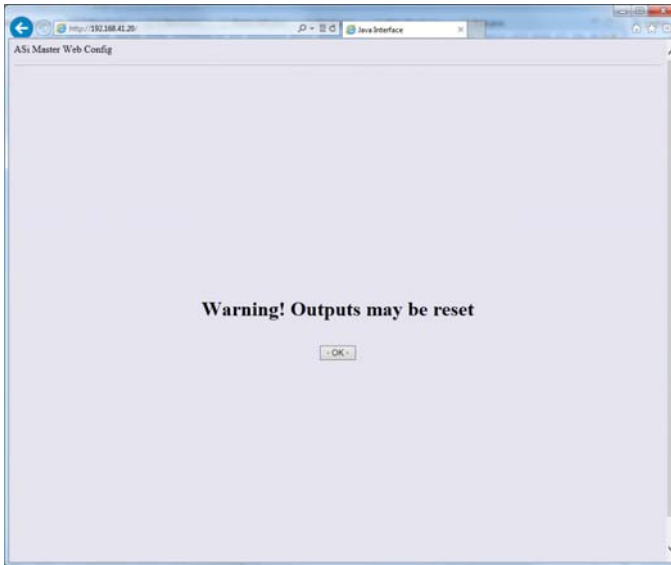


Fig. 4-1. The start page with security warning

By confirming this warning a Java application is loaded by the device which will be run in the browser window as an applet.



**Information!**

*To run this the above mentioned Java runtime environment is required, and running of active contents must be allowed by the browser. The settings for this may need to be made in the Internet options / settings area of the browser. The standard settings of common browsers allow running of a Java applet at least after confirming a warning prompt.*

After a short loading and initialization time the main screen of the application appears.

## Main screen

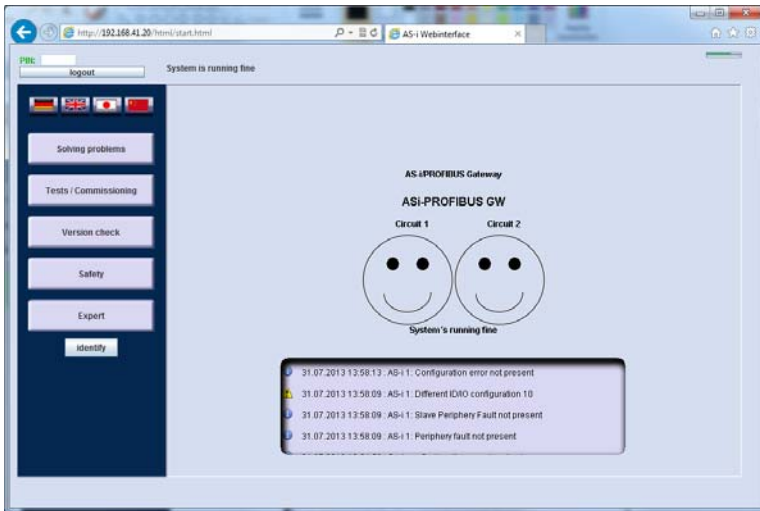


Fig. 4-2. Main screen with the symbolic representation of the states of both AS-i circuits (only one smiley will appear if there is only one master). Also seen is the user-defined device name.

The screen arrangement corresponds to the usual Web interfaces: navigation is on the left side and includes language setting. The contents and data view takes up the center of the screen. In the upper section are the user login and a status line for general messages.

Editing access to the device is only possible after entering the user PIN. The PIN is a 4-digit number. The factory default setting is "0000". Both the PIN and the login duration are defined in the "System settings" menu.

After the first login the word "PIN" appears in green type as long as the login is still active. Then the color changes to red. The "logout" button below the PIN field allows you to block the interface instead of continuing.



### **Information!**

*Many of the control elements are only activated for a valid login! The applet for viewing / diagnosing the AS-i bus can however be used without logging in. Therefore the PIN should only be shared with specific persons.*



Fig. 4-3. Login status is color coded.

On the main page you can select either German, English, Japanese or Chinese as the language.



### **Information!**

*The language setting refers to the Web interface and has no effect on the selected language for the device display menu.*

At the lower edge of the navigation area is a button for "identifying" the device. Clicking on this button animates the LEDs on the device in a sequence. This allows you to ensure that you are always connected to the desired device.

Navigation in the main screen is by topic. There are essentially five categories to choose from:

1. Troubleshooting: Provides a selection of menu points useful in searching for existing problems.
2. Tests / Startup: These menu points are used for setting up the AS-i circuits.
3. Version numbers: Used for determining the hard- and software status of the device as well as general information.
4. Safety: Access to the safety components in the device (if present) or in the AS-i Bus.
5. Experts: For access to all of the functions of the Web-Interface.

Depending on the device type the data view on the main screen shows one or two smileys which visualize the general status of the AS-i circuits. In addition, the type of device and user-defined device name are displayed. The most recent messages from the diagnosis buffer are displayed below the smileys.

In the following the individual menu points with their data views are explained.



### **Information!**

*Depending on the category selected in the main screen, some of the menu points are hidden. The "Experts" category allows access to all the functions.*

### System - Master overview

The Master overview provides the most important states, settings and configuration and peripheral errors in the supported AS-i circuits.

Several settings can be made here:

- Projecting mode
- AS-interface offline / Power-On offline
- Enable automatic addressing.



### Information!

If the device model supports it, information about the AS-i voltage, AS-i current and extended earth fault measurement are displayed.

Under some circumstances additional messages such as missing clients or detected address conflicts may appear here. Depending on the message buttons appear which take you directly to the table overview for the AS-i circuits.

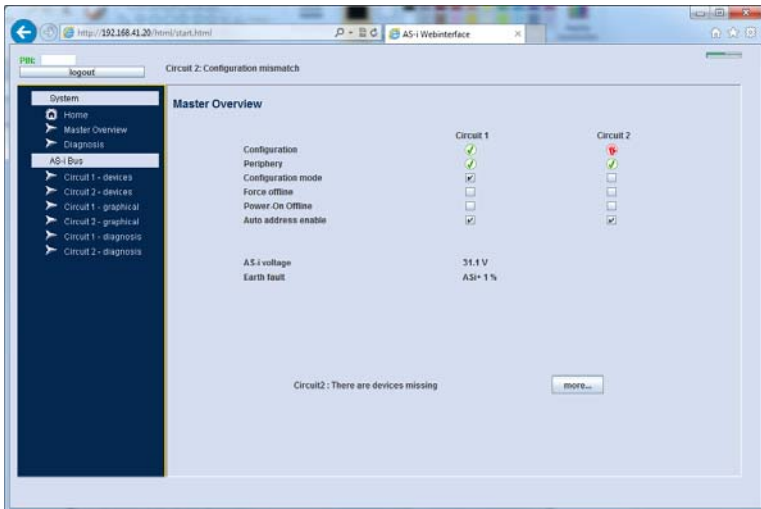


Fig. 4-4. The Master overview provides general information about the device and AS-i circuits along with any notes concerning current problems.

## System - Settings

Here you can make general settings:

- Change PIN for logging in to the Web-Interface.



### Information!

*When the device is reset to factory defaults, the PIN is also reset to "0000".*

- Time span before automatic logout
- Synchronize the device system time with the computer system time
- The device name
- The type of events to be recorded in the diagnostics buffer of the device
- The type of data communication between applet and device.



### Information!

*Depending on what the device model supports, some menu points will not be available. The applet always starts by communicating only through UDP Port 87. Because of the simple protocol structure this is significantly more efficient than HTTP. Changing to HTTP is recommended only when there are network problems caused by a firewall or router.*

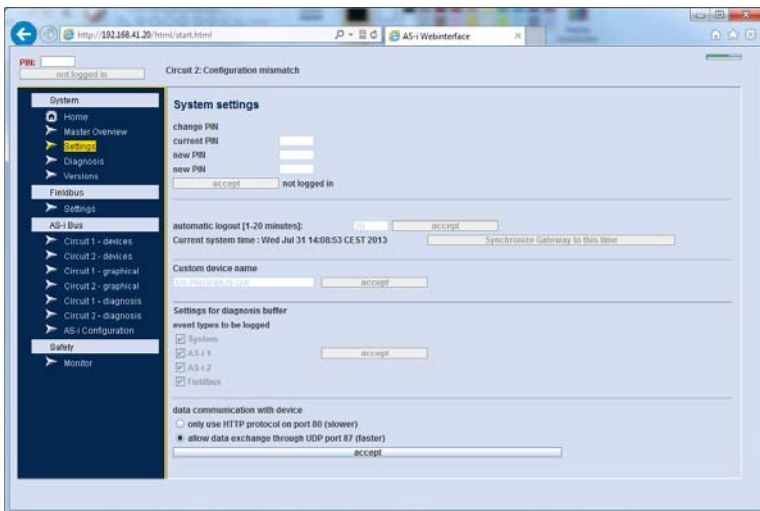


Fig. 4-5. The Settings page allows basic administrative manipulation.

### System - Diagnostics buffer

The Diagnostics buffer of the device can be read out here. The tabular list shows the stored events in chronological order - beginning with the newest / latest event.



#### **Information!**

*Not all models offer the diagnostics buffer function. In such cases this menu point is not available.*

*The diagnosis buffer can store a maximum of 1024 events. When this number is exceeded the oldest events are overwritten by newer events.*

*The date / time of day displayed is either the device system time (UTC) or how long it has been running since the last device start.*






#### **Information!**

*The device supports SNTP listening. It evaluates SNTP broadcasts which are sent by an SNTP server in the network via UDP 123.*

*The System Settings menu allows you to synchronize the gateway with the computer time instead.*

*In both cases the set system time is lost after a restart.*

The event type can be displayed separately using a filter. If you do not want a certain event type to be stored in the Diagnostics buffer, you can define this from the Settings page. The events are divided into:

	Information
	Warning
	Error

Tab. 4-1.

The description of an event may contain a listing of AS-i addresses which are affected by the event.

- Clicking on the "Clear diagnostics buffer" button clears it in the device.
- The "Print" button allows you to print out the table.



#### **Information!**

*You may have to agree that the applet is allowed to access the system printer.*

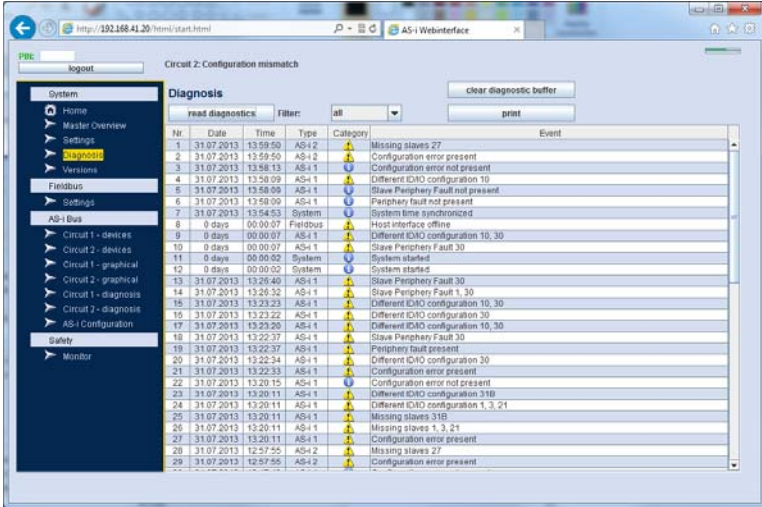


Fig. 4-6. The Diagnostics buffer of the device in table view.

**System - Version numbers**

Here you will find information about the version numbers of the software used in the device as well as some basic device information. The two buttons at the bottom take you to the homepage or allow you to download the configuration files and save them to the local hard drive. These are offered as .zip files and contain for example the GSD or GSDML file depending on the device type.

**Information!**

*The link to the homepage is opened in a new browser window. Depending on the security settings for your browser this popup may be blocked.*



### Fieldbus - Settings

The fieldbus settings are primarily the IP configuration of the device and the MAC address.

The configuration can be either set manually or obtained via DHCP.

If the device has an Ethernet diagnosis interface, this can also be set.



#### Information!

*Changes on this page do not take effect until the device is restarted. In addition, when changing the IP configuration, Web access must then take place using the new IP address.*

The upper section of the page is used for selecting the host communication. The selectable settings depend on the device properties.

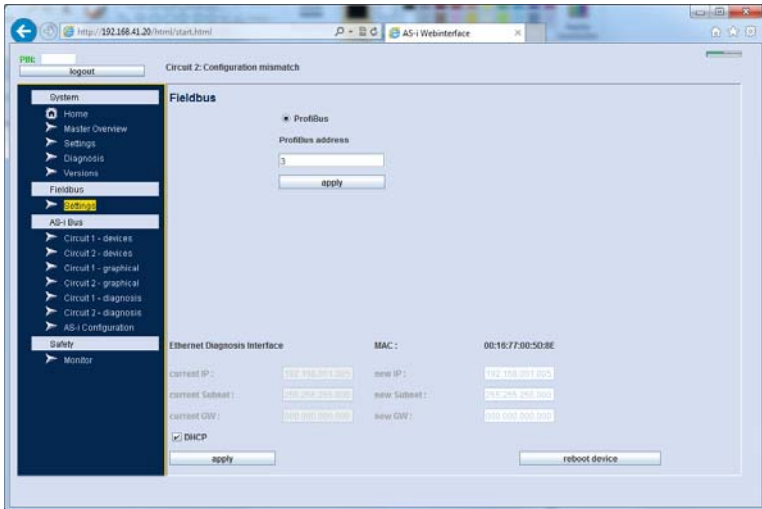


Fig. 4-7. Fieldbus settings - in particular IP configuration.

### **AS-i Bus - Circuit 1/2 clients**

The table overview of the selected AS-i circuit shows an overview of all addresses. All detected and/or projected clients are displayed. The "Status" column shows whether the respective address is correct or assigned in conflict with the projecting.

The table shows the following information:

- Address
- Status: the current status of the address(es). The status is shown as an icon. A legend for these icons can be found in the Appendix.
- Type: the type of client detected. A legend for these icons can be found in the Appendix.
- Name: The descriptive name of the detected client. If a user-defined name has been stored for this AS-i address, it is also shown in brackets.
- Data input: in the case of digital clients the current input values are requested and shown here in the form "DI3 DI2 DI1 DI0" with "0" or "1".
- Data output: in the case of digital clients the current output values are requested and shown here in the form "DO3 DO2 DO1 DO0" with "0" or "1".
- Profile: this is the detected profile.



#### **Information!**

*The data are updated by the applet cyclically. The time span is set to approx. 10 seconds.*

At the head of the table is the "Quick Setup" button used for saving the currently detected circuit configuration as projected.

You can also print it using the 'Print table' button. The table is then printed exactly as it appears.



#### **Information!**

*Use of this button is possible only when logged in and requires the respective circuit in configuration mode.*

Beneath the table is the option "Show only problem clients". If this option is selected, only the addresses are shown in the table which do not match the configuration or have problems (address conflict, peripheral error).



#### **Information!**

*If you arrive at this page from one of the notice buttons in the "Master overview," this option is automatically activated.*

Clicking on an address line in the table takes you to the individual overview for this address (see chap. <AS-i Bus - Client individual>).



**Information!**

Clicking in a blank address line causes the applet to generate an "empty" client data record and thereby changes to individual overview. In this way you can create a previously unknown client. If the address is changed without adding a change to the projecting, the client disappears from the table after a short time.

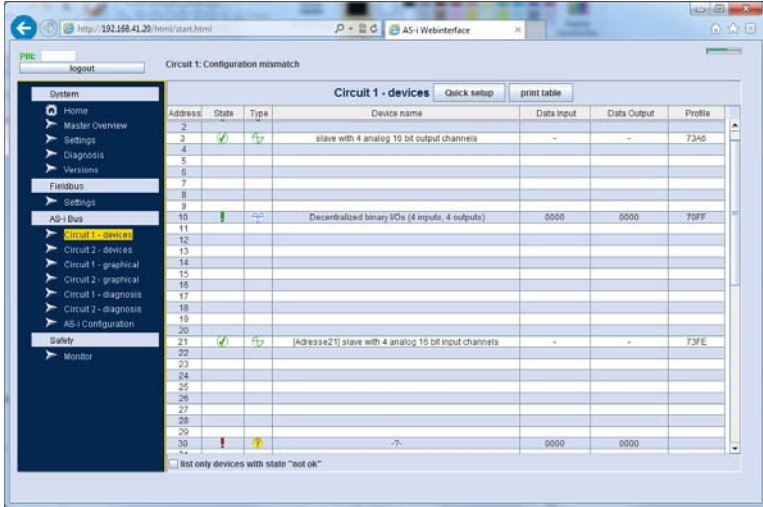


Fig. 4-8. The table view of the AS-i circuit shows all the clients in a clear format.

**AS-i Bus - Client individual**

The left side of this data view again contains a simplified table listing of all addresses. This allows you to switch between the clients without having to return to the main table.

**Information!**

*The name column in this table is very narrow. For this reason the full name appears as a tool tip when the cursor is moved over the line.*

This view provides access to the following properties of a client:

- Current status of the client (as an icon - see legend in chap. <Appendix> for meanings)
- Descriptive name of the profile
- The user-defined description for this address (an additional description can be provided which for example shows an inventory number or an item or purpose description)
- Address of the client
- The profile at this address (detected and projected)
- The parameters for this client (current and start parameters)
- The expanded ID1 code.

**Information!**

*For clients with profile 7.4 and 7.5 additional fields appear after the registration for exchanging the corresponding additional data.*

*If the address is used by a safety slave, corresponding buttons for teaching the code sequence also appear.*

In the lower section is the current mode of the corresponding AS-i circuit: either Projecting mode or Protected mode. Using the selection box you can change the mode as needed, since Projecting mode must be active for most of the settings. At the very bottom of the page is a button named "View I/O". This takes you to the data view for this client (see chap. <AS-i Bus - Circuit 1/2 clients>).

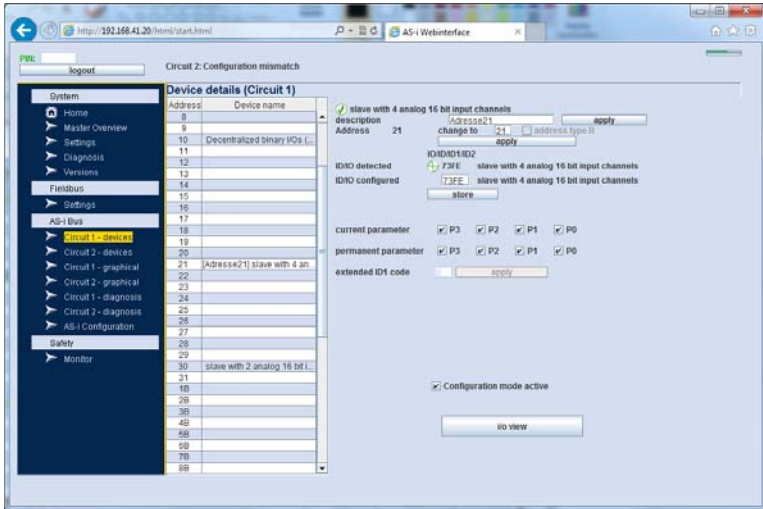


Fig. 4-9. The Individual view allows you to make the key settings for each client individually.

### I/O View

I/O view shows the current states of the in- and/or outputs for the client. The type of representation differs between digital and analog clients. Clients which because of their profile cannot be identified as an analog client are assigned the digital view.

The output values can (after logging in using your PIN) be changed: for digital clients by setting the selection boxes DEO0 to DO3 and for analog clients either using the slide controller or the input fields for Channel 1 to Channel 4.

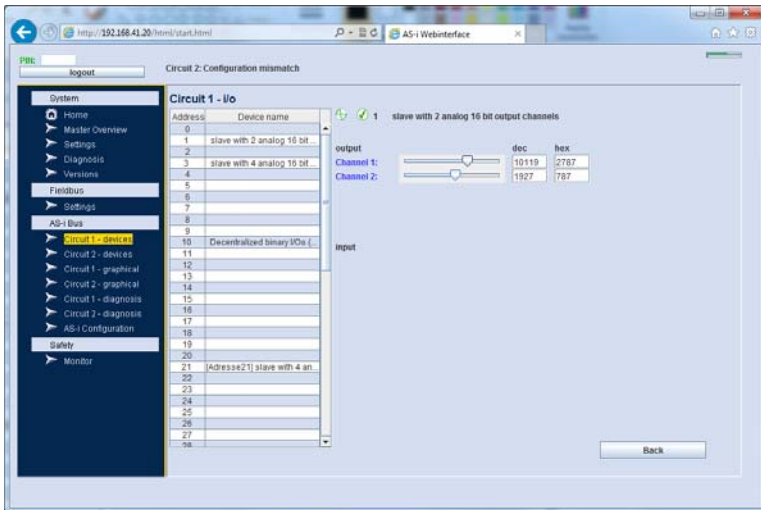
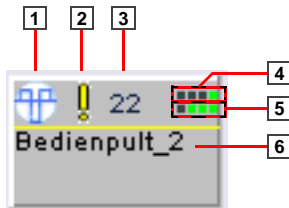
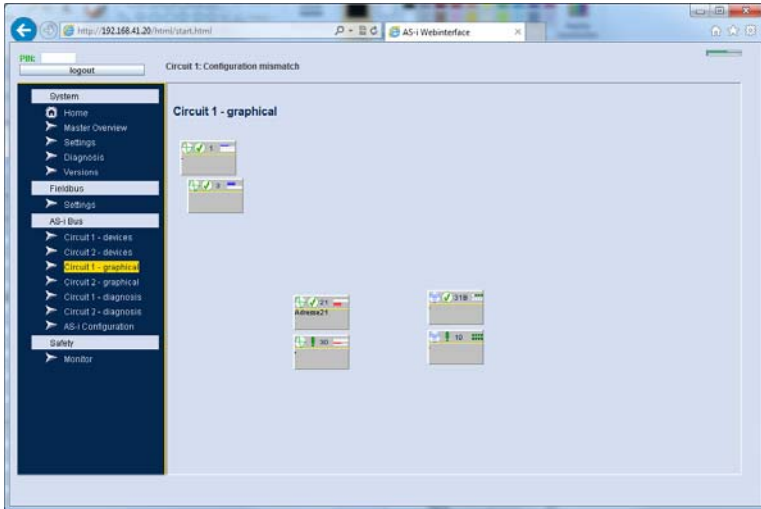


Fig. 4-10. The page for I/O values varies depending on the type of client displayed. Here the page for setting analog output values.

### AS-i Bus - Graphic circuit view

In the graphic view all assigned and/or configured addresses are also shown. A small panel appears for each address. Each panel contains the following information:



- |                                  |                                   |
|----------------------------------|-----------------------------------|
| [1] Client type                  | [2] Client status                 |
| [3] Client address               | [4] Outputs (for digital clients) |
| [5] Inputs (for digital clients) | [6] User-defined description      |

The philosophy behind this view is to make it possible to arrange each client freely within the interface. This allows you to change the topology of the AS-i bus - in other words the approximate spatial distribution of the clients in the application (hall, machine, ...). Together with the user-definable description the client can then be quite easily identified.

Positioning is allowed only when logged in. Then each panel can be moved using the mouse cursor. Positioning takes place in an invisible grid. The position of moved objects is stored in the device and is recreated the next time the Web page is opened. New clients or those without a defined position appear according to a predefined basic grid.

Double-clicking on one of the panels takes you to the individual view for the respective client.

### AS-i Bus - Diagnostics

The Diagnostics page shows the current and past Watcher events from the device. The table in turn shows all AS-i addresses and their current assignment. Also displayed is the counter for configuration errors and telegram errors.

The following information is shown beneath the table - both current as well as historical since the device start or last reset of the values:

- Address conflicts (duplicate assignment)
- Earth (ground) fault
- Overvoltage
- Noise voltage

Buttons are provided for resetting all historical events.



#### Information!

The counters shown here are automatically cleared when read out of the device. Summing takes place in the applet. This means that at every new access of the Web-Interface the counters show the value since the last access. The buttons for resetting refer to the sums and markers of the applet.

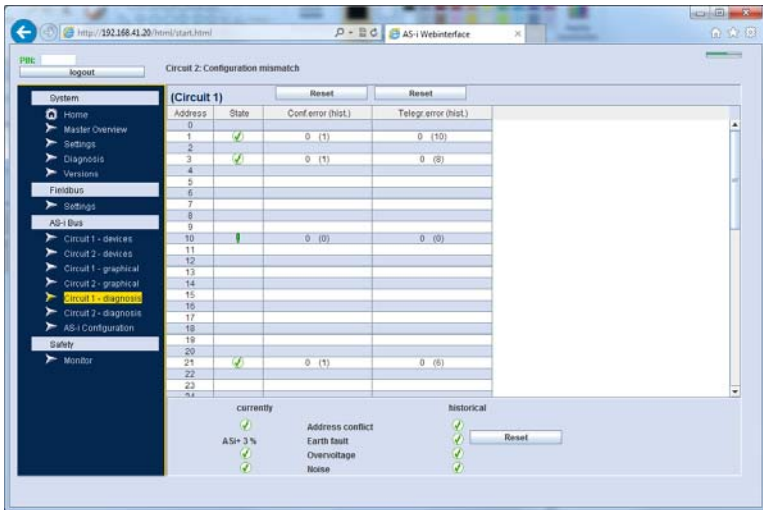


Fig. 4-11. Historical errors are listed on the Diagnostics page.



## AS-i Configuration

Here you can download the AS-i configuration and save it as a file.

Likewise an existing configuration file can be used for loading into the device.

In general the procedure is as follows:

- Load configuration from a source (upper field). The source is either the gateway or a file. Clicking on the 'Load AS-i configuration' button starts the process either by invoking the gateway or selecting the corresponding file using a selection dialog.
- The configuration appears in the table on the right side and should be checked again at this point.
- Finally the lower field can be used to select the destination. Here again this will be either the device or a file. The 'Save AS-i configuration' button starts the process.



### Information!

Loading and saving the configuration always refers to the projected slaves.

To be able to load a configuration into the gateway, the corresponding circuit must be in Projecting mode.

The supported file formats are *.act* (AS-i Control Tools) or a *.csv* (comma separated values) format in which all attributes for an address are stored one after the other.

During loading or saving of the configuration to the gateway, do not switch between applet interfaces, since the transfer consists of a series of single commands which otherwise may conflict with other commands.

Circuit 2: Configuration mismatch

AS-i configuration

Load AS-i configuration

From the Gateway  From a file

Circuit 1  Circuit 2

Load AS-i configuration

Status ok

Save AS-i configuration

to the Gateway  as file type

Circuit 1  Circuit 2

.acg  .csv

Save AS-i configuration

Address	Profit	Name	Startpara.	Position	PositionY
1	7385		f	-1	-1
3	7348		f	-1	-1
21	73FE	Adresse21	f	180	501

### Safety - Monitor

Here you can request the states of configured enable circuits of the internal Safety Monitor (if supported by the device) or of an external Monitor in the AS-i circuit. The request varies by:

- Current state of the release circuits
- Shut-off diagnostics.

The AS-i address of the Monitor is entered in the field as a decimal value. The default value is "00" for querying an internal Safety Monitor.

Information returned includes the Monitor mode, the general state of the Monitor and the colors of the release circuits. Clicking on one of the release circuits takes you to the view of the selected circuit (see chap. <Safety - Release circuit>).



#### Information!

*Querying this data may at times take several seconds.*

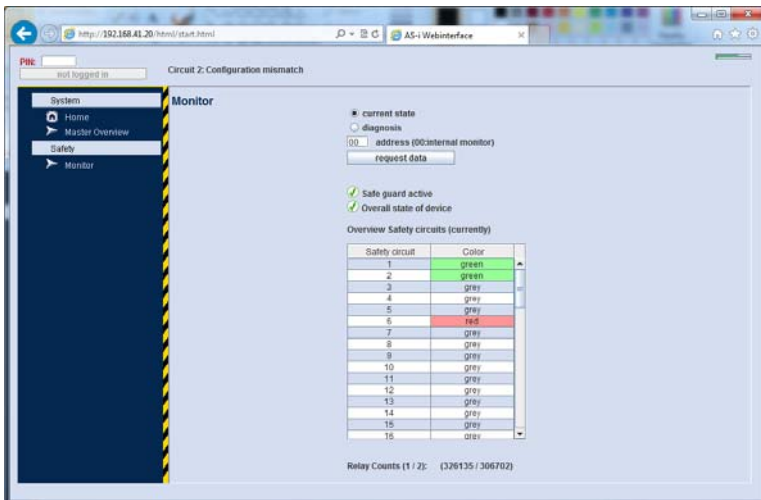


Fig. 4-12. The "Monitor" page allows you to query the internal (if present) or external Monitor.

### Safety - Release circuit

This page lists the devices of a selected release circuit. The list contains the Index, the color and the name of the device (if present).

If a device is deactivated in the configuration this is displayed in the names column with the appendix [DEACTIVATED].



#### Information!

The colors shown depend on the previously carried out query type for the Monitor. Either the current colors or the colors of the last shut-off are shown.

The collection of the information shown here - especially the names may take a few seconds.

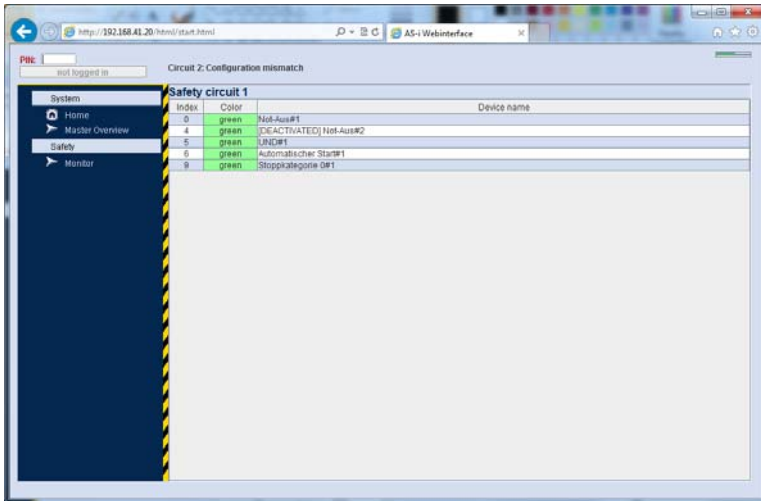


Fig. 4-13. The "Release circuit" page shows the colors of the devices either as current or at the last shut-off. This depends on the query type on the "Monitor" page.

## Appendix

Symbols used in this document:

### General status symbols



Status OK



Status not OK / Warning



Status not OK / Error



Status could not be determined.

Tab. 4-2.

### Status symbols for clients



Status OK - there are no problems



Unknown client



Wrong client - the detected client has a different profile from the configured client



Missing client



Address conflict - more than one client is associated with this address



Peripheral error - the client at this address is reporting a peripheral error



Status could not be determined.

Tab. 4-3.

### Type symbols for clients



Digital client



Analog client






Safety client



Client could not be classified.




Tab. 4-4.

### Type symbols of the diagnostics buffer

	Information
	Warning
	Error

Tab. 4-5.

### Other symbols

	Ground fault
	Noise voltage
	Overvoltage.

Tab. 4-6.

# FACTORY AUTOMATION – SENSING YOUR NEEDS



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SENSING YOUR NEEDS

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