



Manual

ARC4 – LAN Web Interface 2.0

P/N A4-2-LAN-01

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1. Introduction

ARC4 - Arc Detector System 2.0 is a standalone device that can be successfully operated with standard preset parameters. Some of the parameters can also be set using the device’s buttons. However, in order to take full advantage of all of its features, a PC computer is required. Using a local network (or direct P2P) connection via LAN cable and a web browser of your choice, you will be able to:

- Read parameters
- Adjust light sensitivity by changing detector threshold voltage
- Adjust auto-reset time
- Choose between OR-Logic (default) and AND-Logic (coincidental arc detection) for up to four global arc output signals (depending on configuration of device).
- Remotely perform internal and external tests of the device
- Remotely reset any alarms
- Access full list of alarms
- Change the device’s network parameters

The table below summarizes default factory settings of all adjustable parameters of the device.

Table 1.1: Default factory settings

Parameter	Default Setting	
<i>Signal Polarity</i>	ADM	Inverted
	SIM	Inverted
<i>Auto Reset</i>	ADM	OFF
	SIM	OFF
<i>Auto Reset Time</i>	ADM	0.1 ms, if auto reset is activated
	SIM	0.1 ms, if auto reset is activated
<i>Sensitivity Threshold</i>	ADM	20 mV
<i>GLBARC Logic</i>	SIM	OR (16x) for all GLBARC groups (A, B, C, D)

This manual guides you step by step on how to set up your network connection to properly connect to your ARC4 2.0 via LAN.

For ARC4 access via USB see separate manual, please.

Scope of Supply: AFT USB flash drive with password and initial fixed IP and manuals.

2. Connecting via LAN

2.1. Direct Connection

- 1.) Unbox the device, plug it in to mains and switch power ON. Let the device boot – when ready, channel buttons for installed detector cards, GLBARC buttons for installed interface cards as well as “STATUS” LED should be green.
- 2.) From the attached protocol acquire the device’s Initial IP-address and Gateway, for example:

Initial IP address: 192.168.0.206

Gateway: 192.168.0.1



Initial IP address and gateway:

DHCP is by default switched ON, therefore the initial values of IP address and gateway are lost as soon as the device is connected to a local network.

Note

- 3.) Connect to PC using Ethernet LAN cable (not included).
- 4.) Wait about 30 seconds until Windows recognizes a local connection
- 5.) Set the following parameters of TCP/IPv4 of your local connection. The IP address of the computer has to be different from the device’s own IP address but in the same private IP subnet range. The gateway has to be the same. The following example is for:

Device IP: 192.168.0.206 → correct computer IP example: 192.168.0.200
 Gateway: 192.168.0.1

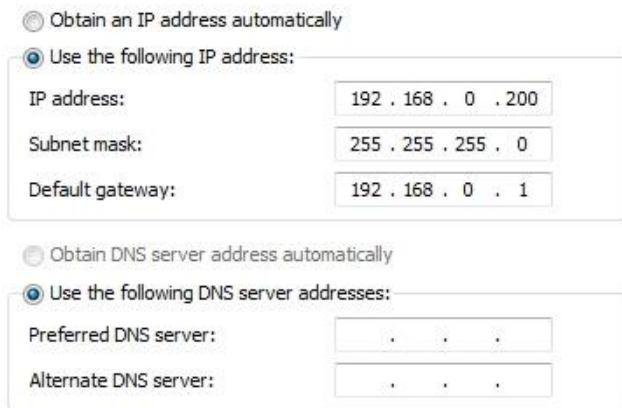


Fig. 2.1.: Network configuration for TCP/IPv4 protocol for PC (Windows)

- 6.) Open a web browser of choice
- 7.) Type in the device’s IP address, for example: <http://192.168.0.206>
- 8.) Depending on your browser you should see the ARC4 Web Server homepage:

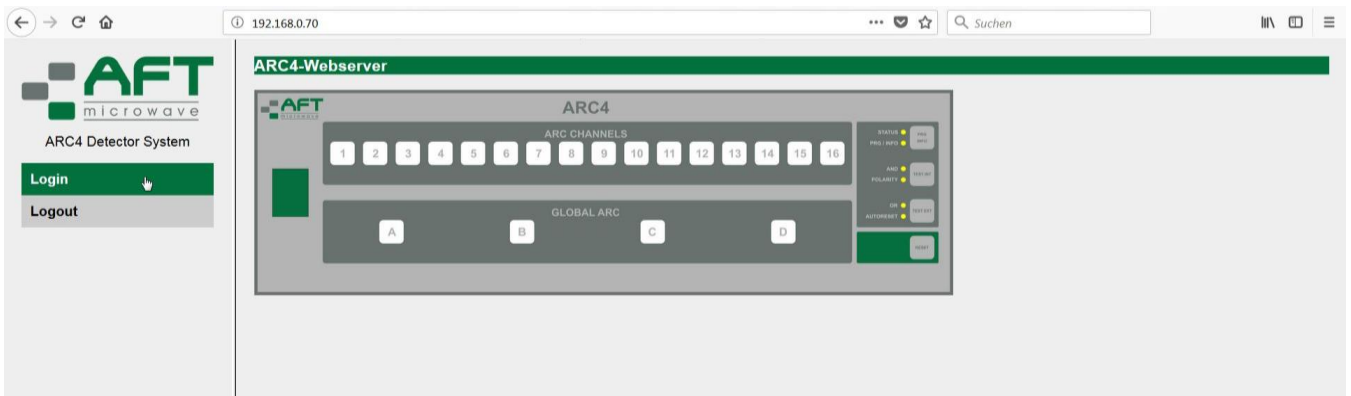


Fig. 2.2: ARC4 Web Server homepage after successful connection to ARC4

2.2. Local Network Connection

- 1.) DHCP is by default switched ON
- 2.) Note the device's Hostname from the attached protocol
- 3.) Connect the ARC4 2.0 device to local network using LAN cable (not included).
- 4.) Open a web browser of choice on a PC connected to the same local network as your ARC4 2.0 device and type in the device's Hostname, for example:
<http://arc4hostname>
- 5.) To access from outside of the local network type in the local network's name followed by SLASH and the device's Hostname. For details please contact your local network administrator.
- 6.) Depending on your browser and local network configuration you should see the ARC4 Web Server homepage:

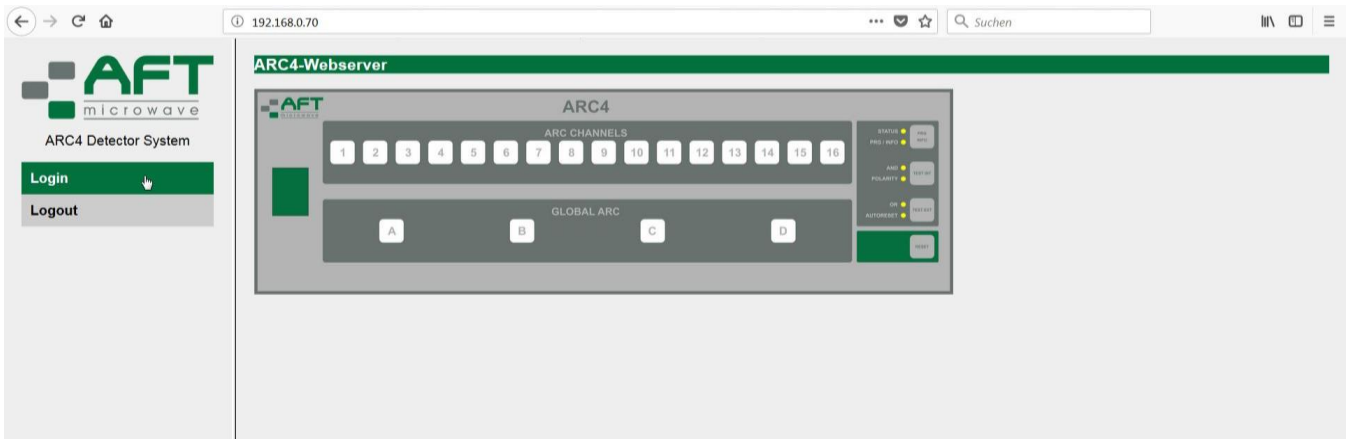


Fig. 2.3: ARC4 Web Server homepage after successful connection to ARC4



Note

DNS systems with limited access:

Depending on your local network configuration you may be required to ask your network administrator to manually add the device's hostname to the DNS system's list of trusted devices. The device's MAC address can be found in the attached protocol.



Note

IP Address lost:

After connecting the device to a network with a DHCP-server the default IP-address and default gateway are replaced. To obtain the currently used IP-address and gateway you can use the USB-Interface access, see corresponding manual for details.

3. Web Server Sub-Site Map

The diagram below shows the sub-site structure of the ARC4 Web Server after successful connection and logging in.

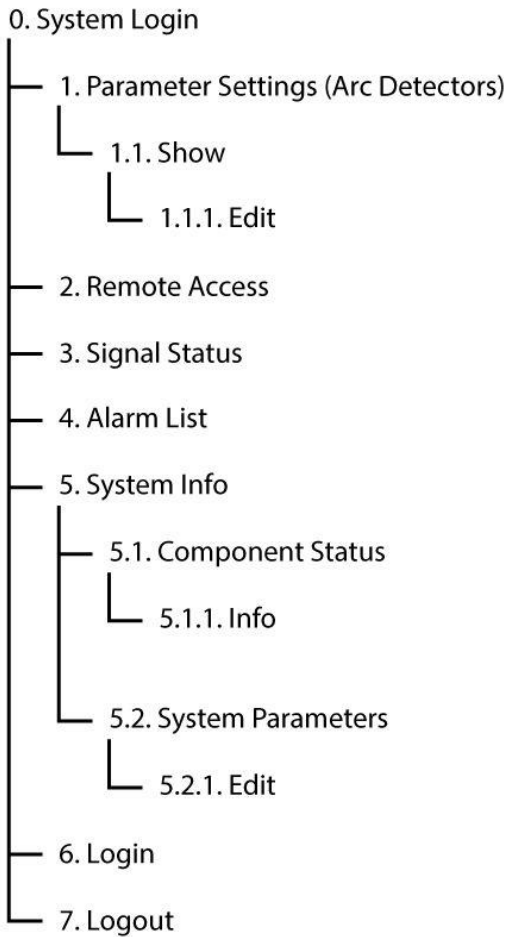


Fig. 3.1: Web Server site map

4. Web Server Sub-Site Description

4.1. System Login

After clicking the “Login” button on the Homepage you will be prompted to type in your password. For password see file “LAN_password_SN...” on USB-stick.

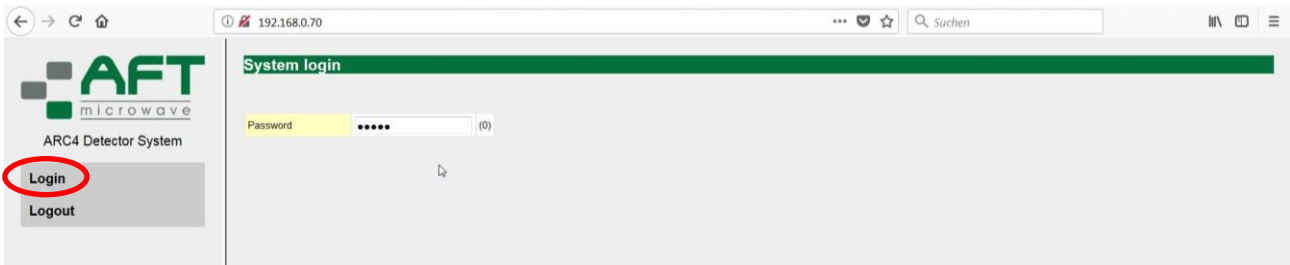


Fig. 4.1: Screen display for system login

After typing in the password and hitting Enter key you will see the full sidebar menu which allows access to all functions:

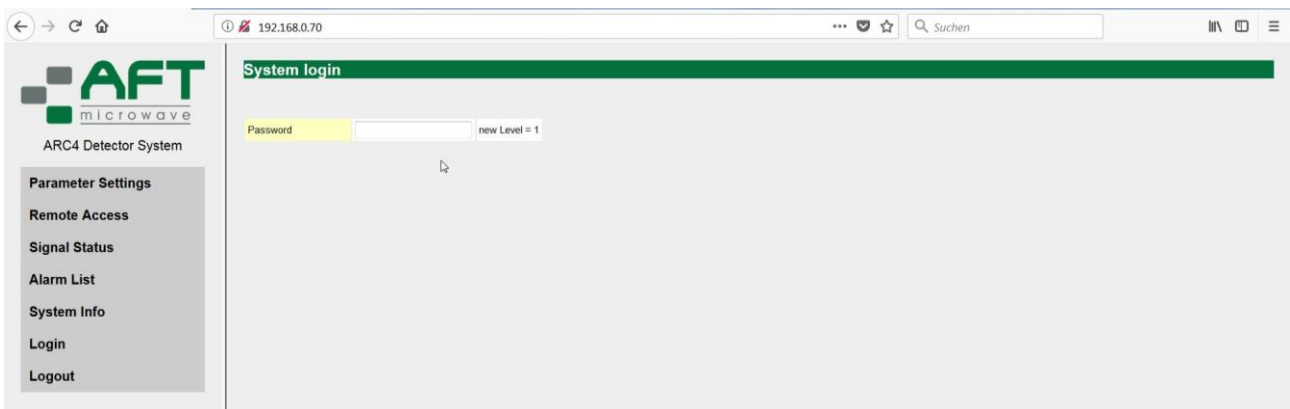


Fig. 4.2: Web-site after system login

4.2. Parameter Settings

You will see a full list of all installed modules with their type and status (green = OK, red = not OK) and a number corresponding to the slot where they are installed. By clicking the “Show” button you enter detailed parameters of each card.

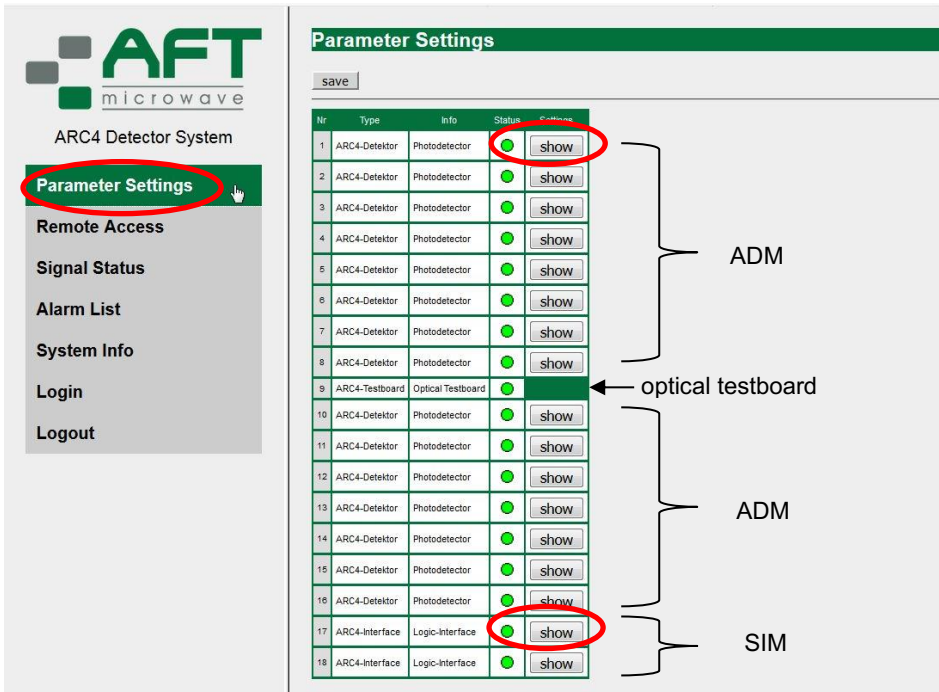


Fig. 4.3: Parameter settings

4.2.1. Arc Detector Module Settings

After clicking **show** quantitative and qualitative parameters of all cards of a chosen type (detector or interface) are shown. The example below (Fig. 4.4) depicts detector modules. CAUTION – in case an optical test card is installed in one of the slots 1-16, the parameters displayed for the given slot are not relevant until a detector card is installed there. To **edit** the parameters click the edit button above the table.

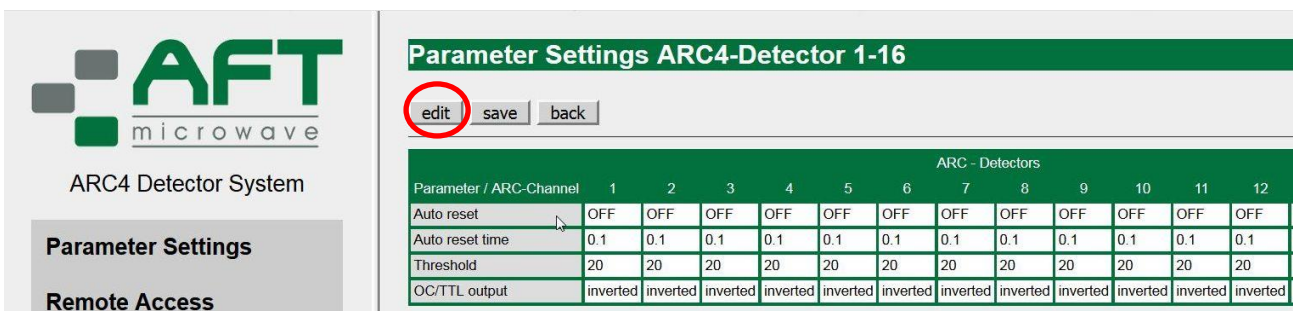


Fig. 4.4: Example showing parameters of detector modules (depicted up to ARC-Channel 12)

The edit menu lets you change quantitative and qualitative parameters of all cards. The example below (Fig.4.5) depicts detector modules. For allowed values please refer to User’s Manual. CAUTION – for changes to be effective click “save” button after setting desired values.

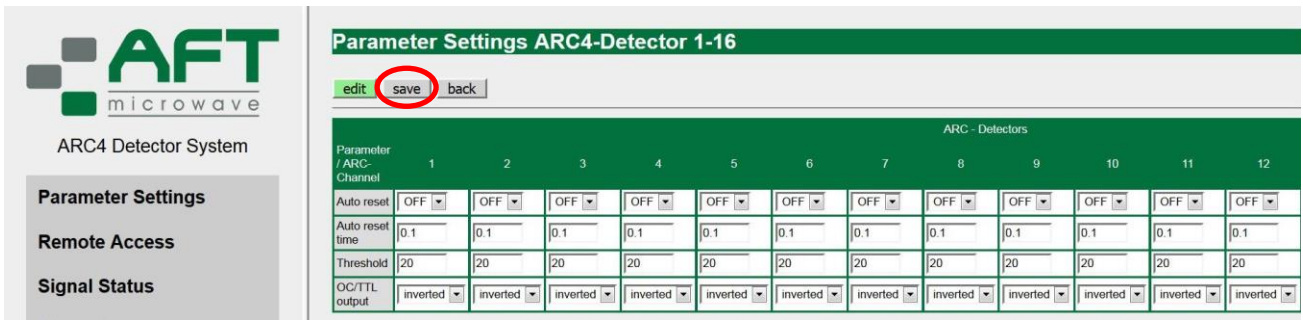


Fig. 4.5: The Edit menu of detector modules (depicted up to ARC-Channel 12 only)

4.2.2. Interface Modules Settings

After clicking **show** for a chosen interface card its parameters as well as logic configuration is shown, as depicted below (Fig. 4.6). To **edit** the parameters click the edit button above the table.

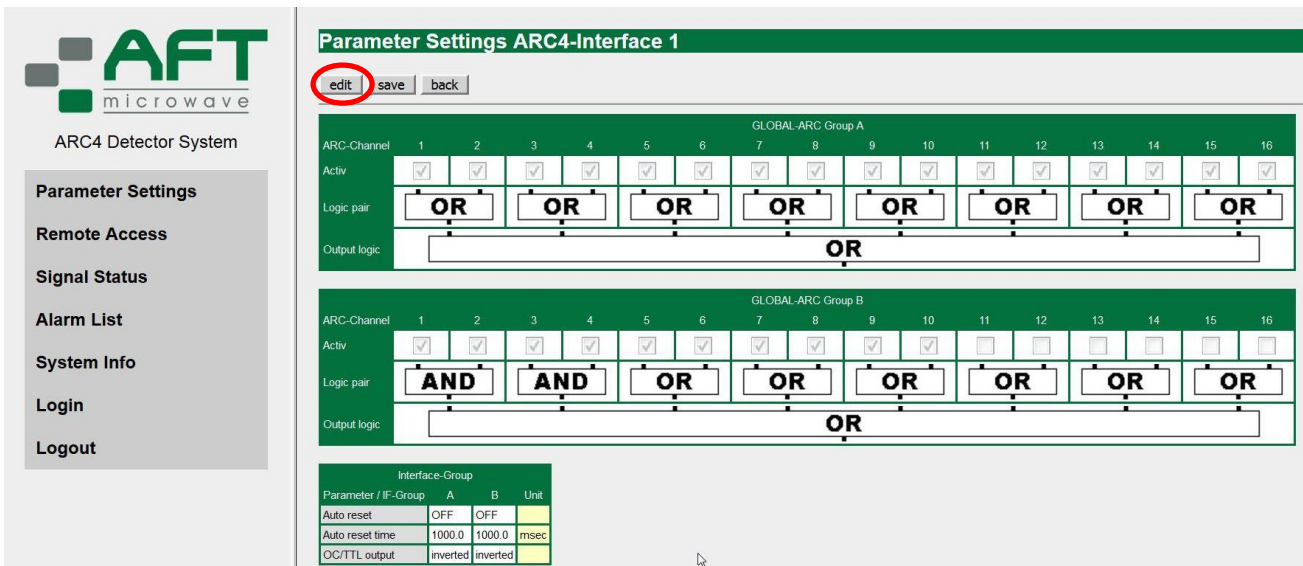


Fig. 4.6: Parameters and logic configuration of one interface module

For interface modules you check / uncheck channels that are supposed to be part of a logic group as well as change the logic type by clicking on the rectangle with the word OR (AND).

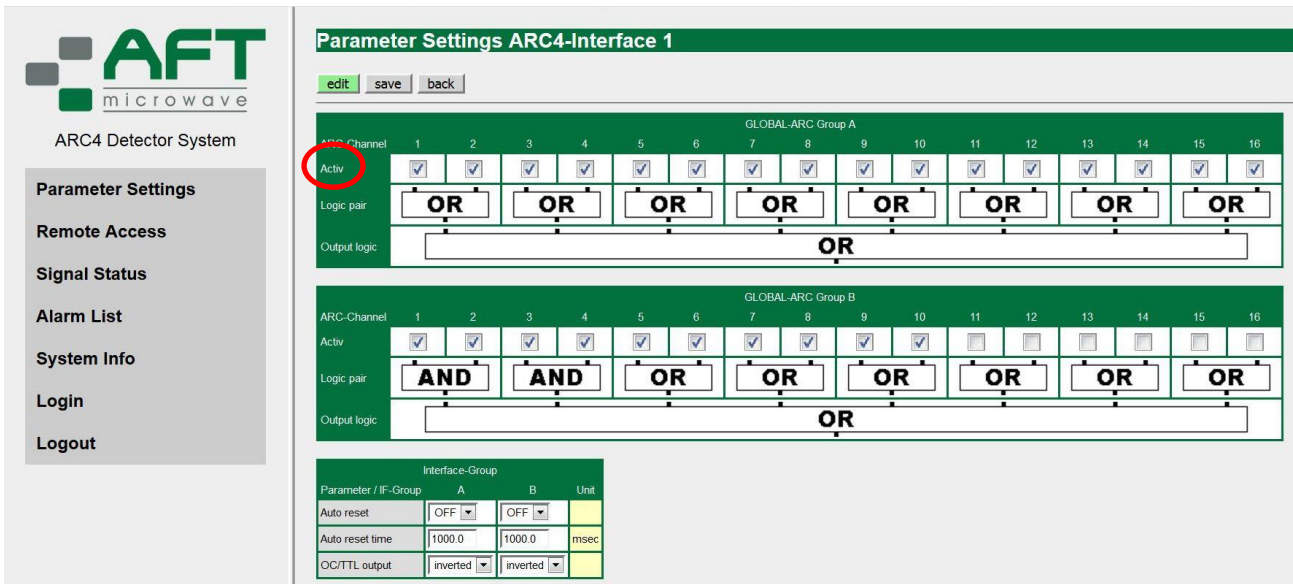


Fig. 4.7: Changing the logic configuration

For the above given example a following logic configuration is set:

$$GLBARC_A = (CH1) \text{ OR } (CH2) \text{ OR } (CH3) \text{ OR } \dots \text{ OR } (CH16) \quad (\text{default})$$

$$GLBARC_B = [(CH1) \text{ AND } (CH2)] \text{ OR } [(CH3) \text{ AND } (CH4)] \text{ OR } (CH5) \text{ OR } \dots \text{ OR } (CH10)$$

4.3. Remote Access

The buttons panel lets you individually for each detector or interface module perform test functions (internal/external) as well as reset the chosen channel or group. Using buttons above the table you can also perform a global reset as well as global test (internal/external). Moreover, the current status of each card is color-coded – GREEN (ok), RED (not ok), GREY (slot empty). If the whole column is empty (like slot 9 below) it indicates that an Optical Test Module is installed in that slot.

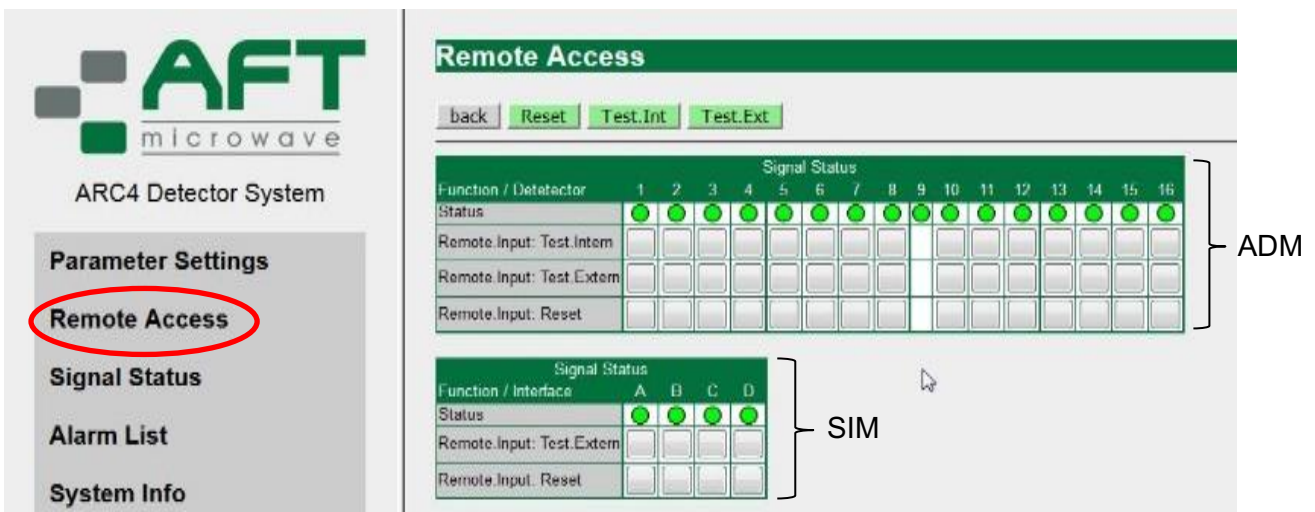


Fig 4.8: Menu for remote access

4.4. Signal Status

Signal Status shows status of all installed cards, information if any functions (test/reset) are active as well as current photovoltage (in mV) on a given photodetector.

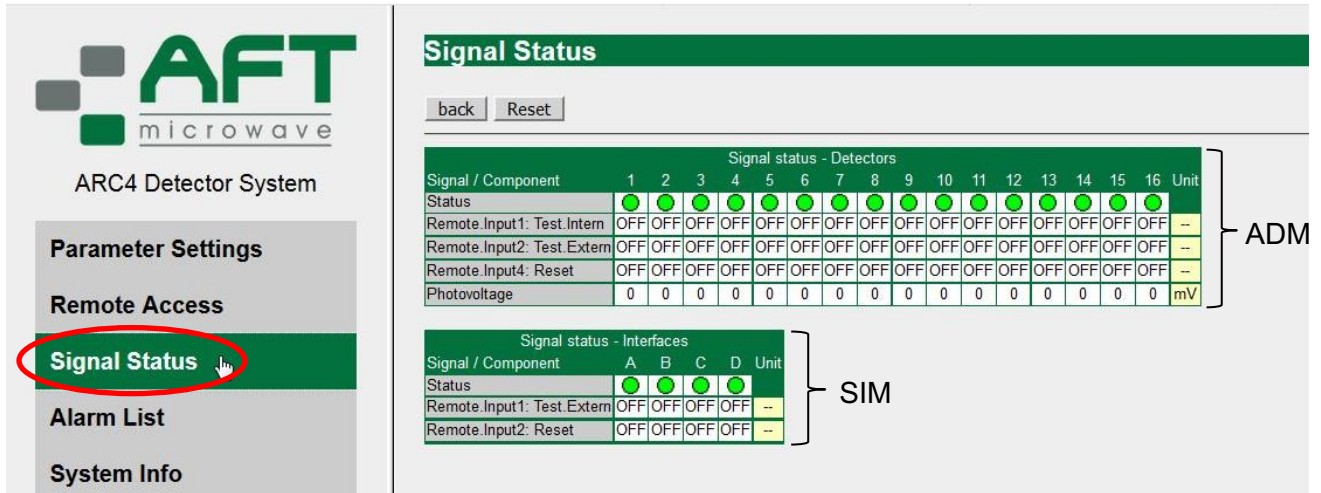


Fig 4.9: Signal Status

4.5. Alarm List

The alarm list displays a full list of all active and past alarms, including system errors, arc alarms and all user-activated functions. Alarms can be acknowledged by clicking “Alarm acknowledged” button. The list can be cleared by clicking “Clear Alarm List” button.

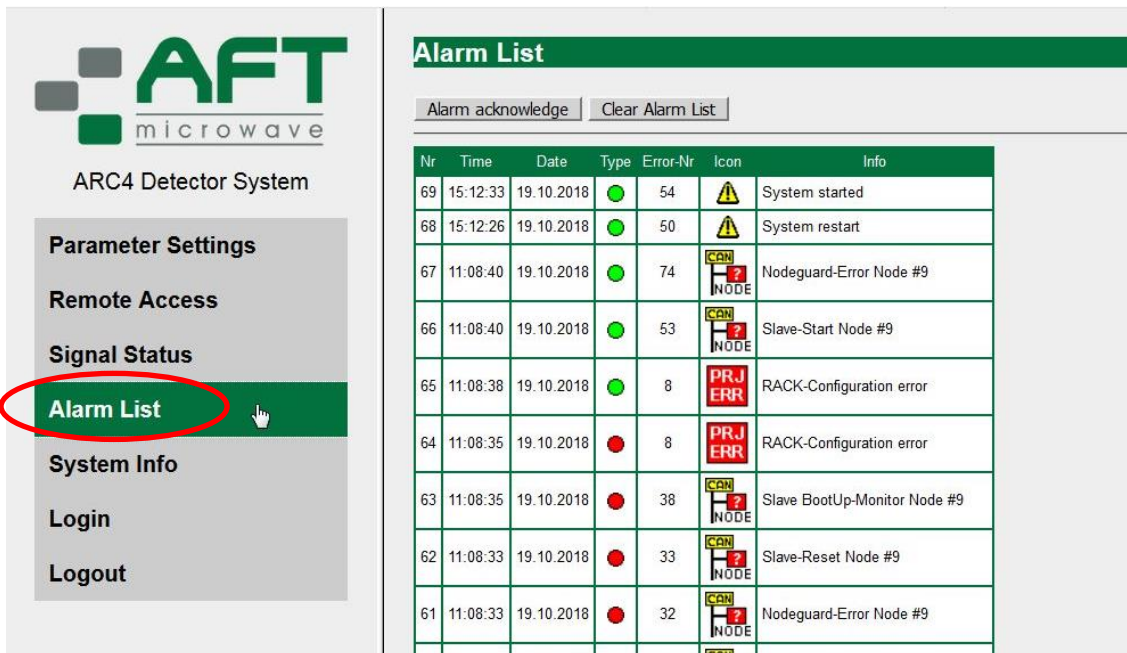


Fig. 4.10: Example alarm list

4.6. System Info

The system info displays all basic device parameters. Buttons above let you set actual time and date, acknowledge alarms, show detailed status of all installed components as well as detailed parameters of the device and connection.

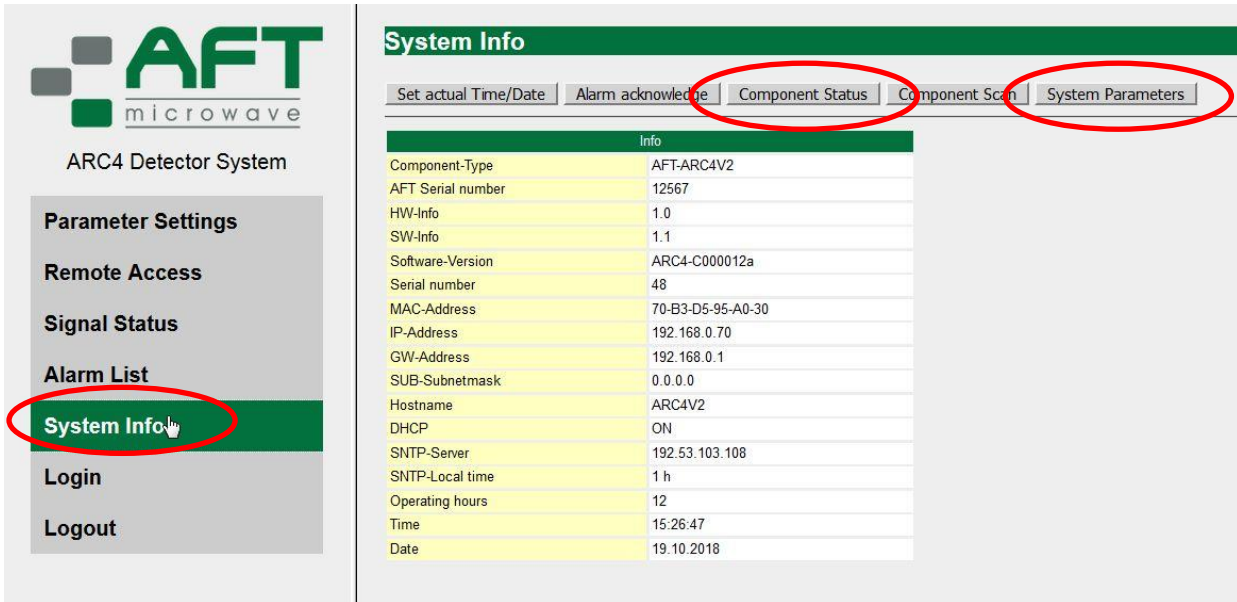


Fig. 4.11: Screen display System Info

4.6.1. Component Status

The component status shows detailed information regarding all installed components

Component Status

Clear counters back

Nr	Node-ID	Component	Info	Component-ID	Type	SW-Version	Serial number	Status	Guard-Cnt	Reset-Counter	Error-Code	Error
1	1	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1334	Online	0	0	00000000H	Info
2	2	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1316	Online	0	0	00000000H	Info
3	3	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1319	Online	0	0	00000000H	Info
4	4	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1318	Online	0	0	00000000H	Info
5	5	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1317	Online	0	0	00000000H	Info
6	6	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1320	Online	0	0	00000000H	Info
7	7	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1321	Online	0	0	00000000H	Info
8	8	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1322	Online	0	0	00000000H	Info
9	9	ARC4-Testboard	Optical Testboard	610	ARC4-Testboard	ARC4-T000000	1443	Online	0	0	00000000H	Info
10	10	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1324	Online	0	0	00000000H	Info
11	11	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1325	Online	0	0	00000000H	Info
12	12	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1326	Online	0	0	00000000H	Info
13	13	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1327	Online	0	0	00000000H	Info
14	14	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1328	Online	0	0	00000000H	Info
15	15	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1329	Online	0	0	00000000H	Info
16	16	ARC4-Detektor	Photodetektor	603	ARC4-Detektor	ARC4-D000004	1330	Online	0	0	00000000H	Info
17	17	ARC4-Interface	Logic-Interface	604	ARC4-Interface	ARC4-I000002	1314	Online	0	0	00000000H	Info
18	18	ARC4-Interface	Logic-Interface	604	ARC4-Interface	ARC4-I000002	1313	Online	0	0	00000000H	Info
19	19	ARC4-Display	Display	605	ARC4-Display	ARC4-A000000	1253	Online	0	0	00000000H	Info

Fig. 4.12: Example for Component Status

4.6.2. System Parameters

Detailed parameters of the device and connection, which can be edited by clicking the “edit” button are shown.

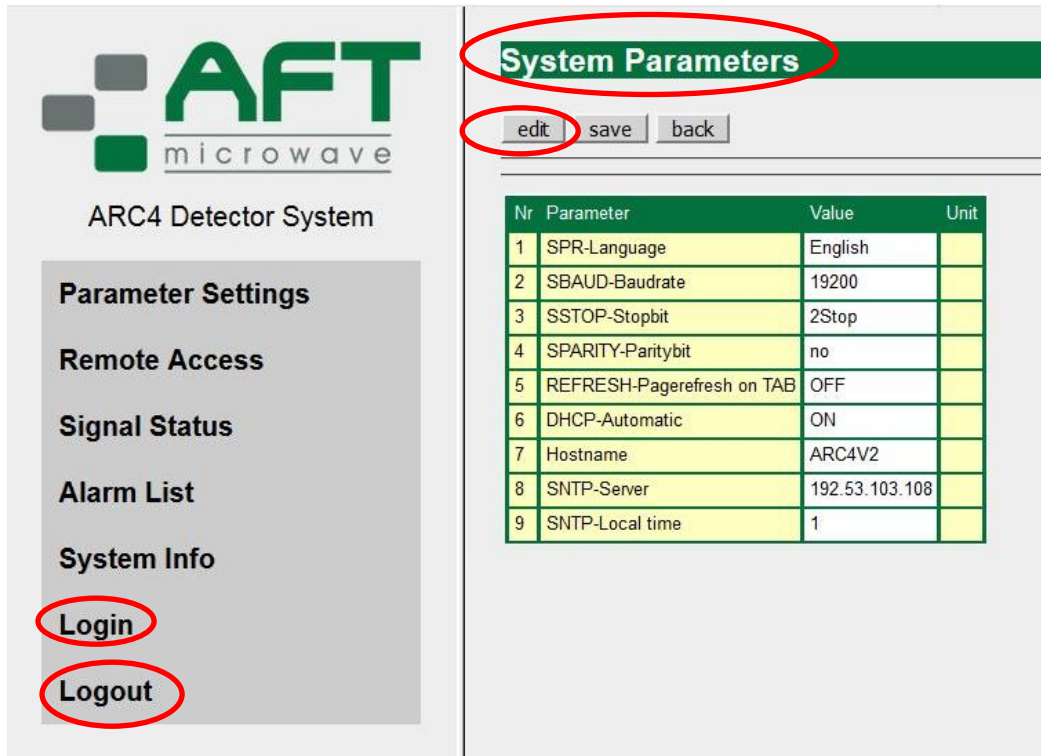


Fig.4.13: Screen display System Parameters

The Edit button lets you edit the listed parameters. CAUTION – after setting the desired parameters click “save” button in order for the changes to be effective.

4.7. Login

The Login button allows logging in with User or Service permissions, depending on the used password. Service permissions are reserved for AFT.

4.8. Logout

The Logout button is used to log out in order to avoid unauthorized access.

Revision History:

Revision	Date	Description
1.0	17.03.2022	initial