AIMA3000.ASMM SYSTEM MANAGEMENT MODULE
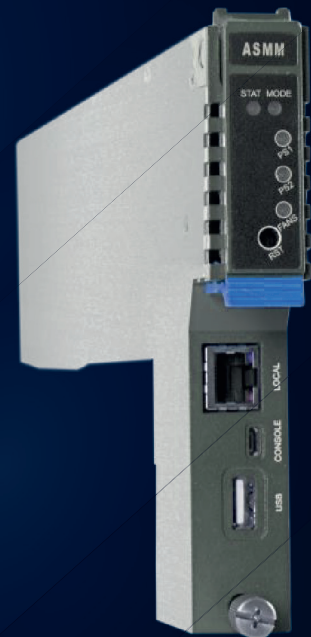
Product User Manual

technetix

Online

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Website: technetix.com

Contents

1 About This Manual

1.1 Related Documentation

Documents listed below can be used in association with this Manual:

- Technetix.AIMA3000 - Product User Manual

- Technetix.AIMA ASMM - Product User Manual

- AIMA3000 NMS Web Management System Product User Manual

- Technetix.NMS3-EPSM - Basic Inventory Management

- Technetix.NMS3-EPSM - Basic Alarm Management

- Technetix.NMS3-EPSM - Basic System Management

- Technetix.NMS3-EPSM - Basic Template Management

1.2 Technical Support

Please contact the technical support team at Technetix if you have any problems during ASMM Module installation or maintenance.

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1   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.

- Ensure the module has adequate cooling ventilation.

- The product user manual should be read and understood before the units are used.

- **DO NOT** power up before the cover and the panels of the equipment are installed and the enclosure is closed. Modules with USB ports require port covers when not connected.

Cleaning

Only use a damp cloth for cleaning 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 Technetix qualified service personnel only.

Servicing and repairs

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

3 Overview

3.1 About the Product

The AIMA3000 System Management Module (ASMM) is the system controller module for the Technetix latest generation Advanced Intelligent Multi-services Access Platform - the AIMA3000.

The ASMM control module supervises all Application Modules (AMs), power supplies, and fan modules within the AIMA3000 chassis. It also serves as a communications interface between all the modules and user interfaces.

The front panel of the ASMM provides status LEDs for indicating various operations and alarms. There is a single fast Ethernet port on the front for local control and monitoring. There are two fast Ethernet ports on the rear of the module for secondary local control and SNMP communications with Technetix NMSE network management software. In addition, all modules can be controlled and monitored through a web browser.

3.2 Product Key Features

- Plug-and-play AIMA3000 platform module

- Hot-swappable

- Embedded web server

- SNMPv2c compatible

- Provides firmware and device management for all modules

- Alarm and log management

- Maintenance management

- Three fast Ethernet ports for communication with local PCs and Technetix NMSE management software

- Remote firmware upgrade and auto upload/download of configuration files through the ASMM's web interface or using Technetix NMSE

- Bulk firmware upgrades through Technetix NMSE

- Battery back-up for maintaining the Real Time Clock (RTC)

- FCC, CE and RCM[1] compliant

    [1] See Declaration of Conformity for current status.

3.3 Specifications

Communications interface (front panel)

Alarms	Front-panel LEDs; SNMP Traps
RST	Module reset button
LOCAL	RJ45 10/100BaseT Ethernet connector
CONSOLE	Micro-USB Device Type B connector (used by Technetix support engineers)
USB	USB Host Type A connector

Communications interface (rear panel)

|	
Alarm relay contacts	Common, N/C and N/O contacts, 0.5 A, 40 Vac or Vdc maximum
Ethernet Ports 0 and 1	RJ45 10/100BaseT Ethernet connectors

General

Power supply	Powered via AIMA3000 backplane
Power consumption	< 5.0 W
Operating temperature	-5 °C ~ +55 °C
Operating humidity	Up to 90% RH (non-condensing)
Storage temperature	-25 °C ~ +70 °C
Storage humidity	Up to 90% RH (non-condensing)
Dimensions (W*D*H)	24.6 * 410 * 152.5 mm
Weight	0.7 kg
Network management	Technetix NMSE, SNMP, ASMM Web interface
Maximum number of SNMPv2c Trap Addresses	5

3.4 Order Details

A-ASMM-A	System Management Module, version A

4 Module Characteristics

4.1 Block Diagram
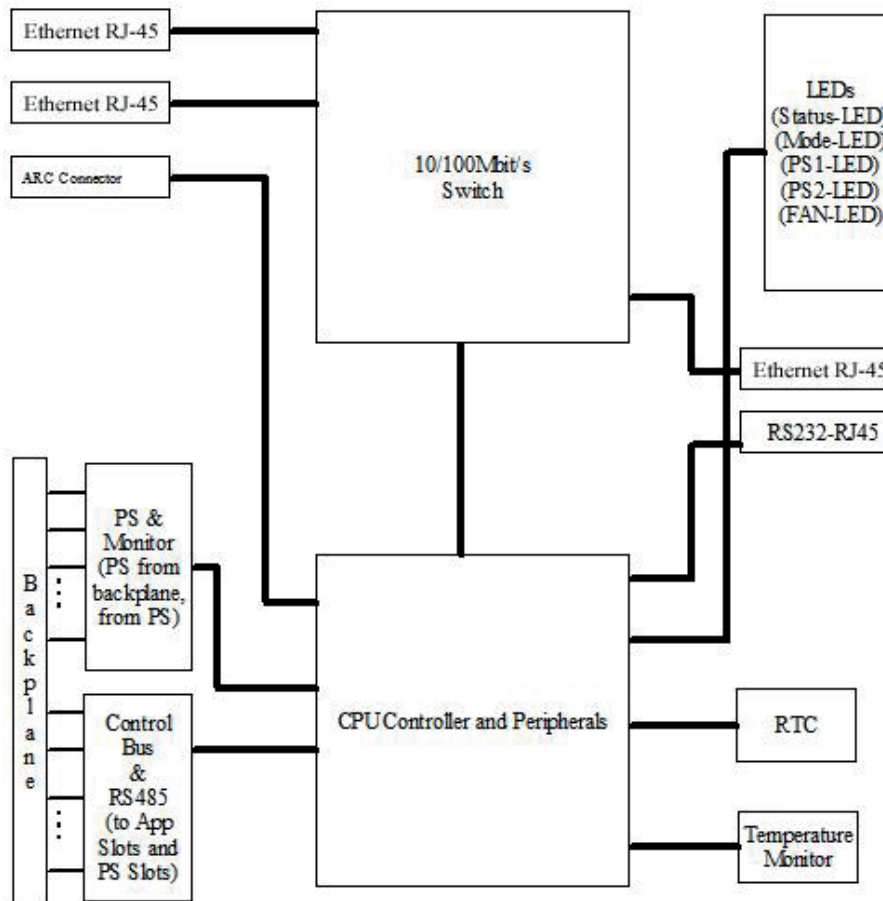
4.2 Module Appearance

4.2.1 Overview

Multi-pin Connector

Rear Panel
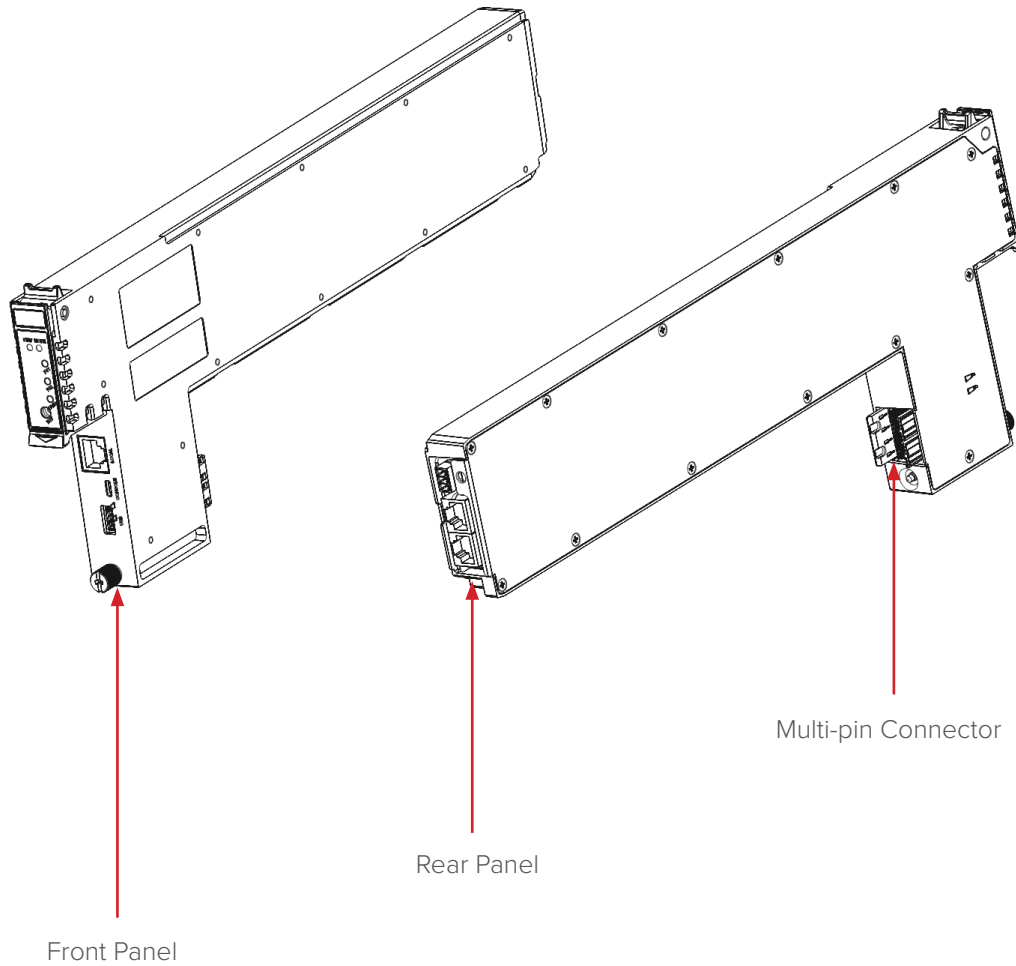
Front Panel

4.2.2 Front Panel View
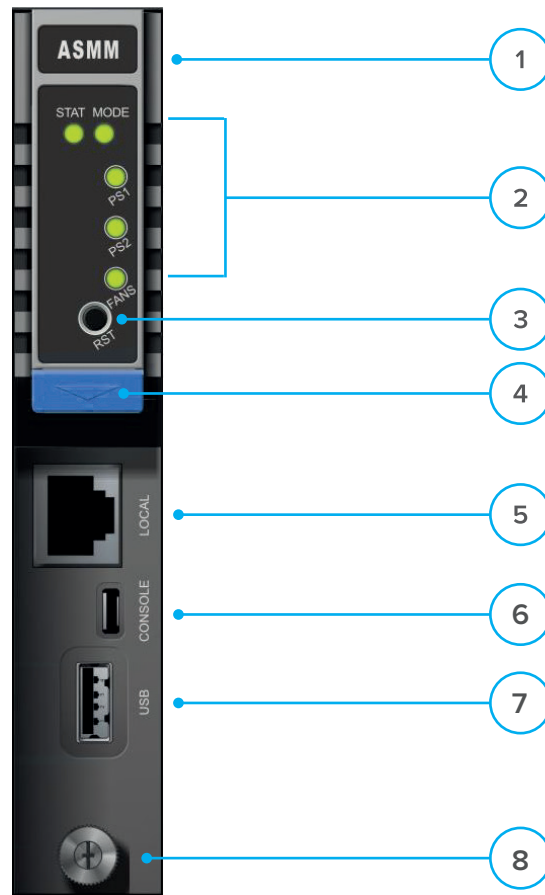
Item	Description
1	Hinged tab (plastic face used for removing and locking the module in place)
2	LED status indicators (see Section 6)
3	RST - module reset button*
4	Orange tab-retaining clip
5	LOCAL - RJ-45 10/100BaseT Ethernet connector
6	CONSOLE – Micro USB Device Type B connector (for Technetix support use only)
7	USB - Host Type A connector
8	Module retaining screw

Note:

(*)The reset button performs a hardware reset of the ASMM module.

4.2.3 Rear Panel View
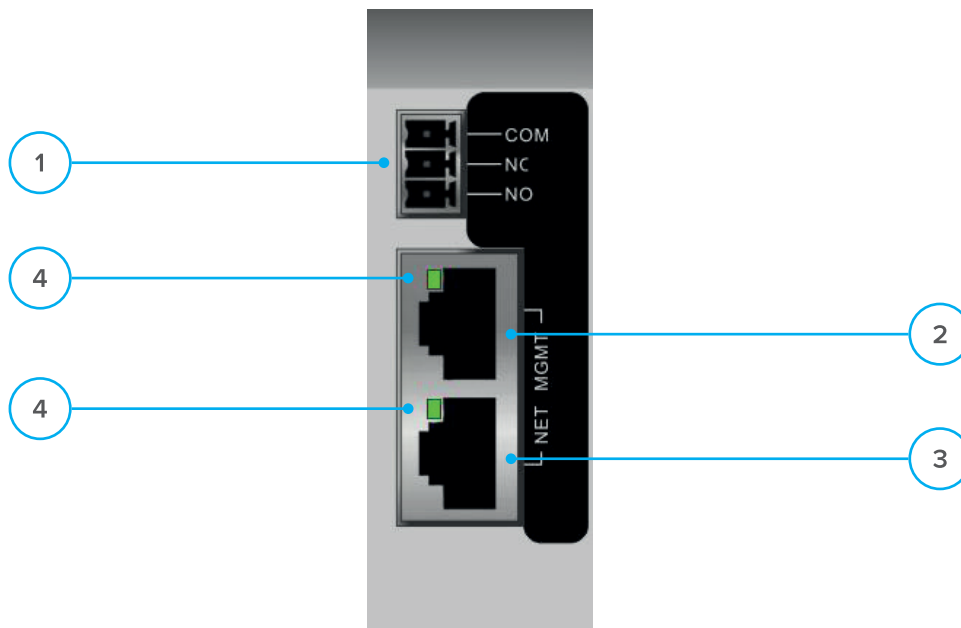
Item	Description
1	Alarm Relay Contacts:
	- COM (Common)
	- NC (Normally Closed)
	- NO (Normally Open)
2	NET MGMT (RJ-45 Ethernet Port 0)
3	NET MGMT (RJ-45 Ethernet Port 1)
4	LAN Activity LEDs (green):
	On - Link established
	Flashing - Link active
	Off - No link established

5   Installation

5.1 Equipment Inventory

On receiving a new ASMM, carefully unpack and examine the contents for loss or damage that may have occurred during shipping. Refer to the warranty if loss or damage has occurred. The ASMM should include the following:

No.	Description	Qty
1	ASMM module	1
2	Product User Manual (CD)	1
3	Individual test sheet (Certificate of Performance)	1

5.2 Packing and Transportation

Keep all packing boxes and packaging of the ASMM for future transport.
Use only the original packaging of the ASMM when transporting. This packaging has been specifically designed to protect the equipment.

5.3 Power and Cooling Requirements

The ASMM module is powered by the power supply module of the AIMA3000 chassis. The module can consume up to 5 W.

The ASMM module and its corresponding AIMA3000 chassis should be located in an environment not exceeding a temperature range from -5 °C to +55 °C with the AIMA3000 fans running. Should the temperature exceed the above limits, the AIMA3000 should be relocated in the equipment rack where the ambient temperature is less than 55 °C.

5.4 Module Installation and Adjustment

Initial Checks

Visually check that the pins on the module's multi-pin connector (as seen in section 4.2.1) are not bent or damaged. Examine the module casing for any obvious damage, and ensure no screws are missing or loose. Check that the module's identifying label is present on the side of the casing. Make a note of the module type, its serial number and MAC address.

Note:
The ASMM module should be the first module installed and must be fitted into slot 0 of the AIMA3000 chassis.
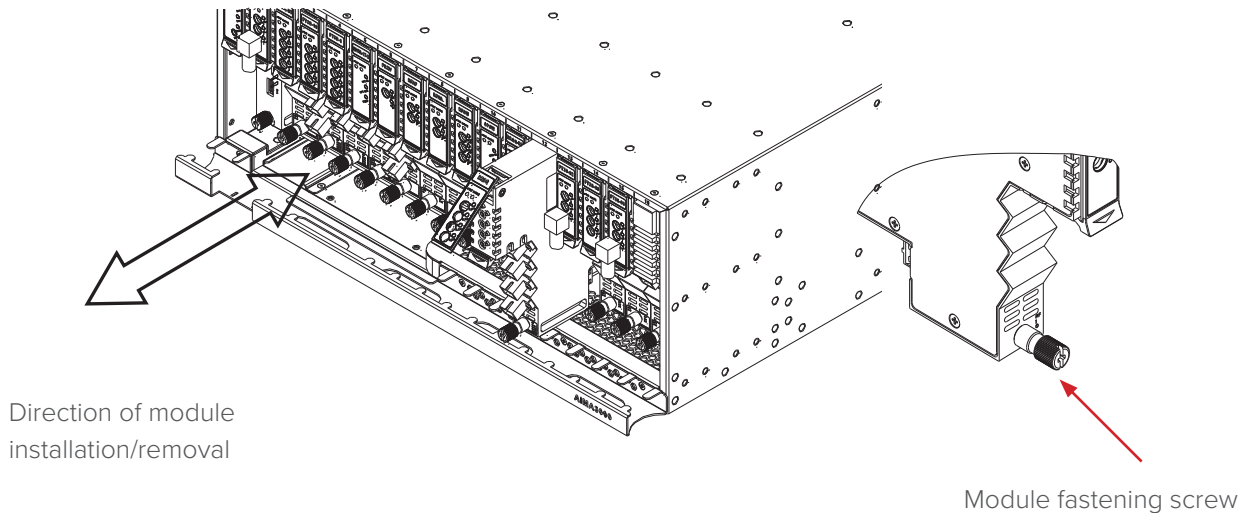
Installing the Module

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

Hinged tab

AIMA Module

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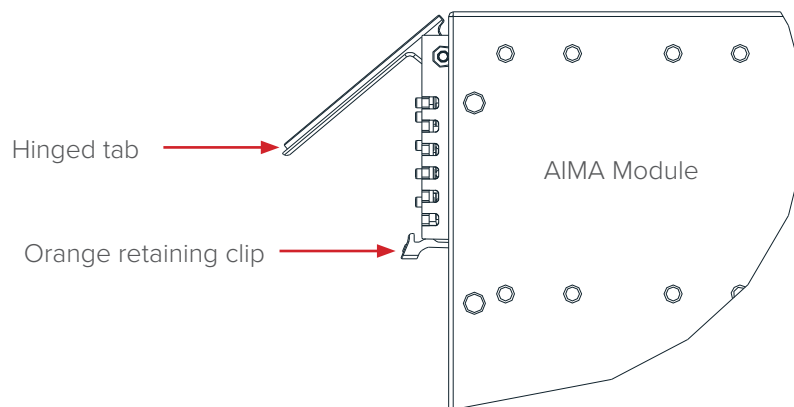
2. Hold the AIMA module casing upright, align it with the AIMA3000 slide rails for the correct slot, and insert the module until it reaches the multi-pin connector.

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

Direction of module installation/removal

Module fastening screw

CAUTION!

The module MUST be installed correctly to ensure a proper connection of the module's multi-pin connector and the backplane.

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 orange retaining clip. While pushing down on the hinged tab, the AIMA module will mate 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 bottom of the AIMA module, fasten the spring-loaded mounting screw. Only use fingers to fasten the mounting screw. DO NOT use a screwdriver.

5.5 Module Removal

1. Disconnect the cables from the front panel of the ASMM module.
2. Disconnect the Ethernet cables from the rear of the ASMM module.
3. Disconnect the alarm relay cable from the rear of the ASMM module.
4. Unscrew the module retaining screw until it releases.
5. Gently press down on the orange retaining clip to release the hinged tab.
6. Lift the hinged tab to remove the module from the multi-pin connector.
7. Carefully use the hinged tab to initially pull the module out of the chassis.
8. Gently grip the module and continue to remove the module from the chassis.

CAUTION!

To avoid damage, do not pull the module by only using the hinged tab. Whenever the module is removed or inserted from the chassis, secure the hinged tab in the closed position behind the orange retaining clip.

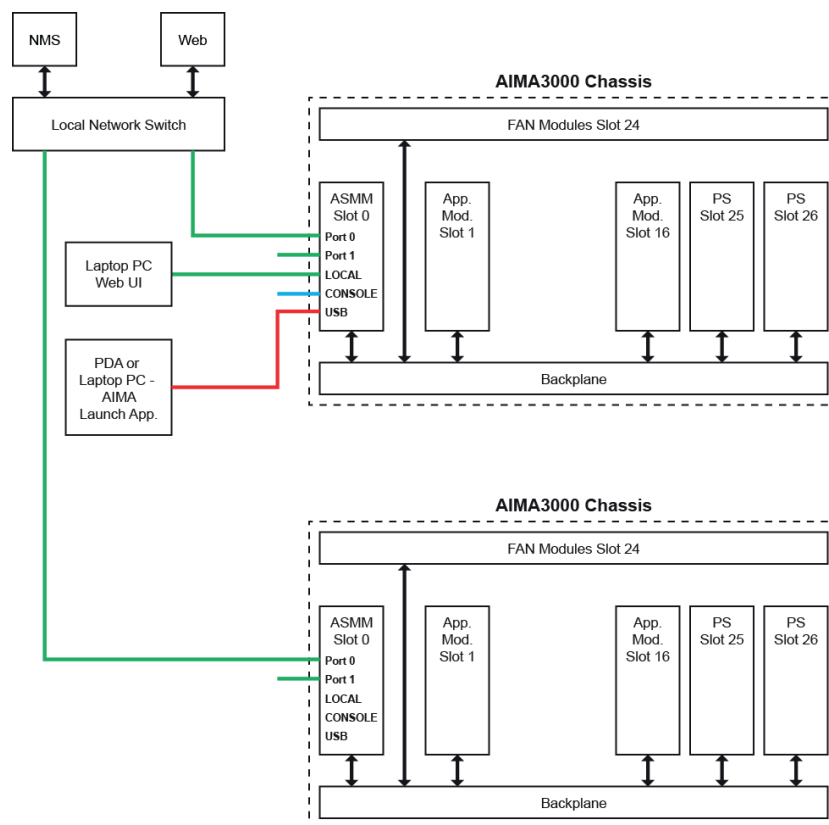## 5.6 ASMM Connections

On the rear panel, connect the:

- RJ-45 Ethernet Port 0 to a local network switch for network management using Technetix NMSE or a third-party management software.

- You can also connect the RJ-45 Ethernet Port 1 of the primary ASMM module to Port 0 on the rear panel of a secondary/slave ASMM module in another AIMA3000 chassis to create a daisy chain. Although many ASMM modules can be linked, it is recommended that no more than six be linked to a single master ASMM module within 100 metres. When operating as a daisy chain, each ASMM's IP address needs to be manually set prior to connecting.

Note:
Alternatively, you can use a LAN cable from a local network switch to Port 0 on the rear panel of a second ASMM module, to create a daisy chain. In this case, Port 1 on both ASMM modules is not used. See the AIMA3000 system diagram below.

On the front panel, you can connect a:

- LOCAL RJ-45 Ethernet Port to a laptop PC for detailed configuration tasks via a web page interface (login required). The default IP address is 192.168.25.168.

- USB Host Type A connector to a Android device running in USB host mode for initial configuration tasks, such as setting the AIMA3000's IP, Net mask and Gateway addresses common to USB and RJ-45. When using the USB Host Type A connector, the ASMM acts as a client.

AIMA3000 System Diagram

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5.7 ASMM First Time Configuration

RJ-Establish network connectivity through the RJ-45 Ethernet Port 0 on the rear panel of the ASMM. Connect to a local network switch for network management.

Configuration using a laptop PC

1. Manually configure your network interface card to have an IP address on the 192.168.25.x block with the subnet mask of 255.255.255.0.

2. Connect an Ethernet cable between the ASMM's front LOCAL RJ-45 Ethernet port and the laptop PC.

3. Use a web browser to open the AIMA3000 web configuration interface via the default IP address of 192.168.25.168

4. Enter the default Username (admin) and Password (Technetix) to log in to the AIMA3000 system configuration web interface.

Default user name: admin
Default password: Technetix

If you manually change the ASMM's IP address and forget it, you can still connect to the backup IP address at 10.10.10.10. The IP of the client PC must be set to 10.10.10.9 and the front RJ-45 Ethernet port should be used to access the web interface. The Backup IP is only supported by hardware version HW_A04259_4 and firmware version FW_S08471 01.01.16 or higher.

Enter the default Username (admin) and Password (Technetix) and log in to the AIMA3000 system configuration web page.

### Configuration using an Android device

The Android application may not be compatible with all Android devices. The app was developed by Technetix to be used in conjunction with a Lenovo Ideapad A1 07 running Android 2.3.4 Gingerbread. Before installing the application, the installation of unknown sources must be enabled by going to **settings > security >** and check the box next to **Unknown Sources.**

1. Install the application:
    To obtain a copy of the Android application, please contact a Technetix sales representative.

2. Turn off Wi-Fi on the Android device.

3. Go to the Android Settings menu. In the Wireless and Network settings menu select More Settings. On some newer Android devices, there will be dedicated tethering or hotspot menu and this step can be skipped.

4. Select the tethering and portable hotspot.
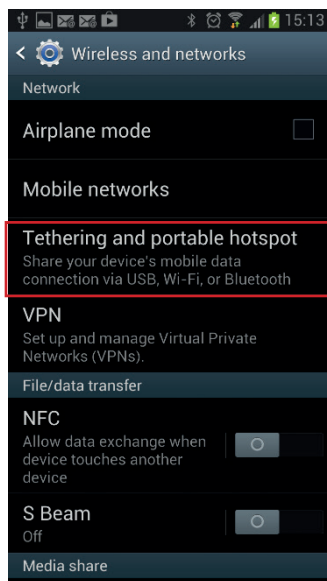
5. Enable USB tethering.
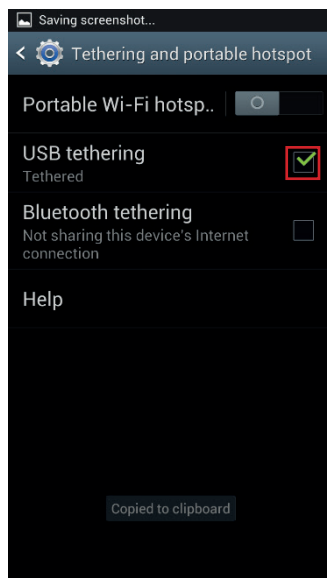
6. Connect the Android device to the USB port on the front of the ASMM using a USB 2.0 cable.


7. The word **tethered** will appear at the top on the notification bar on the Android device.

Note:
If the ASMM is restarted, the USB cable will need to be disconnected and reconnected after the ASMM has completed its boot cycle.

8. Open the web browser on your Android device.

9. Type the default IP address your Android device assigns to clients in tethering mode. The Lenovo Ideapad A1 07 running Android 2.3.4 Gingerbread assigns 192.168.42.1 by default. This address will vary between devices and manufacturers.

10. The ASMM login page will pop up. Enter the login (default login: admin) and password (default password: Technetix). Passwords are case sensitive.
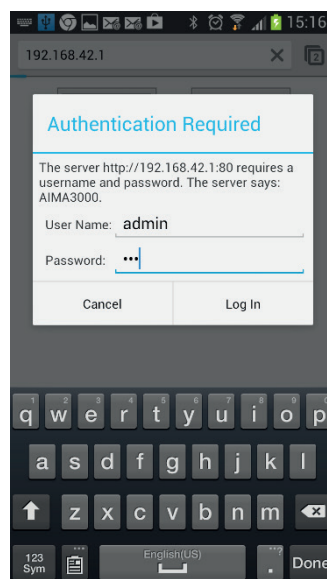
6 Technical Description

6.1 Overview

The ASMM is designed to provide a user-friendly provisioning and management system. It allows remote control, monitoring and provisioning through the Simple Network Management Protocol (SNMP) and the ASMM's web interface.

6.2 Physical Description

The front of the ASMM has three ports. The LOCAL port is a standard RJ-45 Ethernet port, the port labelled USB is used for management through Android devices. The port labelled CONSOLE is unused. The front panel has five LED indicators and a module reset button.
On the rear panel there are two RJ-45 Ethernet ports and alarm relay contacts.
Power and data are supplied to the rear of the module through a 24-pin connector, which mates with only slot 0 in the AIMA3000 chassis. Data for slots 1-16 are also routed through slot 0.

6.3 SNMP Agent

The ASMM is compatible with SNMPv2c Agent servicing requests through management software. It supports full-featured remote provisioning and monitoring of connected application modules with up to 5 trap addresses.

The SNMP Agent includes MIB Tables and is compatible with the SCTE standard, which allows third party software to interact with the ASMM whether it is for monitoring or provisioning.

6.4 Management Software

6.4.1 NMS3 Enterprise II

The NMS3 Enterprise II management system enables the operator to configure all individual elements of the network, with the network tree view for easy navigation and fault-finding. Parameters of the ASMM can be monitored and changed via the web interface. Individual ONUs can be configured using the EPON-EMS interface included with the NMS3 Enterprise II package.

6.4.2 Third Party Management Software

Third Party Management Software for billing and/or provisioning can be integrated into the system and communicates with the ASMM via SNMPv2c.

7 Module Control Parameters

The ASMM module is controlled via a web interface, by first entering the AIMA3000's web server IP address in your browser's address bar. You must then log in to the server by entering your username and password in the pop-up dialogue box that appears.

7.1 System Tab

Click the **System** tab on the menu bar. The various control parameter page names appear at the left side of the browser window. Examples of the associated web pages are displayed below.

Parameter Page Name	Factory Default Setting
System Information	
Name	No initial setting
Location	No initial setting
Contact	No initial setting
Language	English
Network Configuration	
IP Address	192.168.25.168
Net mask	255.255.255.0
Gateway	192.168.25.1
SNMP Configuration	
Read Community	Public
Write Community	Private
SNMP Trap Destinations	None set
TFTP Server	
TFTP Server IP Address	No initial setting
Syslog Server	
Syslog Server IP Address	No initial setting
Enable Syslog Export	Disable (box is unchecked)
User Management	
Username	Admin
Permissions	Read Only, Configuration or Admin
Password	Technetix
Configured Users	Initially admin ONLY
Date and Time	
Select Time Zone	GMT - 11:00 to GMT +12:00
System Time	(Manually set, format: YYYY-MM-DD/HH:MM:SS)
Enable NTP	Disable (box is unchecked)
NTP Server IP Address	No initial setting
Factory Defaults	**Warning:**
Apply button	**This will erase all configuration settings and reboot the AIMA3000 with its factory default settings.**
Backup and Restore	
AIMA Configuration Backup	Download Configuration to a local file.
Configuration File	Browse to choose a previously saved configuration file.

	Restore Configuration using the chosen configuration file.
Reboot button	Reboot will take approximately 15 seconds to complete.
RF Units	dBuV
Module Export	No initial setting

7.1.1 System Information

The System page allows for configuring for an ASMM's name, location, and contact information.

7.1.2 Network Configuration

The Network Configuration page allows an administrator to set an IP address, Net mask, and Gateway.

SNMP Configuration

The SNMP Configuration page is used to set simple network management protocol traps.

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7.1.3 TFTP Server

The TFTP Server page allows administrators to specify a TFTP Server for module management. This feature only works in conjunction with Technetix NMSE management software.

| System | Modules | Alarms | Logs | Upgrade |

System Information
Network Configuration
SNMP Configuration
TFTP Server
Syslog Server
User Management
Date and Time
Factory Defaults
Backup and Restore
Reboot
Additional Function

TFTP Server Configuration

TFTP Server IP Address   192.168.16.132

Submit
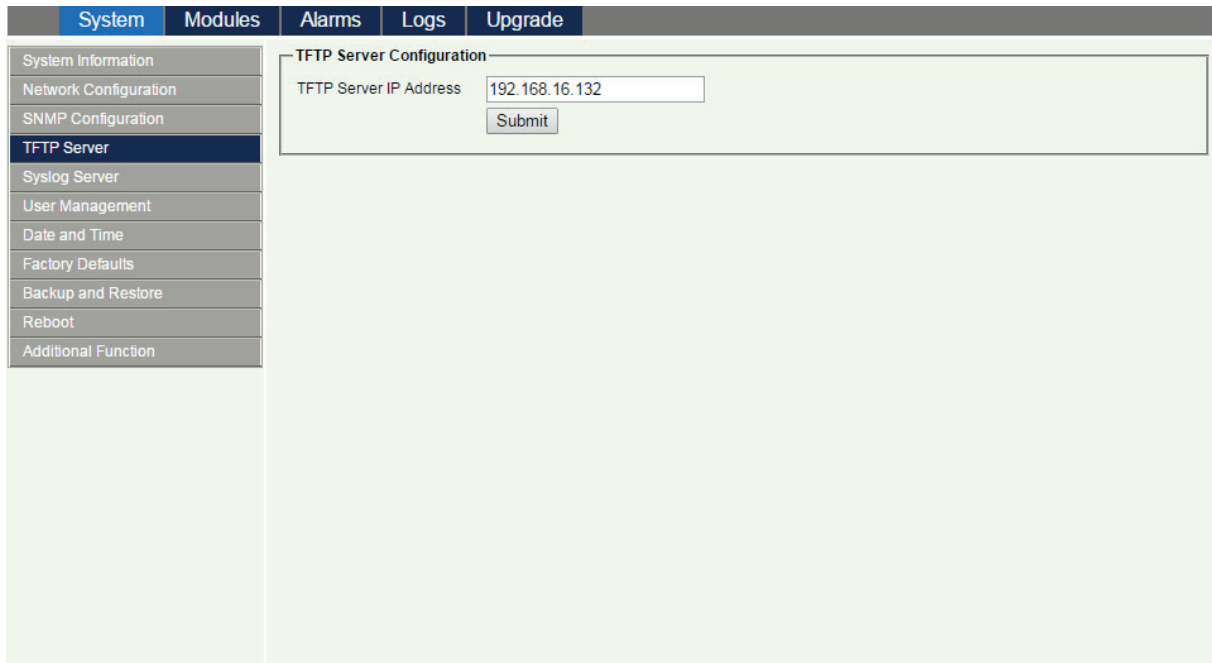
* NMSE is required for the feature
* The TFTP rules are configured within NMSE, refer to the NMSE Product User Manual for more details

7.1.4 Syslog Server

The Syslog Server page allows administrators to specify an IP address for exporting a system log file. This feature only works in conjunction with Technetix NMSE management software.

* NMSE is required for the feature

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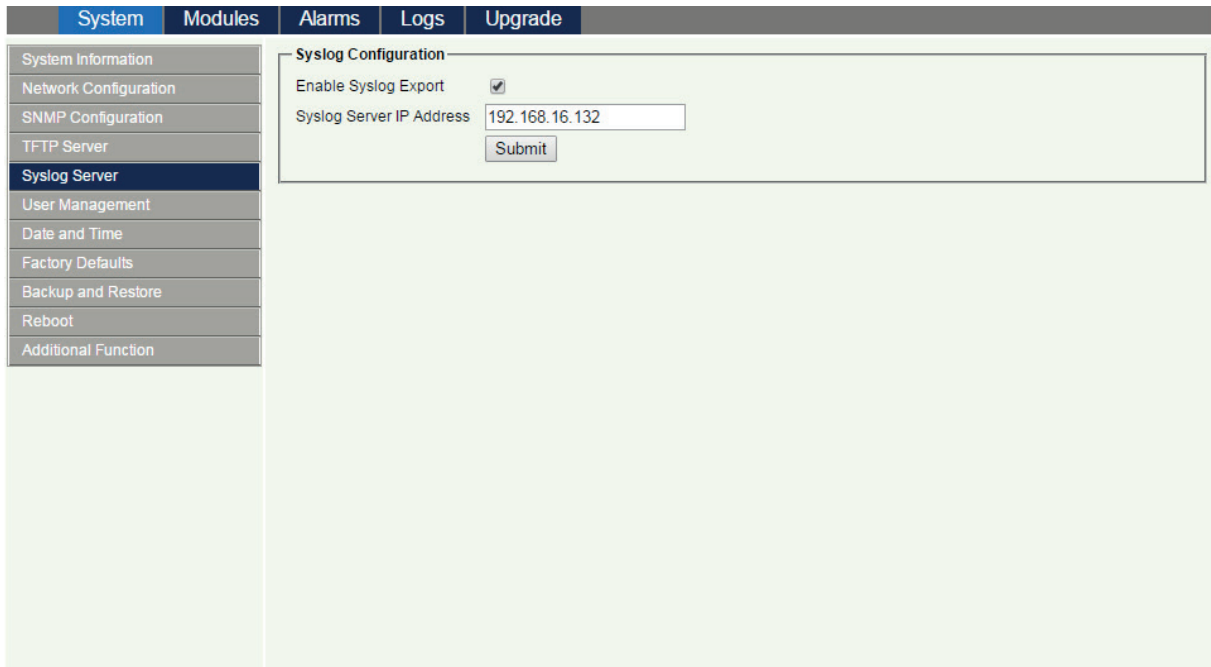
7.1.5 User Management

The User Management page allows for additional accounts and permissions to be set, created, or modified.

Date and Time

The Date and Time page allows administrators to specify a time zone and NTP server allowing the time to be set automatically.
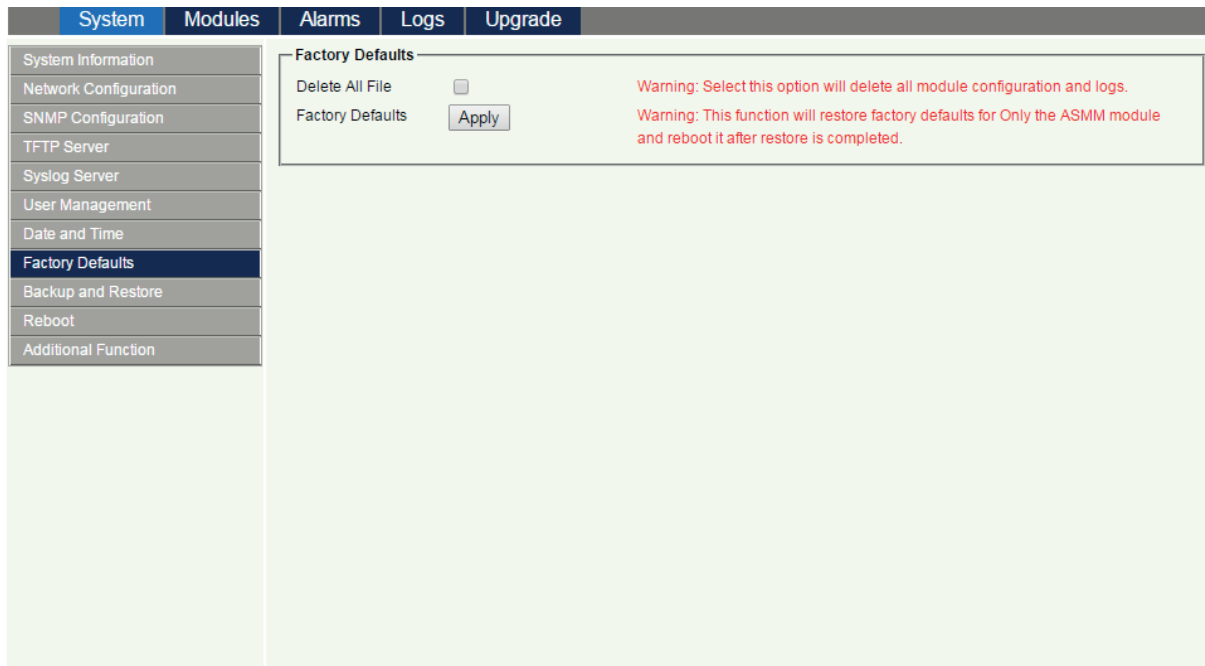

Note:

There is no default NTP Server specified.

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7.1.6 Factory Defaults

The Factory Defaults page is used to reset all the module settings. It is recommended to backup the current configuration before resetting the ASMM's settings and alarm parameters. By checking the **"Delete All File"** check box, it will clear all module configurations.

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7.1.7 Backup and Restore

The Backup and Restore page allows administrators to backup the current configuration and save it to a local device. To restore a configuration click on the **"Choose File"** button and locate the configuration file then click the **Restore Configuration** button to upload. It is recommended to make a backup prior to restoring old settings.
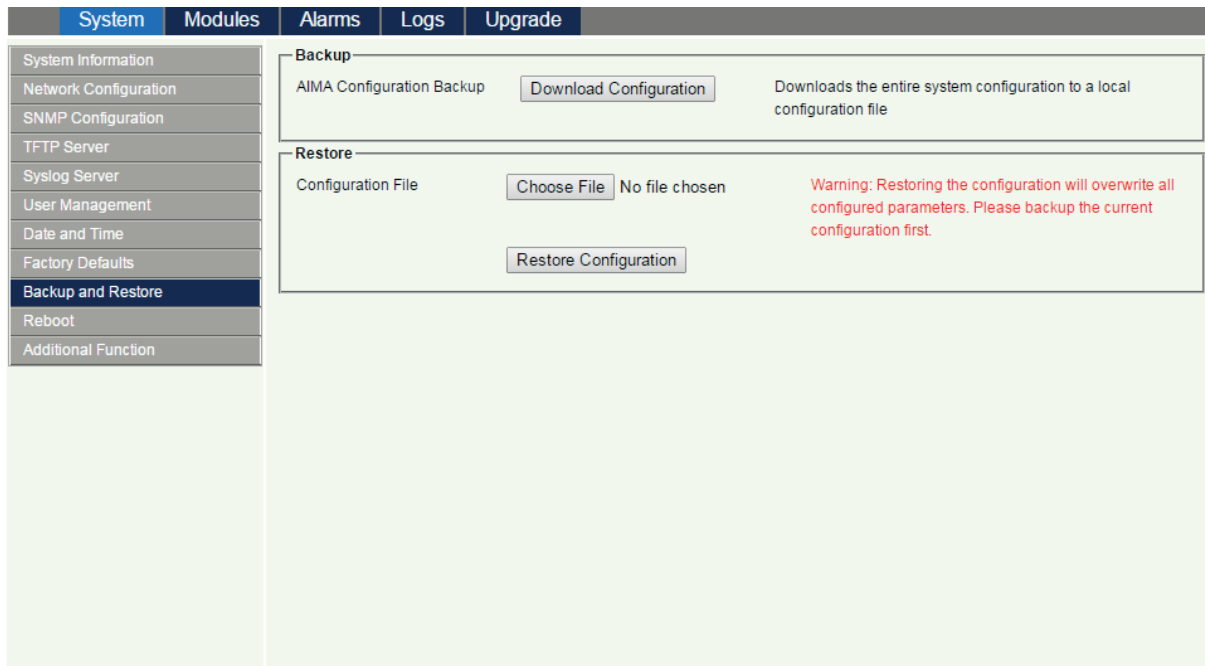
* The backup and Restore function will work with a PC that is connected to ASMM
* The Web GUI above only supports the manual operation from a local PC.
* The ASMM supports automated firmware updates and automatic backup & restore features via TFTP when managed via Technetix NMSE management software. Please refer to the NMSE Product User Manual for more information.
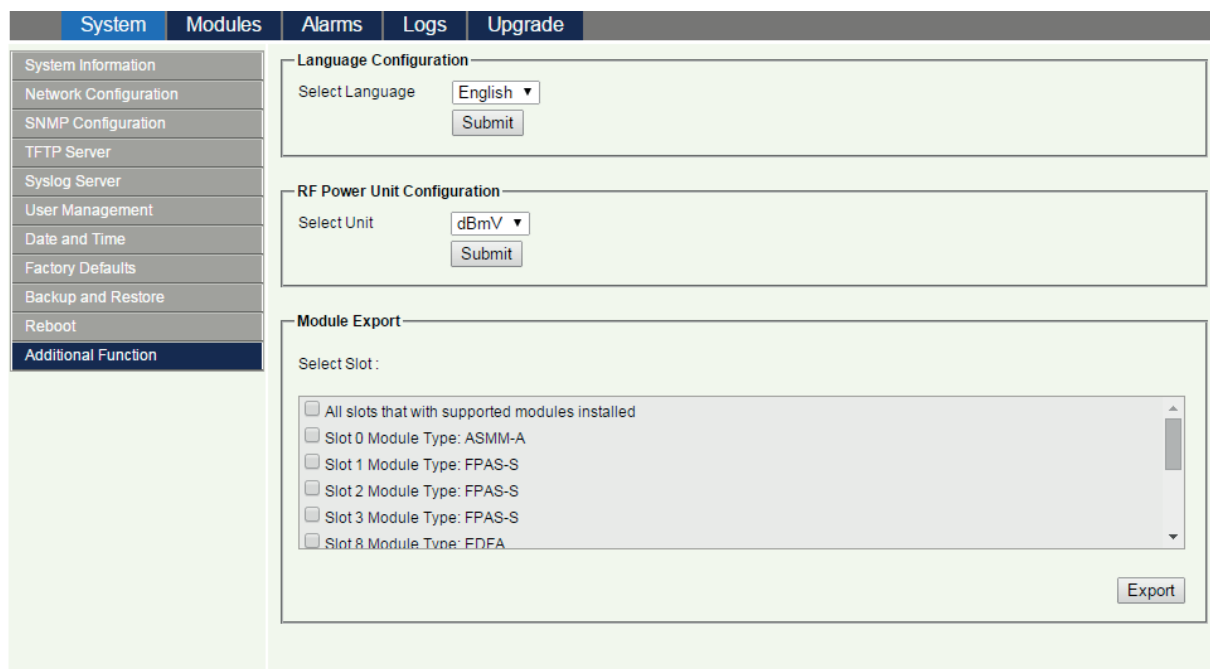
7.1.8 Reboot

The Reboot page allows the ASMM to be restarted by simply clicking the **Reboot** button.
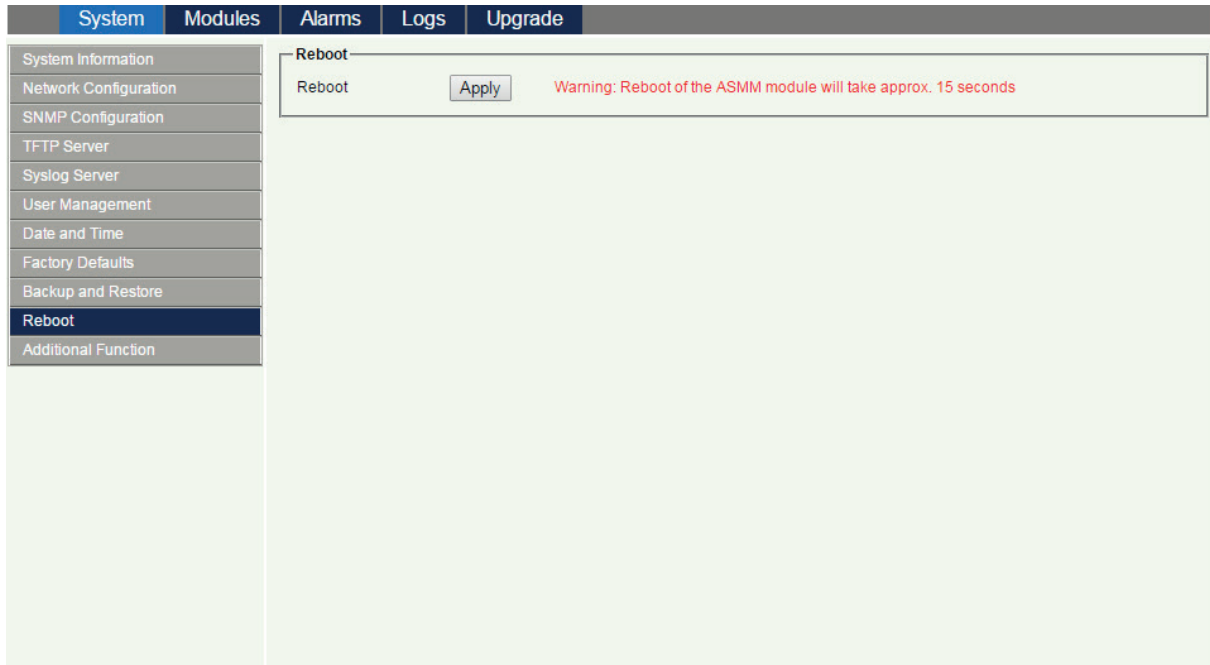
7.1.9 Additional Function

Select interface language, set the default units, and exports module characteristics and parameters.

7.2 Modules Tab

Click on the **Modules** tab on the top menu bar. A vertical list showing all installed modules appears at the left side of the browser window. An example "All Modules" page is shown below.

Slot	Module Type	Hotswap Mode	Command	Provisioned Configuration	Status
0	ASMM-A	--	--	--	Sync
1	FPAS-S	Manual ▼	--	view	Sync
2	FPAS-S	Manual ▼	--	view	Sync
3	FPAS-S	Manual ▼	--	view	Sync
4	RFSW	Manual ▼	--	view	Sync
5	RFSW	Manual ▼	--	view	Sync
6	FT3S-D-10	Manual ▼	--	view	Sync
7	FT5S-D-10	Manual ▼	--	view	Sync
8	EDFA-1-15-G	Manual ▼	--	view	Sync
9	OPSW	Manual ▼	--	view	Sync
10	RRAS-Q	Manual ▼	--	view	Sync
11	RT5S-D-10	Manual ▼	--	view	Sync
12	RPAS-D	Manual ▼	--	view	Sync
13	RRAS-Q	Manual ▼	--	view	Sync
14	FRAS-S	Manual ▼	--	view	Sync
15	RFSW	Manual ▼	--	view	Sync
16	FT5E-S-10	Manual ▼	--	view	Sync
PS1	PS	Manual ▼	--	view	--
PS2	PS	Manual ▼	--	view	Sync
FAN	FAN-A	--	--	--	Sync

All Modules list (left panel):
0 ASMM-A; 1 FPAS 77CH analog; 2 FPAS 歌华 signal; 3 FPAS QAM signal; 4 RFSW A-77CH B-歌华; 5 RFSW A-2.0 B-3.0; 6 FT3S-D-10; 7 FT5S-D 1-CMTS 2-QAM; 8 EDFA-1-15-G; 9 OPSW 1-1550 2-1310; 10 RRAS-Q 2-2.0 3-3.0; 11 RT5S-D 1-2.0 2-3.0; 12 RPAS-D 1-2.0 2-3.0; 13 RRAS-Q 2-2.0 3-3.0; 14 FRAS-S; 15 RFSW; 16 FT5E-S-10; PS1; PS2; FAN

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

[Refresh] [Submit]

A Hot-swap Mode can be individually assigned to each installed module, except the ASMM and Fan modules. The three Hot-swap Modes are:

- Manual (default) - no automatic download or upload of configuration settings takes place.
- Auto Download - the last saved configuration settings for the same module type are automatically downloaded from the ASMM into the newly installed module.
- Auto Upload - the newly installed module's configuration settings are automatically uploaded and saved for this slot number in the ASMM's database for future use.

You can also view the current Provisioned Configuration of a module, by clicking on the associated link. To view a page showing specific module information, click view under Provisioned Configuration.

7.2.1 ASMM Module

Click on the **ASMM** in the left column of the Modules page.

On this page, you can view Module Information, Configuration and Alarm Settings panels.

Click on the **Refresh** button to update module information, for example after a new module is inserted.

In the configuration panel, you can toggle Alarm Control. Choose the setting you want then click on the **Submit** button.

**Table 7-1 ASMM Common parameters
(not configurable)**

Parameter	Units	HIHI	HI	Normal	LO	LOLO	DeadBand	Threshold changeable by user	Default alarm enable
Temperature	°C	63	58	-	3	-2	2	N	ON
+5V Input Voltage	Vdc	5.6	-	5	-	4.4	0.2	N	ON

Note:
Alarm Control is enabled by default.

In the Alarm Settings panel, you can view alarm parameter names and the associated settings.

7.2.2 Other Modules

Module Information, Configuration, and Alarm Settings information for other module types can be found in the associated module's manual.

7.3 Alarms Tab

Click on the **Alarms** tab on the top menu bar. A vertical list showing all installed modules appears on the left side of the browser window. A table to the right of the list shows the current alarm status for all installed modules. Click on the **Refresh** button to update the table.

7.3.1 ASMM Alarms

Click on the **ASMM** module from the left column of the Alarms page.

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On this page, you can view more detailed information about the ASMM's alarm status. Click **Refresh** to update the table.

7.3.2 Other Module Alarms

Detailed alarm information for other module types appear in the associated module's manual.

7.4 Logs Tab

Click the on the **Logs** tab on the top menu bar. On this page, you can view a table showing a historical list of alarm events and associated details. If there is more than one page of events, use the **Page Up** and **Page Down** links to view other pages.

Note:
The ASMM can handle no more than 1000 logs

No.	Slot	Port	Type	Alarm Value	State	Time	Content
1	14	1	Output Power	39.0dBmV	LoLo	2016-05-16 14:26:19	RF Output Power Alarm
2	14	--	Module Status	FRAS-S	Normal	2016-05-16 14:26:19	FRAS-S is inserted in sync
3	14	--	Module Status	FRAS-S	Warning	2016-05-16 14:26:15	FRAS-S is discoverying

Total Pages: 1   Current Page: 1   First Page   Page Up   Page Down   Last Page   Goto: 1   Delete All
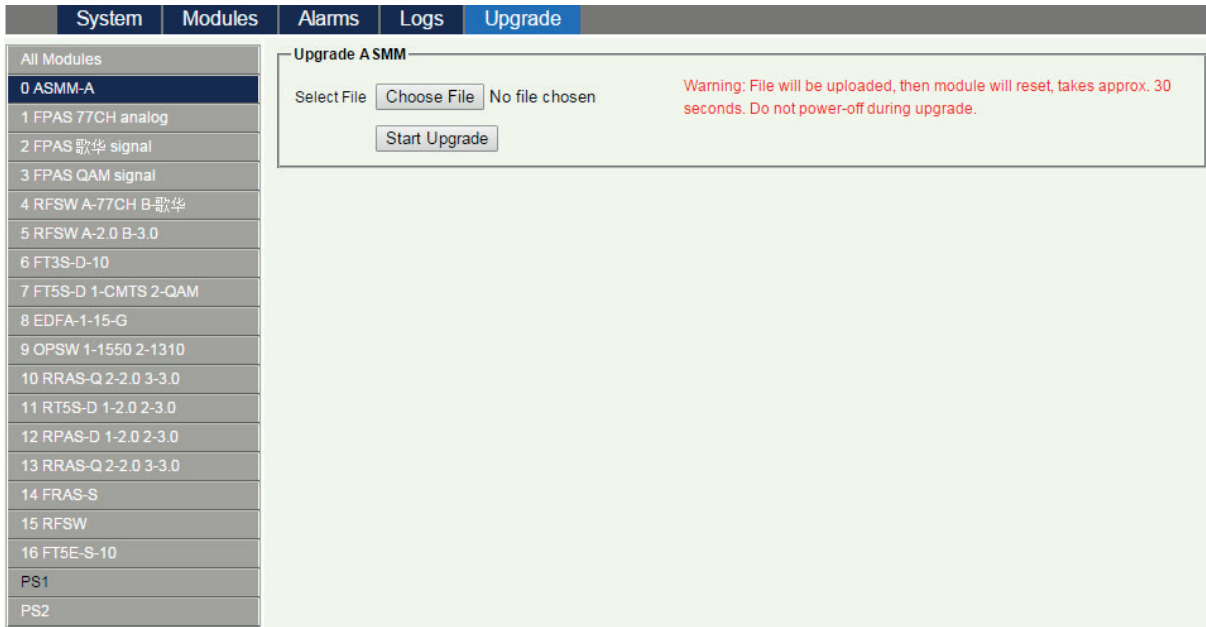
7.5 Upgrade Tab

Click on the **Upgrade** tab on the top menu bar. On the All Modules page, you can view HW/FW assembly number and the current FW version of each installed module. Click on the **Refresh** button to update the table.

8 LED Status Indicators

STAT	MODE	PS1	PS2	FANS	Condition
🟢	🟢	🟢	🟢	🟢	All flashing green: Module initialising
🟢	🟢	🟢	🟢	🟢	The mode LED is always flashing, when there is at least one "Manual" in under "Hotswap Mode". The mode LED is static green, when the slots in 'Hotswap Mode' are all auto mode
N/A	🟠	N/A	N/A	N/A	Flashing amber: Upgrading ASMM firmware
N/A	🟠	N/A	N/A	N/A	Flashing amber: Upgrading AM firmware
🔴	N/A	N/A	N/A	N/A	Static red: HIHI or LOLO alarm; unsynchronised configuration alarm; communications failure
🟠	N/A	N/A	N/A	N/A	Static amber: HI or LO alarm

STAT	MODE	PS1	PS2	FANS	Condition
N/A	N/A	🔴	N/A	N/A	Static red: HIHI or LOLO PS1 Major Alarm
N/A	N/A	🟠	N/A	N/A	Static amber: HI or LO PS1 Minor Alarm
N/A	🟠	🟠	N/A	N/A	Flashing amber: Upgrading PS1 firmware
N/A	N/A	N/A	🔴	N/A	Static red: HIHI or LOLO PS2 Major alarm
N/A	N/A	N/A	🟠	N/A	Static amber: HI or LO PS2 minor alarm
N/A	🟠	N/A	🟠	N/A	Flashing amber: Upgrading PS2 firmware
N/A	N/A	N/A	N/A	🔴	Static red: FAN Major Alarm
N/A	N/A	N/A	N/A	🟠	Static amber: FAN Minor alarm

* When either PS1 or PS2 is missing the STAT LED will appear green for that specific power supply

9 Status Parameter List and Alarm Limits

Click on the ASMM module on the left column of the Alarms page.
Factory default alarm settings are shown below.

ASMM Common parameters (not configurable)

Parameter	Units	HIHI	HI	Normal	LO	LOLO	Dead Band	Threshold changeable by user	Default alarm enable
Temperature	°C	63	58	-	3	-2	2	N	ON
+5V Input Voltage	Vdc	5.6	-	5	-	4.4	0.2	N	ON

Note:

The above parameter values cannot be changed by the user.

10 Declaration of Conformity

According to ISO/IEC Guide 22 and EN45014

Manufacturer's Name: Technetix

Manufacturer's Address: Technetix Ltd, Innovation House, Technetix Business Park,
                                  Albourne, West Sussex, BN6 9EB

Product Name: ASMM – AIMA System Management Module

Conforms to the following standards:

FCC: FCC Part 15 Subpart B: 2012
CE: EN 50083-2: 2012; EN 5504: 2010; EN 61000-3-2: 2006+A1: 2009+A2: 2009;
                    EN 55022:2010; EN 61000-3-3: 2008
RCM: AS/NZS CISPR22: 2009+A1: 2010 (Pending)

Appendix A: Default Alarm Limit Settings

Formula: dBmV+60=dBμV

dBmV	dBμV	dBmV	dBμV
-10	50	1	61
-9	51	2	62
-8	52	3	63
-7	53	4	64
-6	54	5	65
-5	55	6	66
-4	56	7	67
-3	57	8	68
-2	58	9	69
-1	59	10	70
0	60		