# AFT Mare

# 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.

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

Table 1.1: Default factory settings

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.

- 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	$\rightarrow$ correct computer IP exa	ample: 192.168.0.200
Gateway:	192.168.0.1		

<ul> <li>Use the following IP addres</li> </ul>	s:
IP address:	192.168.0.200
Subnet mask:	255.255.255.0
Default gateway:	192.168.0.1
Obtain DNS server address Use the following DNS serv	automatically er addresses:
Obtain DNS server address Use the following DNS serv Preferred DNS server:	automatically er addresses:

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:

(← → ♂ @	① 192.168.0.70	… 🖸 🕁	Q. Suchen	IIIN	≡
ARC4 Detector System	ARC4-Webserver ARC4 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 GLOBAL ARC A B C D				

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: <u>http://arc4hostname</u>

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



#### 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.



#### **IP Adress lost:**

After connecting the device to a network with a DHCP-server the default IPaddress and default gateway are replaced. To obtain the currently used IPaddress 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.

← → ♂ ☆	③ 🔏 192.168.0.70				🖸 🏠	Q Suchen	\ ⊡ ≣	=
-AFT	System login							l
ARC4 Detector System	Password	•••••	(0)					
Login								
Logout								

#### 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:

← → ♂ ŵ	(i) 🔏 192.168.0.70		🛛	✿ Suchen	III\ © ≡
-AFT	System login				
ARC4 Detector System	Password	new Level = 1			
Parameter Settings		la)			
Remote Access					
Signal Status					
Alarm List					
System Info					
Login					
Logout					

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.

		tting:	s AR	C4-D	etect	or 1-	16						
ARC4 Detector System	Parameter / ARC-Channe	ıl 1	2	3	4	5	6	ARC - De 7	etectors 8	9	10	11	12
	Auto reset	OFF	OFF	OFF	OFF	OFF	OFF						
Parameter Settings	Auto reset time	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
r arameter octango	Threshold	20	20	20	20	20	20	20	20	20	20	20	20
Remote Access	OC/TTL output	inverted	inverted	inverted	inverted	inverted	inverted						

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.



	Param	save bac	ttings A	ARC4-D	etector	1-16							
ARC4 Detector System	Parameter / ARC-	1	2	3	4	5	6	7	ARC - Det	ectors 9	10	11	12
Parameter Settings	Channel Auto reset	OFF 💌	OFF 💌	OFF 💌	OFF 💌	OFF •	OFF 💌	OFF •	OFF •	OFF 💌	OFF •	OFF 💌	OFF •
Remote Access	Auto reset time	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Threshold	20	20	20	20	20	20	20	20	20	20	20	20
Signal Status	OC/TTL output	inverted -	inverted <b>•</b>	inverted <b>•</b>	inverted •	inverted 💌	inverted -	inverted 💌	inverted 💌	inverted <b>•</b>	inverted -	inverted -	inverted •

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).

	Parameter Settings ARC4-Interface 1
	and several based
microwave	eur save back
	GLOBAL-ARC Group A
ARC4 Detector System	Channel 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Parameter Settings	
Farameter Settings	
Remote Access	
	Output tegr:
Signal Status	GLOBALARC Course B
Alarm List	ARC-Channel 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
	Actv V V V V V V V V 0 0 0 0 0 0 0
System Info	
Login	
_	Output logic OR
Logout	
	Interface-Group Parameter / IE Group A B Unit
	Auto reset OFF V OFF V
	Auto reset time 1000.0 1000.0 msec
	OC/TTL output inverted V inverted V

Fig. 4.7: Changing the logic configuration

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

GLBARC\_A = (CH1) **OR** (CH2) **OR** (CH3) **OR** ... **OR** (CH16) *(default)* GLBARC\_B = [(CH1) **AND** (CH2)] **OR** [(CH3) **AND** (CH4)] **OR** (CH5) **OR** ... **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 acknowledge" button. The list can be cleared by clicking "Clear Alarm List" button.

-AFT		arm L	.ist	Clear	Alarm I	ist	
microwave		T	Data	Ture	Erro Ma	1	1-6
ARC4 Detector System	69	15:12:33	19.10.2018	O	54		System started
Desemates Cattings	68	15:12:26	19.10.2018	•	50	⚠	System restart
Parameter Settings	67	<mark>11</mark> :08:40	19.10.2018	•	74		Nodeguard-Error Node #9
Signal Status	66	11:08:40	19.10.2018	•	53		Slave-Start Node #9
Alarm List	65	11:08:38	19.10.2018	•	8	PRJ ERR	RACK-Configuration error
System Info	64	11:08:35	19.10.2018	•	8	PRJ ERR	RACK-Configuration error
Login	63	<mark>11:08:3</mark> 5	19.10.2018	•	38		Slave BootUp-Monitor Node #9
Logout	62	11:08:33	19.10.2018	•	33		Slave-Reset Node #9
	61	<mark>11:08:33</mark>	19.10.2018	•	32		Nodeguard-Error Node #9
						CON	

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.

-AFT	System Info		
microwave	Set actual Time/Date	Alarm acknowledge Component Status	Component Scan System Parameters
	2	Info	
ARC4 Detector System	Component-Type	AFT-ARC4V2	
	AFT Serial number	12567	
Parameter Settings	HW-Info	1.0	
arameter Settings	SW-Info	1.1	
	Software-Version	ARC4-C000012a	
temote Access	Serial number	48	
	MAC-Address	70-B3-D5-95-A0-30	
Signal Status	IP-Address	192.168.0.70	
	GW-Address	192.168.0.1	
larm List	SUB-Subnetmask	0.0.0.0	
	Hostname	ARC4V2	
ystem Info 🖢 🌙	DHCP	ON	
	SNTP-Server	192.53.103.108	
ogin	SNTP-Local time	1 h	
	Operating hours	12	
oriout	Time	15:26:47	
oyour	Date	19 10 2018	

Fig. 4.11: Screen display System Info



#### 4.6.1. Component Status

The component status shows detailed information regarding all installed components

ARCA Detector System	Nr	Node-IC	Component	Info	Component-ID	Туре	SW-Version	Serial number	Status	Guard-Cnt	Reset-Counter	Error-Code	Error	
Arto - Delector Oystem	1	1	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1334	Online	0	0	00000000H	0	Info
Parameter Settings	2	2	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1316	Online	0	0	00000000H	•	Info
Demote Assess	3	3	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1319	Online	0	0	0000000H	0	Info
Remote Access	4	4	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1318	Online	0	0	00000000H	•	Info
Signal Status	5	5	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1317	Online	0	0	00000000H	0	Info
Alarm List	6	6	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1320	Online	0	0	00000000H	•	Info
	7	7	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1321	Online	0	0	0000000H	0	Info
System Info	8	8	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1322	Online	0	0	00000000H	•	Info
Login	9	9	ARC4-Testboard	Optical Testboard	610	ARC4-Testboard	ARC4-T000000	1443	Online	0	0	0000000H	•	Info
Logout	10	10	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1324	Online	0	0	00000000H	•	Info
Logout	11	11	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1325	Online	0	0	0000000H	•	Info
	12	12	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1326	Online	0	0	00000000H	•	Info
	13	13	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1327	Online	0	0	00000000H	0	Info
	14	14	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1328	Online	0	0	00000000H	•	Info
	15	15	ARC4-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1329	Online	0	0	00000000H	•	Info
	16	16	ARC1-Detektor	Photodetector	603	ARC4-Detektor	ARC4-D000004	1330	Online	0	0	00000000	-	Info
	47	47	ADO4 Interface		000	ADOALSIS	10000000	4244	Ortica	0	0	00000000000	-	
	1/	17	ARC4-Intenace	содіс-іпсепасе	004	ARC4-Intenace	ARC4-1000002	1314	Online	U	0	00000000H	•	Info
	18	18	ARC4-Interface	Logic-Interface	604	ARC4-Interface	ARC4-1000002	1313	Unline	0	0	0000000H	•	Info
	19	19	ARC4-Display	Display	605	ARC4-Display	ARC4-A000000	1253	Online	0	0	00000000H	0	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.

RC4 Detector System	Nr	Parameter	Value	Unit
	1	SPR-Language	English	
er Settings	2	SBAUD-Baudrate	19200	
, ootiingo	3	SSTOP-Stopbit	2Stop	
Cess	4	SPARITY-Paritybit	no	
	5	REFRESH-Pagerefresh on TAB	OFF	
	6	DHCP-Automatic	ON	
	7	Hostname	ARC4V2	
	8	SNTP-Server	192.53.103.108	
	9	SNTP-Local time	1	
em Info				

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:**

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