

AIMA-FPAS RF FORWARD PATH AMPLIFIER- STANDARD



Product user manual



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1 About this manual

1.1 Chapter overview

1. About this manual: Preface
2. Precautions
3. Overview: Application module overview, including the module features, technical specifications, and ordering information.
4. Module characteristics: The appearance of the equipment, port and introduction of other components
5. Installation: Installation procedure
6. Module configuration & alarms: Web management configuration instructions.
7. Troubleshooting
8. Product warranty
9. Declaration of conformity.
10. Appendix A: Default alarm limit parameters
11. Appendix B: Factory default settings

1.2 Related documentation

The following documents may be used in conjunction with this manual:

- AIMA3000 - Product user manual
- AIMA ASMM - Product user manual
- AIMA3000 NMS web management system product user manual
 - NMS3-EPSM - Basic inventory management
 - NMS3-EPSM - Basic alarm management
 - NMS3-EPSM - Basic system management
 - NMS3-EPSM - Basic template management

1.3 Document conventions

Before you use the manual, please familiarise yourself with the format used in this manual.

**Asterisk: Points marked with an asterisk means there is a corresponding note on the page.

1.4 Technical Support

If you need help in the process of setting up and maintaining an FPAS, please contact Technetix's technical support staff:

Europe:

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NL-3900 AJ Veenendaal

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2 Precautions



WARNING!

This equipment is intended for indoor applications. To prevent fire or electrical shock, or damage to the equipment, do not expose units to water or moisture.

- You should carefully read and thoroughly understand the contents of the manual before installing and using this equipment.
- At any time, there may be dangerous voltage inside the device.
- **DO NOT** power up before the cover and the panels of the equipment are installed and the enclosure is closed.

Cleaning

Only use a damp cloth to clean the front panel. Use a soft dry cloth to clean the top of the unit. **DO NOT** use any spray cleaners or chemicals of any kind.

Outage or overload requiring service and repairs

Unplug the unit and refer the servicing to qualified service personnel only.

Servicing and repairs

DO NOT attempt to service this unit yourself. Refer all servicing needs to qualified service personnel only.

3 Overview

3.1 About the Product

The RF Forward Path Amplifier - Standard (FPAS) is designed to plug into the latest generation of Advanced Intelligent Multi-services Access platforms - AIMA3000.

The FPAS accepts forward-path RF signals from 45 MHz to 1218 MHz through the RF input port. The module provides an adjustable gain of 20 dB with a single output port.

Electronic gain and slope controls allow the module to be customised for many situations.

The forward-path version provides Automatic Gain Control (AGC). The FPAS can also be conveniently monitored and controlled through a computer connected to one of the Ethernet ports via the ASMM module.

All module settings are retained in non-volatile memory to ensure trouble-free operation. Bulk updating, automatic uploading and downloading of configuration files can be done when using the NMSE web-based management system.

3.2 Product Key Features

- Plug-and-play AIMA3000 platform module
- Forward-path version (45 MHz to 1000 MHz) supports PAL, CENELEC, and NTSC up to 127 channels
- Supports both analog and digital transmissions
- High linearity, superior low noise profile and minimal distortion
- Automatic gain control (AGC) or manual gain control (MGC)
- Electronic gain and slope control
- Configurable alarm thresholds at a customer's request
- Alarm monitoring through the NMSE and the ASMM's Web Interface
- Broadband GaAs amplifier technology
- Remote firmware upgrade and auto upload/download of configuration files through the ASMM web interface or using the NMSE
- Bulk firmware updates through the NMSE
- FCC, CE and RCM⁽¹⁾ compliant

⁽¹⁾ See Declaration of Conformity for current status.

3.3 Specifications

RF performance

RF bandwidth	45 - 1218 MHz
RF flatness	± 0.75 dB
Noise Figure (NF)	≤ 9 dB
RF Input level	10 dBmV per channel
RF Output level	40 dBmV per channel (rating)
Maximum	30 dB
Minimum gain	10 dB
Gain Adjustment range	0 dB to 10 dB (input gain control) 0 dB to 10 dB (output gain control)
Slope adjustment range	0 dB to 9 dB
AGC range (max)	10 dB
AGC accuracy	±0.5 dB over AGC range
RF impedance	75 Ω
RF return loss	> 16 dB
RF test point relative to RF output port	-20 ± 1 dB
RF connectors	Single: 2 x GSK-type female Dual: 4 x GSK-type female
RF test points	2 x mini-SMB
Alarms and status	Front-panel LEDs, SNMP traps
Path isolation	> 65 dB
Link Performance ⁽¹⁾	
CNR	> 60 dB
CSO	> 75 dB
CTB	> 75 dB

Notes:

⁽¹⁾ Loaded with 77ch NTSC, RF input=10 dBmV (70 dBuV), Gain=30 dB

General

Power supply	Powered via AIMA3000 backplane
Power consumption	Single: < 10.6 W Dual: < 24 W
Operating temperature	-5 - 55°C
Operating humidity	90% (Non-condensing)
Storage temperature	-25 - 70°C
Storage humidity	90% (non-condensing)
Dimensions (W*D*H)	24.6 * 410 * 152.5 mm
Weight	Single: 0.88 kg Dual: 0.98 kg
Supported network management options	NMSE or through ASMM's Web interface

3.3.1 Block Diagram

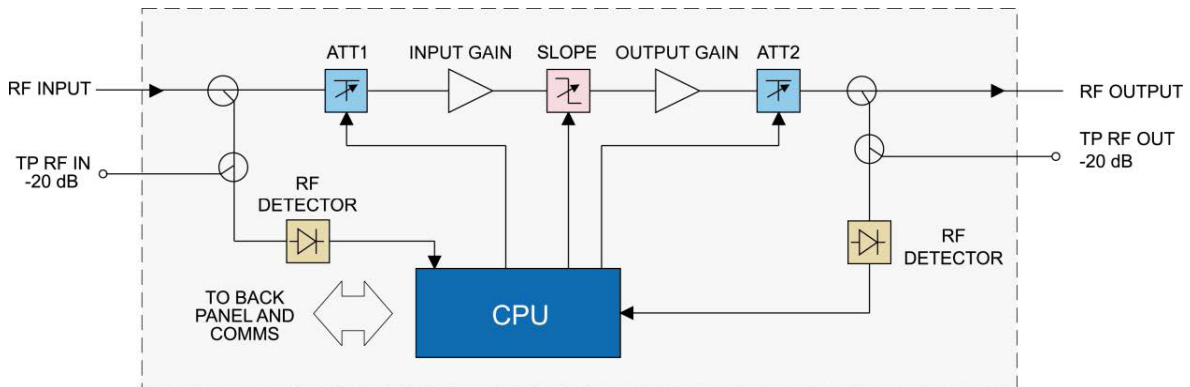


Figure 3-1 Block diagram FPAS-S

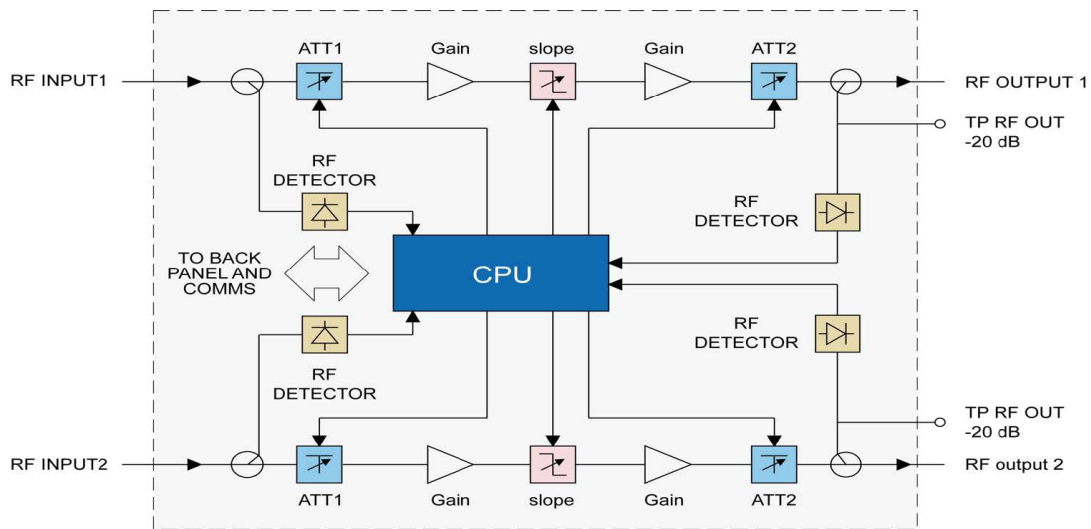


Figure 3-2 block diagram FPAS-D

Table 3-1 FPAS-S block diagram glossary

Parameters	Glossary RF
INPUT	RF input
ATT	Attenuator
TP RF IN -20 dB	RF -20 dB input test point
SLOPE	Slope control
RF OUTPUT	RF output
TP RF OUT -20 dB	RF -20 dB output test point
Input gain	Input gain

Parameters	Glossary RF
Output gain	Output gain
TO BACKPLANE AND COMMS	Data bus
CPU	Central processing unit

Table 3-2 FPAS-D block diagram glossary

Parameters	Glossary
RF INPUT1	RF1 input
RF INPUT2	RF2 input
ATT	Attenuator
TP RF IN -20 dB	RF -20 dB input test point
SLOPE	Slope control
RF1 OUTPUT	RF1 output
RF2 OUTPUT1	RF2 output
TP RF OUT -20 dB	RF -20 dB output test point
Input Gain	Input gain
Output Gain	Output gain
TO BACK PLANE AND COMMS	Data bus
CPU	Central processing unit

3.4 Order details

A-FPAS-[Y]-[Z] Forward-Path Amplifier - Standard

Options:

Y Ports

S Single

D Dual

Z Bandwidth

1G 45 - 1000 MHz (Standard)

12 45 - 1218 MHz

4 Module characteristics

4.1 Module appearance and port layout

4.1.1 Overview

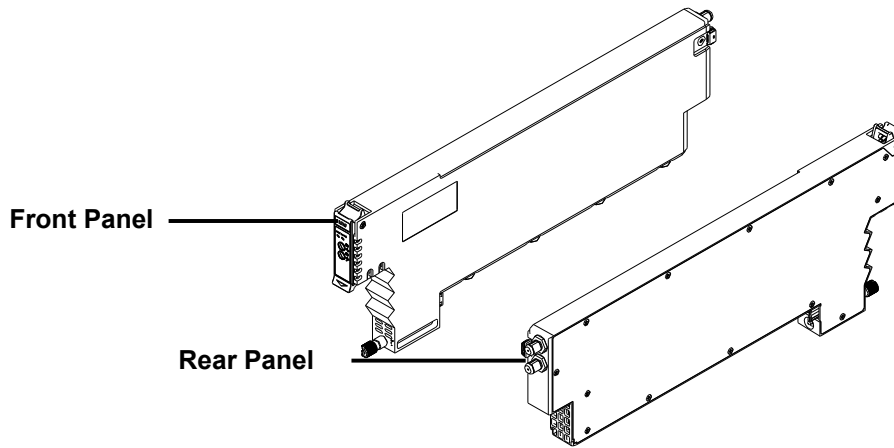


Figure 4-1 module appearance

4.1.2 FPAS-S front panel view

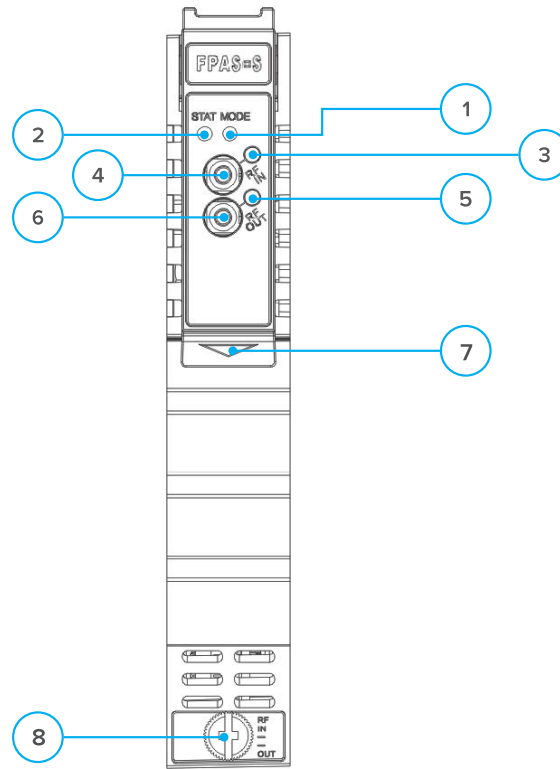


Figure 4-2 FPAS-S front panel layout

Table 4-1 FPAS-S front panel functions

Item Number	Item	Description
1	MODE LED	Module gain control mode indicator MGC: Green light Blinking AGC: Green
2	STATUS LED	Module alarm indicator Normal: Green Minor alarm: Amber Major alarm: Red
3	RF IN LED	RF input Normal: Green Minor alarm: Amber Major alarm: Red
4	RF IN TP	RF input test point
5	RF OUT LED	RF output indicator Normal: Green Minor alarm: Amber Major alarm: Red
6	RF OUT TP	RF output test point
7	Orange tab-retaining clip	Used to plug and anchor the module The tab-retaining clip will pop-up after pressing the release and plug module.
8	Mounting Screw	Module fastening screw



WARNING!
"OPT OUT" emits a non-visible laser radiation when working.

4.1.3 FPAS-S rear panel view

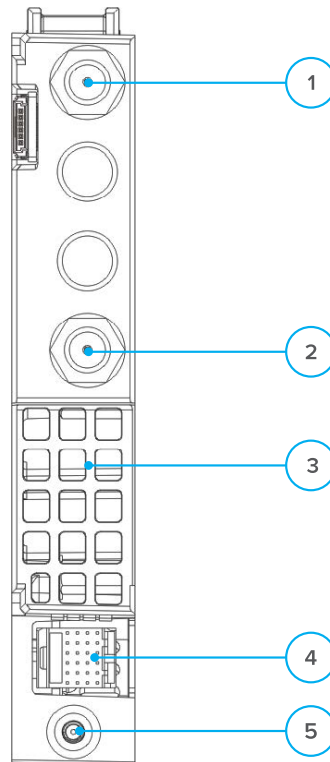


Figure 4-3 FPAS-S rear panel layout

Table 4-2 FPAS-S rear panel functions

Item Number	Item	Description
1	RF IN	RF input
2	RF OUT	RF output
3	Air vent	Air vent allowing air to flow out of the module
4	Multi-pin connector	Power and communication port
5	Placement pin	Used to position the module in the chassis

4.1.4 FPAS-D Front panel view

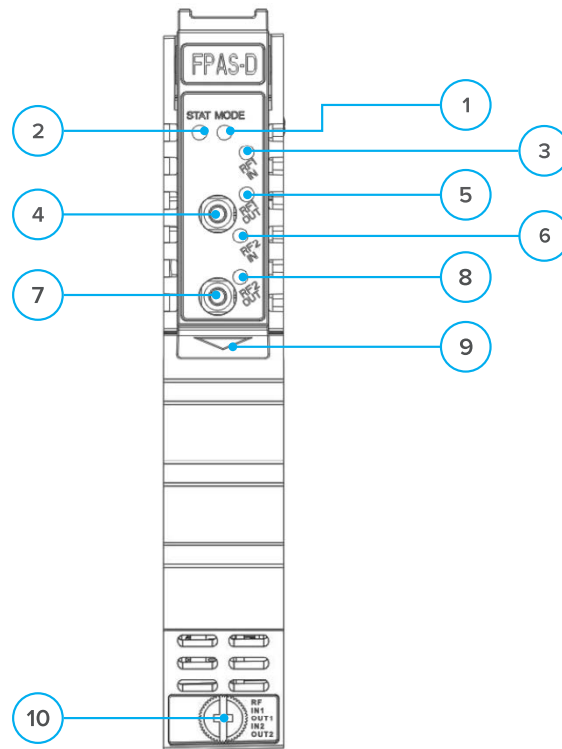


Figure 4-4 FPAS-D front panel layout

Table 4-3 FPAS-D front panel functions

Item Number	Item	Description	Item Number	Item	Description
1	MODE LED	Module gain control mode indicator MGC: Green light blinking AGC: Green	6	RF2 IN LED	RF2 input Normal: Green Minor alarm: Amber Major alarm: Red
2	STATUS LED	Module alarm indicator Normal: Green Minor alarm: Amber Major alarm: Red	7	RF2_OUT LED	RF2 output indicator Normal: Green Minor alarm: Amber Major alarm: Red
3	RF1 IN LED	RF1 input Normal: Green Minor alarm: Amber Major alarm: Red	8	RF OUT TP	RF1 output test point
4	RF1 OUT LED	RF1 output indicator Normal: Green Minor alarm: Amber Major alarm: Red	9	Orange retaining clip tab	Used to plug and anchor the module The retaining clip tab will pop-up after pressing the release and plug module.
5	RF IN TP	RF1 input test point	10	Mounting screw	Module fastening screw

4.1.5 FPAS-D Rear panel view

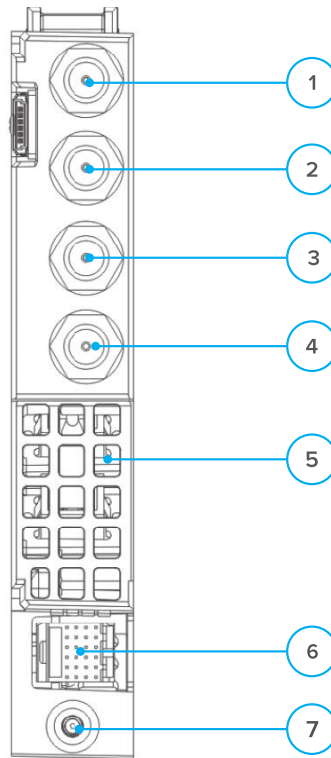


Figure 4-5 FPAS-D rear panel layout

Table 4-4 FPAS-D rear panel functions

Item Number	Item	Description
1	RF1 IN	RF1 input
2	RF1 OUT	RF1 output
3	RF2 IN	RF2 input
4	RF2 OUT	RF2 output
5	Air vent	Air vent allowing air to flow out of the module
6	Multi-pin connector	Power and communication port
7	Placement pin	Used to position the module in the chassis

5 Installation

5.1 Preparatory work for installation

Before installing this device, you must ensure that the unit is intact and ready for installation. Unpack and check the unit: Open the box to check for any damage that may have occurred during shipment.

If damage is found, please contact a Technetix customer support representative.

Necessary equipment and tools for installation:

Table 5-1 Necessary equipment and tools for installation

Tools/Modules	Description
Phillips screwdriver PH1/PH2	For use with the AIMA3000 chassis
FPAS module	The module to install into the AIMA3000 chassis

5.2 Unpacking

Unpack the module. Keep the packaging materials for future transport needs.

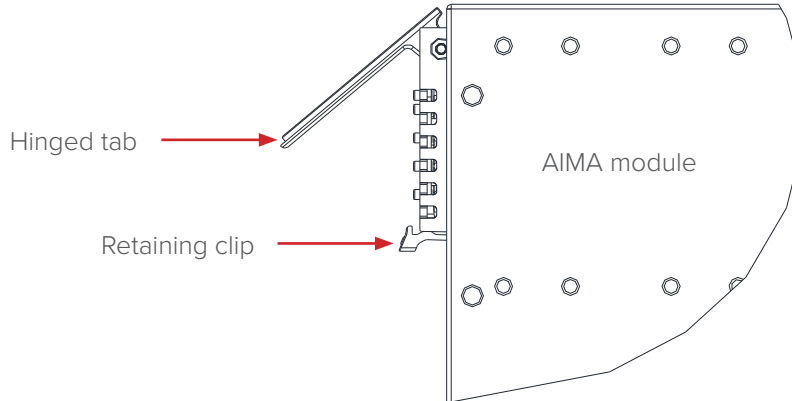
Check the package manifest, record the product module type, serial number, purchase date, and any other relevant information to facilitate later management and maintenance.

Table 5-2 Packing manifest

No.	Description	Qty
1	FPAS module	1
2	Individual test sheet (certificate of performance)	1

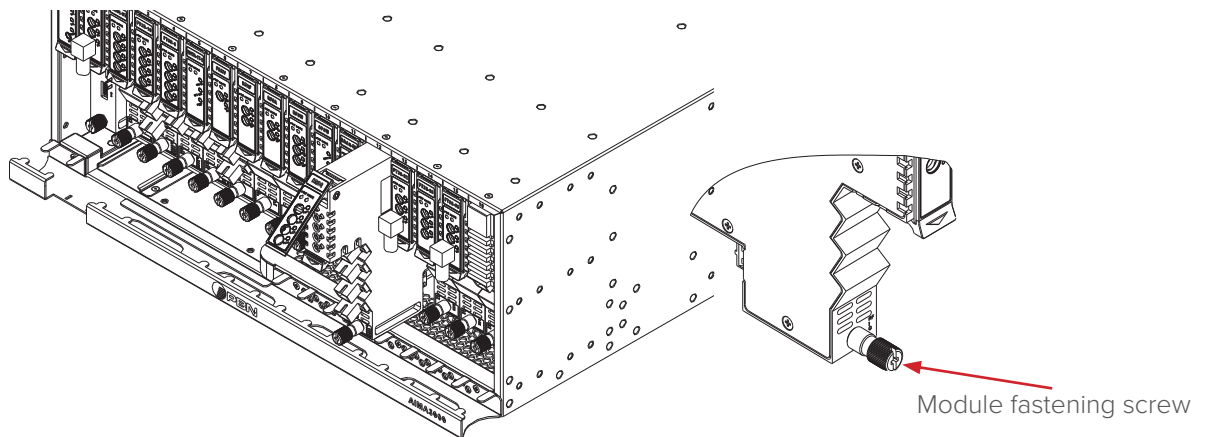
5.3 Module installation

1. Gently depress the orange retaining clip and release the hinged tab



2. Hold the AIMA module casing upright, align it with the AIMA3000 slide rails for the correct slot, and insert the module until it reaches the multi-pin connector.

DO NOT use excessive force when inserting the module, but ensure the RF connectors at the rear of the module are securely connected to the chassis's RF connectors.



CAUTION!

The module **MUST** be installed correctly to ensure the module's multi-pin connector and backplane are properly connected.

Tip:

When inserting the module into the guide rails, vertically tilt the module slightly to check that the guides are properly seated on the rails. The module is guided to the correct position using the large metal fastening screw on the lower part of the front panel.

3. After the module is inserted, gently push the hinged tab until it snaps into the retaining clip. While pushing down on the hinged tab, the AIMA module will pair with the power bus and will lock in into the chassis



CAUTION!

If force is required to insert a module, then it may not be correctly seated on the slide rails, or the mounting screw may be misaligned.

4. When the module is fully seated within the chassis, on the AIMA module, fasten the spring-loaded mounting screw. Only use fingers to fasten the mounting screw. **DO NOT** use a screwdriver.

5.4 Check module LEDs

When the module has been installed, and power is supplied from the chassis, the status LEDs will show a blinking green light indicating that the module has started. The BC/NC status indicators show a green light.

5.5 Test the RF input signal

When setting up the transmitter for final deployment, the RF input levels must not exceed 20 dB.

6 Module configuration & alarm setup

The module configuration settings can be configured using the web interface and the NMSE (network management software). This manual only provides details on the web interface. For login details and network setup, please refer to the AIMA-ASMM user manual. If the same module is reinserted in the same slot, the ASMM will restore the previous settings if the module is set to **'Auto Download'** the configuration.

6.1 Port configuration screen

After logging in to the AIMA ASMM controller, select the **'Modules'** tab and then the **'FPAS'** to configure one of the FPAS modules. After selecting the **'FPAS'**, the **'Port'** option will appear.

System **Modules** Alarms Logs Upgrade

All Modules
0 ASMM-A
1 FT5X-Q-05
2
3
4
5 FRXV
6
7 FRAE-S
8 RPAS-D
9
10 FPAS-S
Port
11 FT5S-D-10
12
13 RT5S-D-10
14 EDGA-1-15-G
15 RRAQ-ST
16 RRAS-Q
PS1
PS2
FAN

Module Information

Model: A-FPAS-S-1G Serial No: 13013609
HW Assembly No: A04224_4b FW Part No: S08467
FW Version: V01.00.09 Refresh

Configuration

Alarm Control: Module Alias: Submit

Alarm Settings

Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband
Temperature(°C)	30.1	<input checked="" type="checkbox"/> 70.0	<input checked="" type="checkbox"/> 65.0	<input checked="" type="checkbox"/> 0.0	<input checked="" type="checkbox"/> -5.0	2.0
+12V Input Voltage(V)	12.0	<input checked="" type="checkbox"/> 13.5	--	--	<input checked="" type="checkbox"/> 10.5	0.2
+5V Input Voltage(V)	5.2	<input checked="" type="checkbox"/> 6.0	--	--	<input checked="" type="checkbox"/> 4.4	0.1

Submit

Commands

Factory Defaults: Apply Warning: Applying factory defaults will erase all configuration and restore factory defaults. The module will reboot after applying default values.

Reboot: Apply Warning: Rebooting the module will take approx. 20 seconds.

System **Modules** Alarms Logs Upgrade

All Modules
0 ASMM-A
1 FRXV
2
3
4
5
6
7 OPSW
8 EDFA
9
10 FRAS-S
11
12 RFSW
13
15 FPAS-D
Port 1
Port 2
16 FT5S-S-09
PS1
PS2

Module Information

Model: A-FPAS-D-12 Serial No: 16032108
HW Assembly No: A07608_1.4 FW Part No: S10349
FW Version: V01.00.01 Refresh

Configuration

Alarm Control: Module Alias: Submit

Alarm Settings

Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband
Temperature(°C)	36.3	<input checked="" type="checkbox"/> 70.0	<input checked="" type="checkbox"/> 65.0	<input checked="" type="checkbox"/> 0.0	<input checked="" type="checkbox"/> -5.0	2.0
+12V Input Voltage(V)	11.8	<input checked="" type="checkbox"/> 13.5	--	--	<input checked="" type="checkbox"/> 10.5	0.2
+5V Input Voltage(V)	5.0	<input checked="" type="checkbox"/> 6.0	--	--	<input checked="" type="checkbox"/> 4.4	0.1

Submit

Commands

Factory Defaults: Apply Warning: Applying factory defaults will erase all configuration and restore factory defaults. The module will reboot after applying default values.

Reboot: Apply Warning: Rebooting the module will take approx. 20 seconds.

After selecting 'Port', the RF configuration screen will appear for the designated transmitter.

System Modules Alarms Logs Upgrade

All Modules
0 ASMM-A
1 FT5X-Q-05
2
3
4
5 FRXV
6
7 FRAE-S
8 RPAS-D
9
10 FPAS-S
 Port
11 FT5S-D-10
12
13 RT5S-D-10
14 EDFA-1-15-G
15 RRAQ-ST
16 RRAS-Q
PS1
PS2
FAN

Port Information
Slot: 10 Module Type: FPAS-S Port: 1

Status
AGC Status: ● AGC Reference: 60.0dBμV Total Gain: 25.0dB AGC Range: +5.0 ~ -5.0 dB

Configuration
Gain Control Type: Slope Control: (0.0-9.0)dB
Input Gain Control: (0.0-10.0)dB Output Gain Control: (0.0-10.0)dB

Alarm Settings
AGC Status Alarm:

Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband
Input Power(dBμV)	60.0	<input checked="" type="checkbox"/> 110.0	<input checked="" type="checkbox"/> 107.0	<input checked="" type="checkbox"/> 85.0	<input checked="" type="checkbox"/> 82.0	1.0
Output Power(dBμV)	60.0	<input checked="" type="checkbox"/> 125.0	<input checked="" type="checkbox"/> 122.0	<input checked="" type="checkbox"/> 95.0	<input checked="" type="checkbox"/> 92.0	1.0

System Modules Alarms Logs Upgrade

All Modules
0 ASMM-A
1 FRXV
2
3
4
5
6
7 OPSW
8 EDFA
9
10 FRAS-S
11
12 RFSW
13
14
15 FPAS-D
 Port 1
 Port 2
16 FT5S S 09
PS1
PS2
FAN

Port Information
Slot: 15 Module Type: FPAS-D Port: 1

Status
AGC Status: ● AGC Reference: 0.0dBmV Total Gain: 25.0dB AGC Range: +5.0 ~ -5.0 dB

Configuration
Gain Control Type: Slope Control: (0.0-9.0)dB
Input Gain Control: (0.0-10.0)dB Output Gain Control: (0.0-10.0)dB

Alarm Settings
AGC Status Alarm:

Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband
Input Power(dBmV)	Low	<input checked="" type="checkbox"/> 50.0	<input checked="" type="checkbox"/> 47.0	<input checked="" type="checkbox"/> 25.0	<input checked="" type="checkbox"/> 22.0	1.0
Output Power(dBmV)	Low	<input checked="" type="checkbox"/> 65.0	<input checked="" type="checkbox"/> 62.0	<input checked="" type="checkbox"/> 35.0	<input checked="" type="checkbox"/> 32.0	1.0

In the FPAS 'Port' configuration screen 'Output Gain Control', 'Slope Control', 'Input Gain Control', 'Gain Control Type', and 'Alarm Settings' become available.

Total Gain is calculated by adding the Input Gain Level and the Output Gain Level with 10 dB. AGC Range is from (10- 'Input Gain Control') to (0- 'Input Gain Control')

6.2 Alarms monitoring

All alarm information is monitored by the ASMM module. If an alarm occurs, the operator can view the associated module page to find more detailed alarm information.

6.2.1 Alarm status pages

Click the 'Alarms' tab on the top menu bar to display an overview of the alarm status of all the installed modules. The module row has an alarm status indicator used to show:

Normal operation: Green

Major alarm: Red

System	Modules	Alarms	Logs	Upgrade
All Modules				
0	ASMM-A	Slot	Module Type	Alarm Status
1	FT5X-Q-05	0	ASMM-A	
2		1	FT5X-Q-05	
3		2	--	--
4		3	--	--
5	FRXV	4	--	--
6		5	FRXV	
7	FRAE-S	6	--	--
8	RPAS-D	7	FRAE-S	
9		8	RPAS-D	
10	FPAS-S	9	--	--
11	FT5S-D-10	10	FPAS-S	
12		11	FT5S-D-10	
13	RT5S-D-10	12	--	--
14	EDFA-1-15-G	13	RT5S-D-10	
15	RRAQ-ST	14	EDFA-1-15-G	
16	RRAS-Q	15	RRAQ-ST	
PS1		16	RRAS-Q	
PS2		PS1	PS	
FAN		PS2	PS	
		FAN	FAN-A	

System	Modules	Alarms	Logs	Upgrade
All Modules				
0	ASMM-A	Slot	Module Type	Module Alarm Status
1	FRXV	0	ASMM-A	
2		1	FRXV	
3		2	--	--
4		3	--	--
5		4	--	--
6		5	--	--
7	OPSW	6	--	--
8	EDFA	7	OPSW	
9		8	EDFA	
10	FRAS-S	9	--	--
11		10	FRAS-S	
12	RFSW	11	--	--
13		12	RFSW	
14		13	--	--
15	FPAS-D	14	--	--
16	FT5S-S-09	15	FPAS-D	
PS1		16	FT5S-S-09	
PS2		PS1	--	--
FAN		PS2	PS	
		FAN	FAN-A	

6.2.2 Module operating voltage and temperature alarm

Click on the corresponding module, as shown in the following figure, to view the module alarm information. By clicking on 'FPAS', under 'Modules' tab, the operator can view the module temperature and power supply voltage alarms. The operator can utilise the status indicators to judge whether the module is working properly.

The status has three conditions:

- Normal: Green
- Major alarm: Red

No.	Alarm Type	Current Value	HiHi	Hi	Lo	LoLo	Deadband	Status
1	Temperature(°C)	30.5	70.0	65.0	0.0	-5.0	2.0	
2	+12V Input Voltage(V)	12.0	13.5	--	--	10.5	0.2	
3	+5V Input Voltage(V)	5.2	6.0	--	--	4.4	0.1	

No.	Alarm Type	Current Value	HiHi	Hi	Lo	LoLo	Deadband	Status
1	Temperature(°C)	36.3	70.0	65.0	0.0	-5.0	2.0	
2	+12V Input Voltage(V)	11.8	13.5	--	--	10.5	0.2	
3	+5V Input Voltage(V)	5.0	6.0	--	--	4.4	0.1	

Use the status indicators to determine if the module is working properly. If the device is replaced or reset, click on 'Refresh' to update the alarm information.

6.2.3 Module Port Alarms

Click on the 'Port' label under the selected module on the left column. On the module 'Port' page, the operator can view the 'Input Power', 'Output Power', and the 'AGC Status' alarms:

The status has three conditions:

- Normal: Green
- Major alarm: Red

No.	Alarm Type	Current Value	HiHi	Hi	Lo	LoLo	Deadband	Status
1	Input Power(dBμV)	60.0	110.0	107.0	85.0	82.0	1.0	Red
2	Output Power(dBμV)	60.0	125.0	122.0	95.0	92.0	1.0	Red
3	AGC Status	Normal	--	--	--	--	--	Green

No.	Alarm Type	Current Value	HiHi	Hi	Lo	LoLo	Deadband	Status
1	Input Power(dBmV)	Low	50.0	47.0	25.0	22.0	1.0	Red
2	Output Power(dBmV)	Low	65.0	62.0	35.0	32.0	1.0	Red
3	AGC Status	Normal	--	--	--	--	--	Green

6.2.4 Alarm Monitoring Configuration

Monitoring Function ON/OFF

In the Configuration section, on the 'Modules' page, click 'Alarm Control' to toggle the monitoring function.

Temperature, +12V, +5V Voltage Alarm Levels Management

By default, temperature, +12 V and +5 V alarms are all set to ON. The check box as shown in Figure 6-6 toggles detection. When the check box is checked (detection ON), the text in the text box will be solid black. When a check box is NOT checked, (detection OFF), the text in the text box will be light grey and cannot be changed.

The screenshot displays the configuration interface for the '10 FPAS-S' module. The interface is divided into several sections:

- System Navigation:** Includes tabs for System, Modules, Alarms, Logs, and Upgrade. The 'Modules' tab is active.
- Module List:** A list of modules on the left, with '10 FPAS-S' selected and circled in blue.
- Module Information:** Displays details for the selected module:
 - Model: A-FPAS-S-1G
 - Serial No: 13013609
 - HW Assembly No: A04224_4b
 - FW Part No: S08467
 - FW Version: V01.00.09
- Configuration:** Shows 'Alarm Control' set to 'Enable' and 'Module Alias' as 'FPAS-S'. A 'Submit' button is present.
- Alarm Settings:** A table with columns for Parameter, Current Value, HiHi, Hi, Lo, LoLo, and Deadband.

Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband
Temperature(°C)	30.5	<input checked="" type="checkbox"/> 70.0	<input checked="" type="checkbox"/> 65.0	<input checked="" type="checkbox"/> 0.0	<input checked="" type="checkbox"/> -5.0	2.0
+12V Input Voltage(V)	12.0	<input checked="" type="checkbox"/> 13.5	--	--	<input checked="" type="checkbox"/> 10.5	0.2
+5V Input Voltage(V)	5.2	<input checked="" type="checkbox"/> 6.0	--	--	<input checked="" type="checkbox"/> 4.4	0.1
- Commands:** Includes 'Factory Defaults' and 'Reboot' buttons, each with an 'Apply' button and a warning message.

System
Modules
Alarms
Logs
Upgrade

All Modules	Module information																																
0 ASMM-A	Model: A-FPAS-D-12	Serial No: 16032108																															
1 FRXV	HW Assembly No: A07608_1.4	FW Part No: S10349																															
2	FW Version: V01.00.01	<input type="button" value="Refresh"/>																															
3	Configuration																																
4	Alarm Control: <input type="button" value="Enable"/> ▾	Module Alias: <input style="width: 100px;" type="text"/>	<input type="button" value="Submit"/>																														
5	Alarm Settings																																
6	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Parameter</th> <th style="width: 10%;">Current Value</th> <th style="width: 10%;">HiHi</th> <th style="width: 10%;">Hi</th> <th style="width: 10%;">Lo</th> <th style="width: 10%;">LoLo</th> <th style="width: 10%;">Deadband</th> </tr> </thead> <tbody> <tr> <td>Temperature(°C)</td> <td>36.6</td> <td><input checked="" type="checkbox"/> 70.0</td> <td><input checked="" type="checkbox"/> 65.0</td> <td><input checked="" type="checkbox"/> 0.0</td> <td><input checked="" type="checkbox"/> -5.0</td> <td>2.0</td> </tr> <tr> <td>+12V Input Voltage(V)</td> <td>11.8</td> <td><input checked="" type="checkbox"/> 13.5</td> <td>--</td> <td>--</td> <td><input checked="" type="checkbox"/> 10.5</td> <td>0.2</td> </tr> <tr> <td>+5V Input Voltage(V)</td> <td>5.0</td> <td><input checked="" type="checkbox"/> 6.0</td> <td>--</td> <td>--</td> <td><input checked="" type="checkbox"/> 4.4</td> <td>0.1</td> </tr> </tbody> </table>					Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband	Temperature(°C)	36.6	<input checked="" type="checkbox"/> 70.0	<input checked="" type="checkbox"/> 65.0	<input checked="" type="checkbox"/> 0.0	<input checked="" type="checkbox"/> -5.0	2.0	+12V Input Voltage(V)	11.8	<input checked="" type="checkbox"/> 13.5	--	--	<input checked="" type="checkbox"/> 10.5	0.2	+5V Input Voltage(V)	5.0	<input checked="" type="checkbox"/> 6.0	--	--	<input checked="" type="checkbox"/> 4.4	0.1
Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband																											
Temperature(°C)	36.6	<input checked="" type="checkbox"/> 70.0	<input checked="" type="checkbox"/> 65.0	<input checked="" type="checkbox"/> 0.0	<input checked="" type="checkbox"/> -5.0	2.0																											
+12V Input Voltage(V)	11.8	<input checked="" type="checkbox"/> 13.5	--	--	<input checked="" type="checkbox"/> 10.5	0.2																											
+5V Input Voltage(V)	5.0	<input checked="" type="checkbox"/> 6.0	--	--	<input checked="" type="checkbox"/> 4.4	0.1																											
7 OPSW	Commands																																
8 EDFA	Factory Defaults: <input type="button" value="Apply"/>	Warning: Applying factory defaults will erase all configuration and restore factory defaults. The module will reboot after applying default values.																															
9	Reboot: <input type="button" value="Apply"/>	Warning: Rebooting the module will take approx. 20 seconds.																															
10 FRAS-S																																	
11																																	
12 RFSW																																	
13																																	
14																																	
15 FPAS-D																																	
Port 1																																	
Port 2																																	
16 FT5S-S-09																																	
PS1																																	
PS2																																	
FAN																																	

Table 6-1

Parameter	HIHI	HI	LO	LOLO	Deadband	Threshold changeable	Default Alarm Enable
Temperature (oC)	70.0	65.0	0.0	-5.0	2.0	NO	YES
+12V Input Voltage (V)	13.5	-	-	10.5	0.2	NO	YES
+5V Input Voltage (V)	6.0	-	-	4.4	0.1	NO	YES

6.2.5 Input/Output Status Monitoring

To setup Input/Output status monitoring, select the 'Port' label from the left menu under the desired module, and then the monitoring parameters will be listed in the 'Alarm Settings' section, click on to toggle the alarms. Customers can change the monitoring parameters.

Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband
Input Power(dBμV)	60.0	<input checked="" type="checkbox"/> 110.0	<input checked="" type="checkbox"/> 107.0	<input checked="" type="checkbox"/> 85.0	<input checked="" type="checkbox"/> 82.0	1.0
Output Power(dBμV)	60.0	<input checked="" type="checkbox"/> 125.0	<input checked="" type="checkbox"/> 122.0	<input checked="" type="checkbox"/> 95.0	<input checked="" type="checkbox"/> 92.0	1.0

Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband
Input Power(dBmV)	Low	<input checked="" type="checkbox"/> 50.0	<input checked="" type="checkbox"/> 47.0	<input checked="" type="checkbox"/> 25.0	<input checked="" type="checkbox"/> 22.0	1.0
Output Power(dBmV)	Low	<input checked="" type="checkbox"/> 65.0	<input checked="" type="checkbox"/> 62.0	<input checked="" type="checkbox"/> 35.0	<input checked="" type="checkbox"/> 32.0	1.0

Table 6-2 Port page alarms threshold parameters instruction

Parameter	HIHI	HI	LO	LOLO	Deadband	Threshold changeable	Default Alarm Enable	Range
Input Power (dBuV)	110	107	85	82	1.0	YES	YES	
74-124 Output Power (dBuV)	125	122	95	92	1.0	YES	YES	94-133

Table 6-3 Module alarm indicator definitions

Parameters (Common)	Description	Definitions	Related Indicators	Lighting Conditions
Power OFF	Power OFF	Power OFF	All	All OFF
Initiating AM	Power ON	During Module Power ON	All	Green (2 times/sec)
No Alarm	Normal operation	Normal	All	Green
Upgrading AM Firmware	AM Upgrading	Module upgrade	MODE	
AM-Critical-ALM	Critical Alarm		STAT	Red
AM-Minor-ALM	Warning Alarm		STAT	Amber
AGC/MGC	AGC/MGC Mode Control	AGC/MGC Mode Control	MODE	MGC Blinking (1 time/sec), AGC Green always

6.3 Logs management

The operator can view all the alarms of the modules in the chassis on the logs management page. Click **'Logs'** to enter the logs management page.

The screenshot shows a web interface for logs management. At the top, there are tabs for 'System', 'Modules', 'Alarms', 'Logs', and 'Upgrade'. The 'Logs' tab is selected and highlighted with a blue circle. Below the tabs is a table with the following columns: No., Slot, Port, Type, Alarm Value, State, Time, and Content. The table contains 10 rows of log entries. Below the table, there are navigation controls: 'Total Pages: 100', 'Current Page: 1', and buttons for 'First Page', 'Page Up', 'Page Down', 'Last Page', and 'Delete All'.

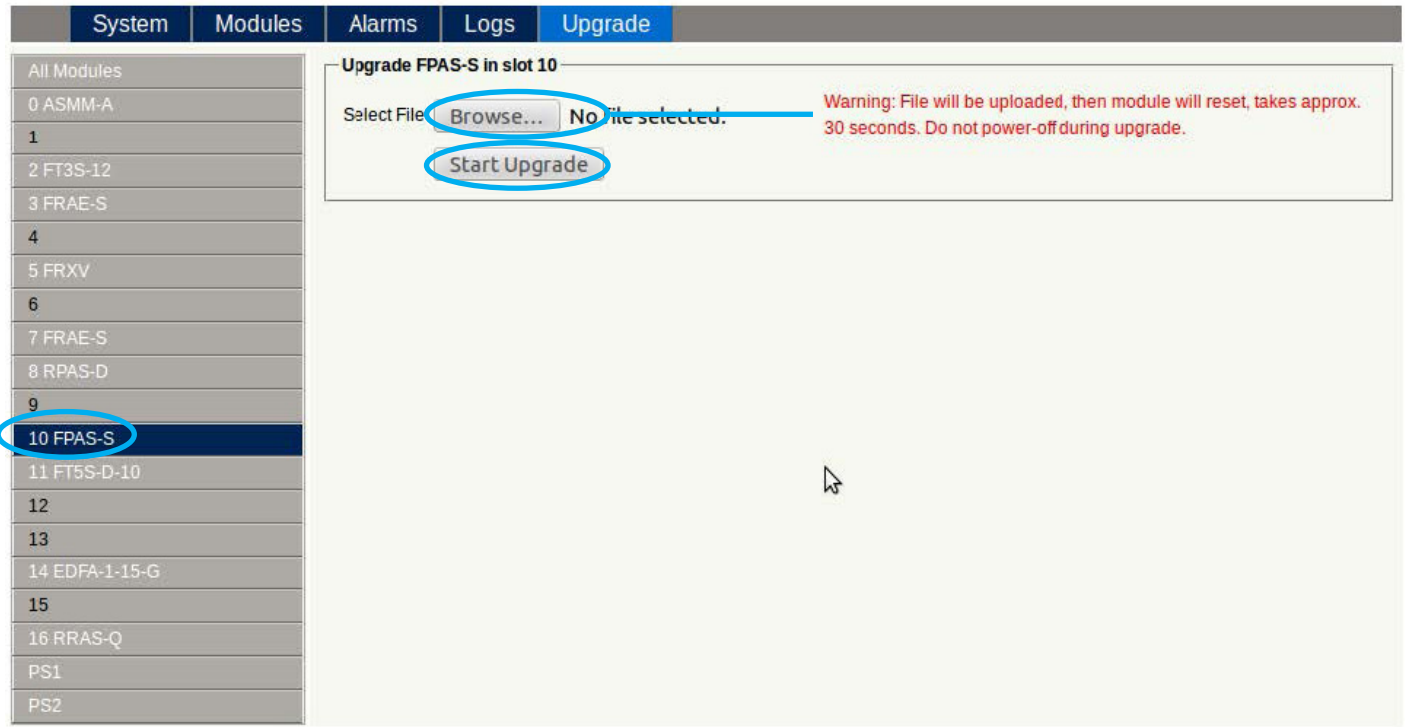
No.	Slot	Port	Type	Alarm Value	State	Time	Content
1	10	2	RF Input Power	9.0dBmV	LoLo	2014-04-09 19:22:30	BC Input Power Alarm
2	10	1	RF Input Power	10.4dBmV	LoLo	2014-04-09 19:22:30	BC Input Power Alarm
3	10	--	Module Status	FT3S-D	Normal	2014-04-09 19:22:30	FT3S-D is inserted in sync
4	10	--	Module Status	FT3S-D	Warning	2014-04-09 19:22:20	FT3S-D is discovering
5	8	2	RF Input Power	8.0dBmV	LoLo	2014-04-09 19:22:19	BC Input Power Alarm
6	8	1	RF Input Power	8.1dBmV	LoLo	2014-04-09 19:22:19	BC Input Power Alarm
7	8	1	Laser Output Power	5.7dBm	Lo	2014-04-09 19:22:19	Laser Output Power Alarm
8	8	--	Module Status	FT5S-D	Normal	2014-04-09 19:22:19	FT5S-D is inserted in sync
9	0	--	Module Status	FT5S-D	Warning	2014-04-09 19:22:10	FT5S-D is discovering
10	2	1	Input Power	0.0dBmV	LoLo	2014-04-09 19:22:09	Input Power Alarm

Total Pages: 100 Current Page: 1 [First Page](#) Page Up Page Down [Last Page](#)

6.4 Device upgrade

The module supports the firmware upgrade function.

To upgrade the firmware first upload the firmware file, and then click 'Start Upgrade' to begin with the upgrade process. At the same time, you will be automatically redirected to the network management page. The upgrade operation is then complete.



- * The upgrade file needs to be located on a PC that is connected to ASMM
- * The web GUI above only supports the manual operation from a local PC.
- * The FPAS supports automated firmware updates and automatic backup & restore features via TFTP when managed via the NMSE management software. Please refer to the NMSE product user manual for more information.



WARNING!

Module will be upgraded after the firmware is uploaded. The upgrading and reboot process will take about 30 seconds.

During the upgrading, please don't power off the device and don't plug any module in the same chassis, or it may lead to upgrade fail or data sync error.

6.5 Restoring factory defaults

Loading the factory defaults can restore the device to the original factory settings.

Detailed operations:

Click the **'Modules'** tab on the top menu and click the module to be configured on the left menu. Click the **'Apply'** button in the **'Factory Defaults'** section. When finished, the device configuration will be reset. For more detailed factory reset information, please refer to the factory restore and upgrade configuration parameters table as in **Table 6-4**.

System	Modules	Alarms	Logs	Upgrade			
All Modules		Slot	Module Type	Hotswap Mode	Command	Provisioned Configuration	Status
0	ASMM-A	0	ASMM	--	--	--	Sync
1		1	FT5X-Q-05	Auto Upload ▼	--	view	--
2	FT3S-12	2	FT3S-12	Auto Upload ▼	--	view	Sync
3	FRAE-S	3	FRAE-S	Auto Upload ▼	--	view	Sync
4		4	RRAG-Q	Auto Upload ▼	--	view	--
5	FRXV	5	FRXV	Auto Upload ▼	--	view	Sync
6		6	FPAS-S	Auto Upload ▼	--	view	--
7	FRAE-S	7	FRAE-S	Auto Upload ▼	--	view	Sync
8	RPAS-D	8	RPAS-D	Auto Upload ▼	--	view	Sync
9		9	EDFA	Auto Upload ▼	--	view	--
10	FPAS-S	10	FPAS-S	Auto Upload ▼	--	view	Sync
11	FT5S-D-10	11	FT5S-D-10	Auto Upload ▼	--	view	Sync
12		12	RRAS-Q	Auto Upload ▼	--	view	--
13		13	RT5S-D-10	Manual ▼	--	view	--
14	EDFA-1-15-G	14	EDFA-1-15-G	Auto Upload ▼	--	view	Sync
15		15	RRAQ-ST	Auto Upload ▼	--	view	--
16	RRAS-Q	16	RRAS-Q	Auto Upload ▼	--	view	Sync
PS1		PS1	PS	Auto Upload ▼	--	view	Sync
PS2		PS2	PS	Auto Upload ▼	--	view	Sync
FAN		FAN	FAN-A	--	--	--	Sync

Note: Auto Download automatically downloads the last known configuration stored in the ASMM to the application module

Auto Upload automatically uploads the configuration from the application module to the ASMM database

Note:

All the powers displayed on the webpage are total power.

System **Modules** Alarms Logs Upgrade

All Modules

- 0 ASMM-A
- 1
- 2 FT3S-12
- 3 FRAE-S
- 4
- 5 FRXV
- 6
- 7 FRAE-S
- 8 RPAS-D
- 9
- 10 FPAS-S**
- Port
- 11 FT5S-D-10
- 12
- 13
- 14 EDFA-1-15-G
- 15
- 16 RRAS-Q
- PS1
- PS2
- FAN

Module Information

Model: A-FPAS-S-1G Serial No: 13013609
 HW Assembly No: A04224_4b FW Part No: S08467
 FW Version: V01.00.09

Configuration

1 Click the module to be configured Alias:

Alarm Settings

Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband
Temperature(°C)	32.7	<input checked="" type="checkbox"/> 70.0	<input checked="" type="checkbox"/> 65.0	<input checked="" type="checkbox"/> 0.0	<input checked="" type="checkbox"/> -5.0	2.0
+12V Input Voltage(V)	12.1				5	0.2
+5V Input Voltage(V)	5.2					0.1

Commands

Factory Defaults: Warning: Applying factory defaults will erase all configuration and restore factory defaults. The module will reboot after applying default values.

Reboot: Warning: Rebooting the module will take approx. 20 seconds.

Table 6-4 Factory default and upgrade configuration parameters table

Parameters	Configuration	Factory default value
Alarm Control	Enable/Disable	Enable
Gain Control Type	AGC/MGC	MGC
Slope Control (dB)	(0.0-9.0)	0
Input Gain Control (dB)	(0.0-10.0)	5
Output Gain Control (dB)	(0.0-10.0)	10
AGC Status Alarm	enableMajor/enableMinor/disable	enableMajor

6.6 Reboot

The module can be made to reboot remotely.

Detailed operations:

Click the **'Modules'** tab on the top menu, then click the corresponding FPAS module from the left menu, and click the **'Apply'** button in **'Reboot'** section. Next, click on **'Submit'** to confirm, and then the module will automatically restart. The configuration of the module will not be lost after rebooting.

The screenshot shows the AIMA-FPAS web interface with the 'Modules' tab selected. The left sidebar lists modules 0 through 16, with '10 FPAS-S' highlighted. The main content area is divided into sections: 'Module Information', 'Configuration', 'Alarm Settings', and 'Commands'. Annotations with blue boxes and arrows point to specific actions: '1 Click the module to be configured' points to the 'FPAS-S' dropdown in the Configuration section; '2 Click 'Apply' to reboot device' points to the 'Apply' button in the Reboot section of the Commands area.

Module Information

Model:	A-FPAS-S-1G	Serial No:	13013609
HW Assembly No:	A04224_4b	FW Part No:	S08467
FW Version:	V01.00.09		

Configuration

1 Click the module to be configured:

Alarm Settings

Parameter	Current Value	HiHi	Hi	Lo	LoLo	Deadband
Temperature(°C)	32.7	<input checked="" type="checkbox"/> 70.0	<input checked="" type="checkbox"/> 65.0	<input checked="" type="checkbox"/> 0.0	<input checked="" type="checkbox"/> -5.0	2.0
+12V Input Voltage(V)	12.0	<input checked="" type="checkbox"/> 13.5	--	--	<input checked="" type="checkbox"/> 10.5	0.2
+5V Input Voltage(V)	5.2	<input checked="" type="checkbox"/> 6.0	--	--	<input checked="" type="checkbox"/> 4.4	0.1

Commands

Factory Defaults: *Warning: Applying factory defaults will erase all configuration and restore factory defaults. The module will reboot after applying default values.*

Reboot: *Warning: Rebooting the module will take approx. 20 seconds.*

7 Troubleshooting

Indicator for determining faults

If there is a fault, the operator can use the status LEDs to determine the location and condition of the fault. Please see **Table 7-1** below:

Table 7-1 Fault judgment table

Alarm Indicator status	Common Faults	Trouble Shooting
RF IN is amber	RF input power is lower or higher	Adjust input signal
RF IN is red	RF input power is too high or too low, or no input	Adjust input signal
RF OUT is amber	RF output power is lower or higher	Adjust input signal or adjust MGC to an appropriate value
RF OUT is red	RF output power is too high or too low	Adjust input signal or adjust MGC to an appropriate value
STAT is amber	Operating environment temperature is lower or higher	Check the fans, or lower the room temperature. If the temperature is normal, please contact Technetix's technical support.
	+12V/+5V Input voltage is lower or higher.	Please contact Technetix's technical support.
	RF input/output power is lower or higher.	Adjust input signal or adjust MGC to an appropriate value
	AGC status alarm, and it was set to "enableMinor".	Adjust input signal or turn to MGC mode.
STAT is red	Operating environment temperature is too high or too low.	Check the fans, or lower the room temperature If the temperature is normal, please contact Technetix's technical support
	+12V/+5V input voltage too high or too low	Please contact Technetix's technical support
	RF input/output power too high or too low	Adjust input signal or adjust MGC to an appropriate value
	AGC status alarm, and it was set to "enableMajor"	Adjust input signal or turn to MGC mode.

Appendix A: Default alarm limit settings

Parameters	Critical high	Warning high	Normal	Warning low	Critical low	Deadband	Factory default	Detection range
Temperature (°C)	70.0	65.0	28.0	0.0	-5.0	2.0	ON	-20 - 125
+5V input Voltage (V)	6		5.0		4.4	0.1	ON	0 - 6.5
+12V input Voltage (V)	13.5		12.0		10.5	0.2	ON	0 - 16

Appendix B: Factory default settings

Parameters	Conditions	Factory default value
Alarm detection control	ON/OFF	ON
Output control	ON/OFF	ON
Output gain type	MGC/AGC	MGC
Input gain control (dB)	0 - 10	5
Output gain control (dB)	0 - 10	10
Remote node control	ON/OFF	OFF

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