

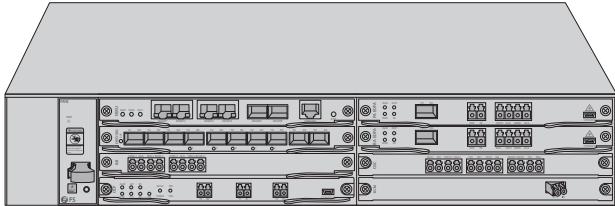
M Series

M6200 SERIES WDM NETWORK

Quick Start Guide **V4.0**

Introduction

FS M6200 Series Platform provides a managed, flexible and scalable architecture for fiber networks. It can support EDFA, OEO, OLP, DCM and other M6200 Series Infrastructure Modules to construct a multi-service optical transmission network platform.

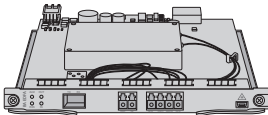


M6200 Series Platform

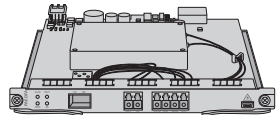
M6200 Series Platform Overview

M6200 Series Infrastructure Modules

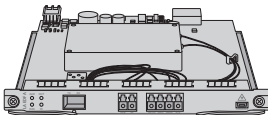
1-Slot Card Type



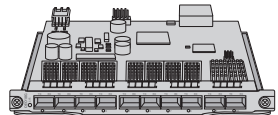
BA EDFA



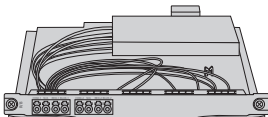
PA EDFA



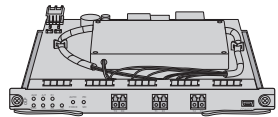
LA EDFA



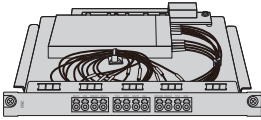
10G OEO



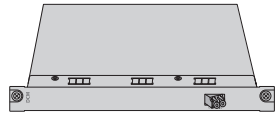
R/B



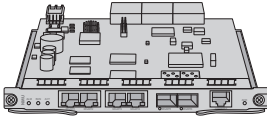
OLP



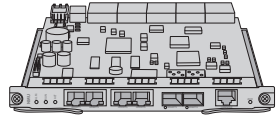
OSC



DCM(40km)

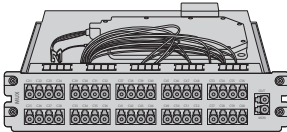


NMU(2U)

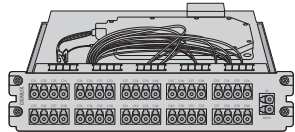


NMU(5U)

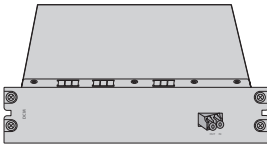
2-Slot Card Type



MUX



DEMUX

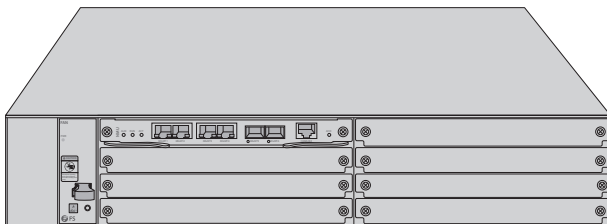


DCM(80km)

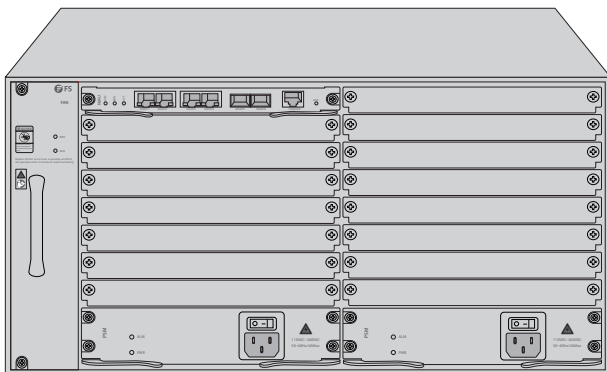


- NOTE:** 1. M6200 series modules are designed as 1-slot card type or 2-slot card type to match the managed chassis.
- 1-slot module: OEO, DWDM EDFA, OLP, DWDM Red/Blue Filter, DCM(40km), OSC, NMU, etc.
 - 2-slot module: MUX, DEMUX, DCM(80km).

M6200 Series Managed Chassis



M6200-CH2U



M6200-CH5U

Chassis Type	Chassis Slot
M6200-CH2U	7pcs
M6200-CH5U	15pcs

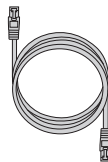
Accessories



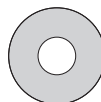
Power Cord x2



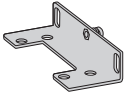
Console Cable x1



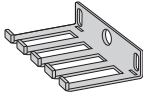
Ethernet Cable x1



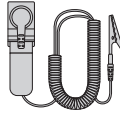
CD x1



Mounting Bracket x2



Cable Manager x1



ESD Wrist Strap x1



Grounding Cable x1

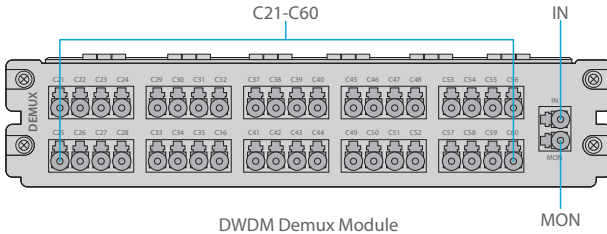
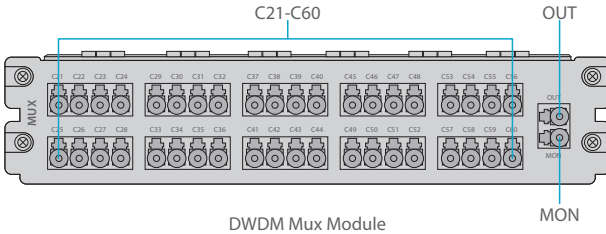


M6 Screw Set x4 (2U)
M6 Screw Set x8 (5U)



M4 Screw x4 (2U)
M6 Screw x12 (5U)

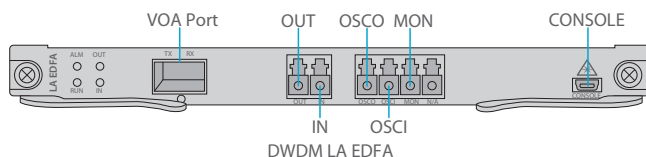
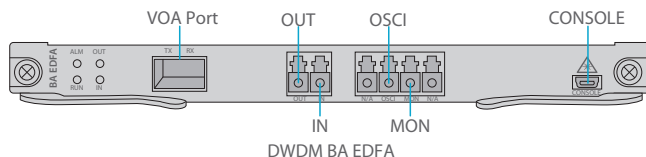
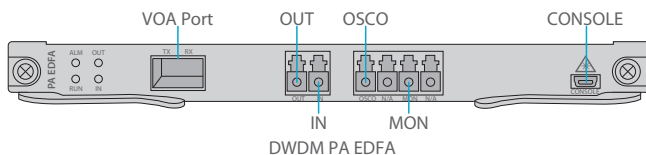
DWDM Mux Demux Module



Front Panel Port

Port	Port Type	Description
C21-C60	LC/UPC	Mux/Demux Channel Port
OUT		Optical Singal Output Port
IN		Optical Singal Input Port
MON		Input/Output Optical Power Monitoring Port

DWDM EDFA (Erbium Doped Fiber Amplifier)



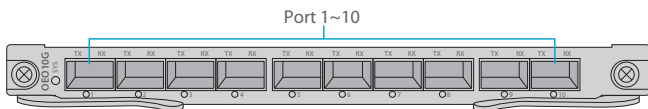
Front Panel Port

Port	Port Type	Description
VOA Port	SFP	Optical Power Attenuation Adjusting Port for SFP VOA
OUT	LC/UPC	Optical Signal Output Port
IN		Optical Signal Input Port
OSCO		Optical Supervisory Channel Output Port
OSCI		Optical Supervisory Channel Input Port
MON		Optical Signal Monitoring Port
CONSOLE	Micro USB	Debugging & Upgrading Port

Front Panel LED

LED	Alarm State	Normal State	Description
ALM	Always ON: There is alarm of the power supply, the fan or the NMU module.	Light OFF	Module State Alarm
	Quick Flash: The module type does not match.		
RUN	Always OFF: The module is not normally enabled.	Slow Flash	Module Run
IN	Always Red: There is LOS alarm of the port.	Always Green	Input Optical Power Alarm
OUT	Always OFF: The port is not enabled.		

OEO Transponder



Front Panel Port

Port	Port Type	Description
Port 1~10	SFP/SFP+	Optical Transceiver Signal Transmitting Port

Front Panel LED

LED	Status	Description
SYS	Slow Flash of Green Light	There is no alarm of the module.
	Quick Flash of Red Light	The module type does not match.
	Slow Flash of Red Light	There is alarm of the module.
	Always Red	The module is enabling.
1~10	Always Green	There is no LOS alarm of the port.
	Always Red	There is LOS alarm of the port.
	Always OFF	The port is disabled.

Signal Protocol

Service	Type	Rate
STM-1	SDH Service	155.52Mbit/s
STM-4		622.08Mbit/s
STM-16		2.488Gbit/s
STM-64		9.95Gbit/s
ESCON	SAN Service	200Mbit/s
FC100		1.06Gbit/s
FC200		2.12Gbit/s
DVB-ASI. SDL	Digital TV Service	270Mbit/s
HD-SDI	HDTV Service	1.485Gbit/s
GE	Ethernet Service	1.25Gbit/s
FE		125Mbit/s
CPRI Option1		0.6144Gbit/s
CPRI Option2		1.2288Gbit/s
CPRI Option3		2.4576Gbit/s
10GE LAN		10.31Gbit/s
10GE WAN		9.95Gbit/s
OTU2	OTN Service	10.71Gbit/s
OTU2e		11.1Gbit/s

DCM (Dispersion Compensation Module)



M6200-DCM40

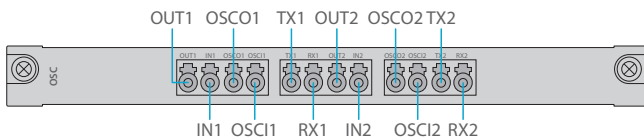


M6200-DCM80

Front Panel Port

Port	Port Type	Description
OUT	LC/UPC	Optical Signal Output Port
IN		Optical Signal Input Port

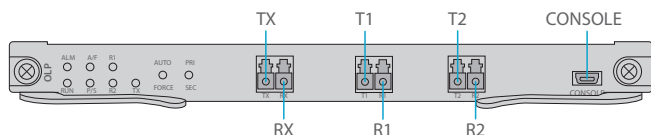
OSC Module (Optical Supervisory Channel Module)



Front Panel Port

Port	Port Type	Description
IN1/2	LC/UPC	Transmission Line Side Optical Singal Input Port
OUT1/2		Transmission Line Side Optical Singal Output Port
OSCI1/OSCI2		Optical Supervisory Channel Input Port
OSCO1/OSCO2		Optical Supervisory Channel Output Port
TX1/2		WDM Demultiplexing Optical Singal Input Port
RX1/2		WDM Multiplexing Optical Singal Output Port

1+1 OLP (Optical Line Protection)



Front Panel Port

Port	Port Type	Description
TX/RX	LC/UPC	Input/Output Port Connected to the Transmission Equipment
T1/R1		Main Optical Signal Transmitting Port/Receiving Port
T2/R2		Backup Optical Signal Transmitting Port/Receiving Port
CONSOLE	Micro USB	Debugging & Upgrading Port

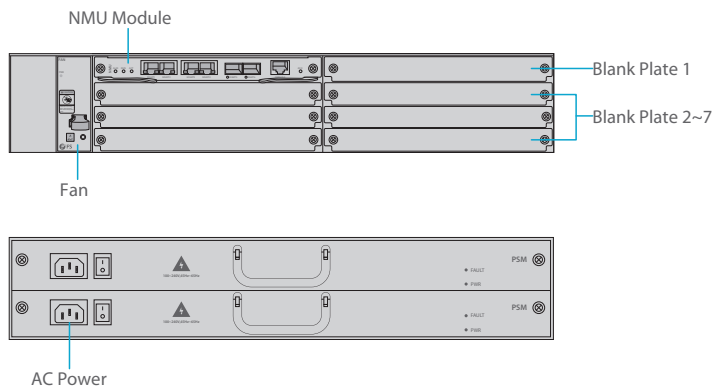
Panel Key Instruction

Key	Function	Description
AUTO/FORCE	Press for switching auto mode or manual mode	Switching Working Mode
PRI/SEC	Press for switching work channel of primary/second state	Switching Working Channel

Front Panel LED

LED	Status	Description
ALM	Always ON	There is alarm of the sub-module.
	Quick Flash	The module type does not match.
	Always OFF	The alarm does not exist.
RUN	Slow Flash	The module works normally.
	Always OFF	The module is not normally enabled.
A/F	Always ON	The module is in automatic mode.
	Always OFF	The module is in manual mode.
P/S	Always ON	The line is in primary channel state.
	Always OFF	The line is in secondary channel state.
TX/R1/R2	Always ON	The line power is normal.
	Always OFF	The line power is lower than the threshold.

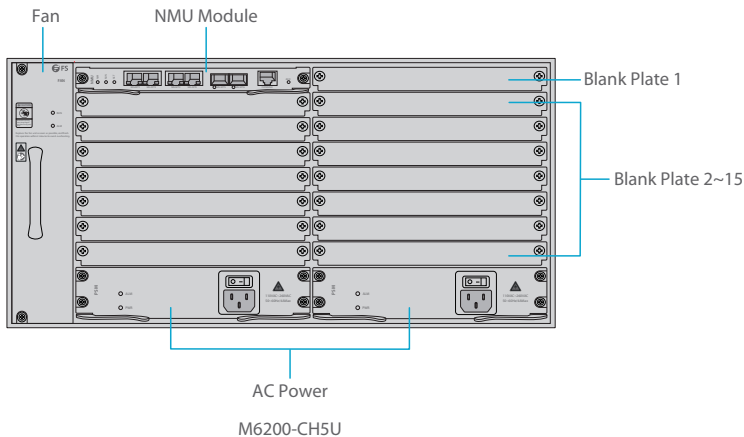
Managed Chassis



M6200-CH2U

Front Panel Port

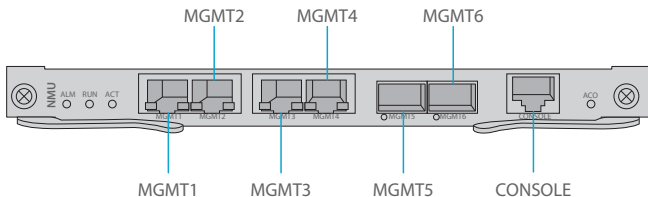
Slots	Description
NMU Module	Network Management Unit(NMU), the main control module of chassis
Blank Plate 1	Used for 1+1 NMU module backup or M6200 series business module
Blank Plate 2~7	Used for 1-slot/2-slot M6200 series business module
Fan	Support field-replacable and hot-swappable
AC Power	AC power supply, 90VAC~264VAC, 45Hz~65Hz, supports 1+1 backup



Front Panel Port

Slots	Description
NMU Module	Network Management Unit(NMU), the main control module of chassis
Blank Plate 1	Only used for 1+1 NMU module backup
Blank Plate 2~15	Used for 1-slot/2-slot M6200 series business module
Fan	Support field-replaceable and hot-swappable
AC Power	AC power supply, 110VAC~260VAC, 45Hz~65Hz, supports 1+1 backup

Networking Management Unit



Front Panel Port

Port	Port Type	Rate	Description
MGMT 1~4	RJ45 ETH	10/100M Auto-negotiate	<ol style="list-style-type: none">Connect to the local network management computerInterface for NMS concatenation equipment
MGMT5~6	SFP	100M	Out of band OSC management
CONSOLE	RJ45 ETH	/	Debugging & Upgrading port

Front Panel LED

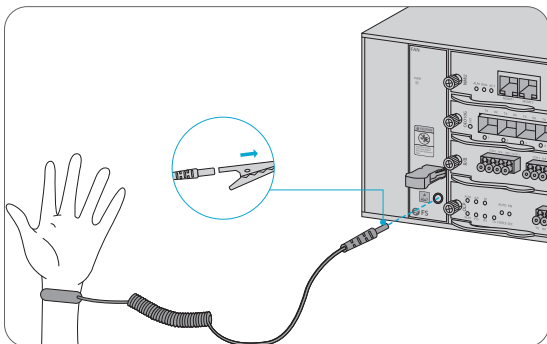
LED	Status	Description
ALM	Always ON	There is alarm on the power supply, the fan or the NMU Module.
	Always OFF	There is no alarm.
RUN	Quick Flash	The module works normally.
	Always OFF	The module is not normally enabled.
ACT	Always ON	The module is the primary module.
	Always OFF	The module is the secondary module.

Site Environment

- Keep the equipments indoors. If it is in rainy season or in humid environment, dehumidification measures must be taken.
- Ensure there is no water on the storage floor and no leakage to the packing box of the equipment.
- Avoid automatic fire fighting facilities, heating system and other places where leakage may occur.

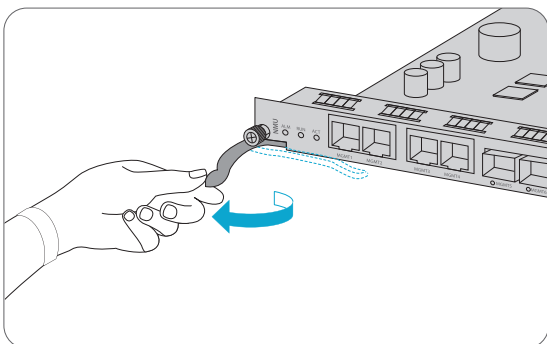
Installing

Wearing ESD Wrist Strap

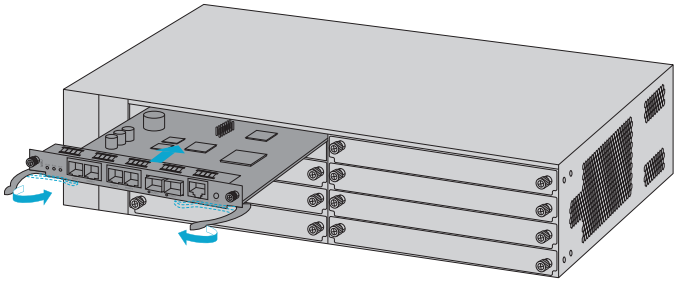


1. Before touching any device or module, wear an ESD wrist strap or ESD gloves to protect sensitive components against electrostatic discharge from the human body.
2. Connect other end of the ESD wrist strap to the PGND point on the chassis.

Installing Business Module

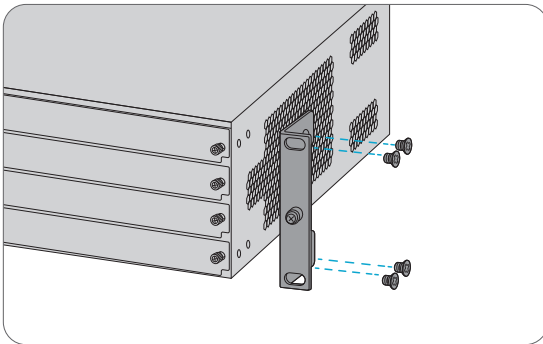


1. Hold the ejector levers on the front panel of the module and raise them.



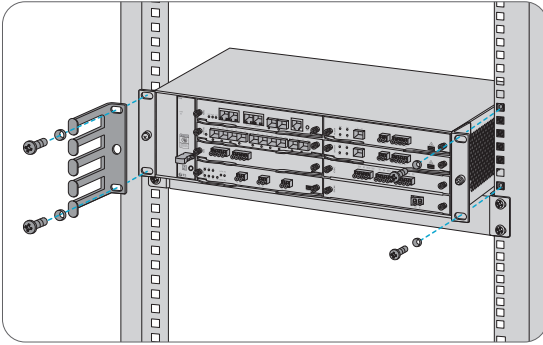
2. Push the module gently along the guide rail until the module cannot go any further. Then lower the two ejector levers of the module.

Installing Mounting Brackets



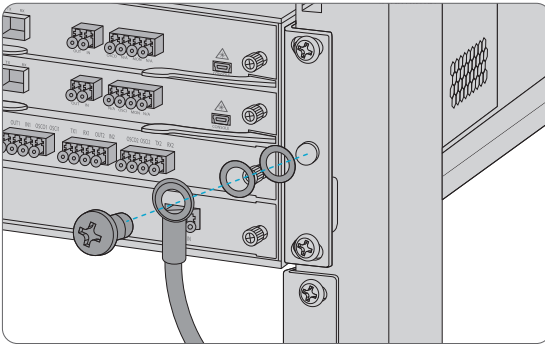
1. Secure the mounting brackets to the two sides of the M6200 series managed chassis with 8x M4 screws.

Rack Mounting



1. Put the M6200 series managed chassis on the shelf in the cabinet.
2. Install and tighten the panel with 4 sets of M6 screws.
3. Cable manager can be installed together with mounting brackets to the cabinet.

Grounding the M6200 Series Managed Chassis

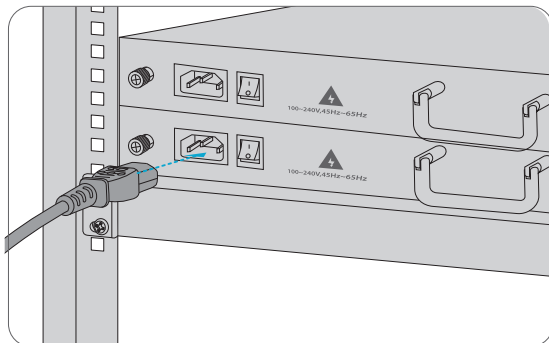


1. Secure the grounding lug to the grounding point on the chassis front panel with the washers and screws.
2. Connect the other end of the cable to a proper earth ground, such as the rack in which M6200 series is mounted.



CAUTION: The earth connection must not be removed unless all supply connections have been disconnected.

Connecting Power Cord



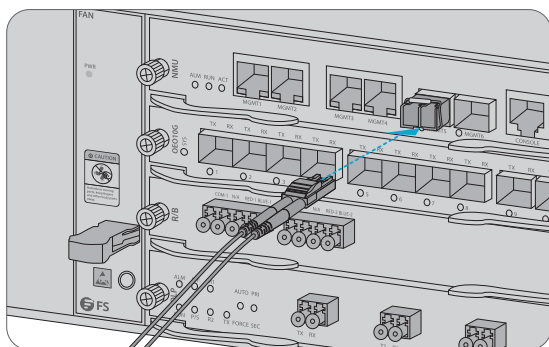
1. Plug AC power cord into the power port on the front panel of AC power module.
2. Connect the other end of the power cord to an AC power source.



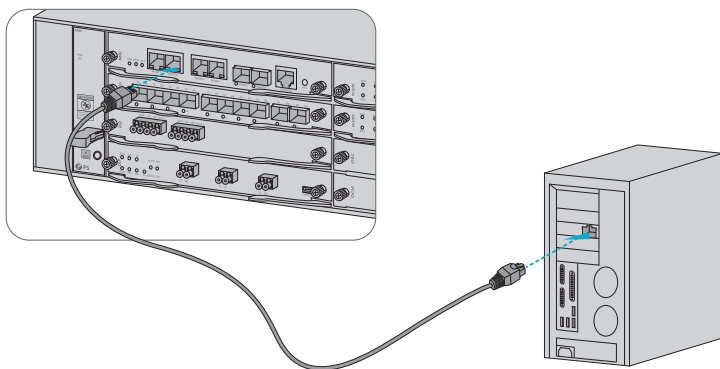
WARNING: Do not install power cables while the power is on.

Connecting to the Management Ports

SFP Management Port



1. Plug the compatible SFP transceiver into the SFP port on the front of NMU module.
2. Connect a fiber optic cable to the transceiver. Then connect the other end of the cable to another fiber device, such as a switch.



1. Connect one end of the standard RJ45 Ethernet cable to the MGMT1&2 port on the front of NMU module.
2. Connect the other end of cable to a computer.



- NOTE:**
1. SFP management port is designed for long-haul management more than 100m.
 2. RJ45 management port is designed for short-haul management less than 100m.
 3. You can start your management by selecting one of the above six management ports.

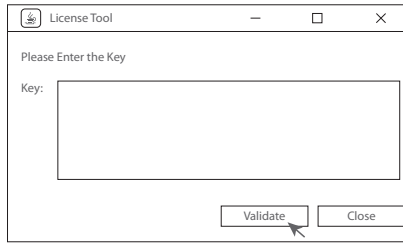
Configuring the M Series Platform

Configuring the M Series Platform Using the Web-based Interface

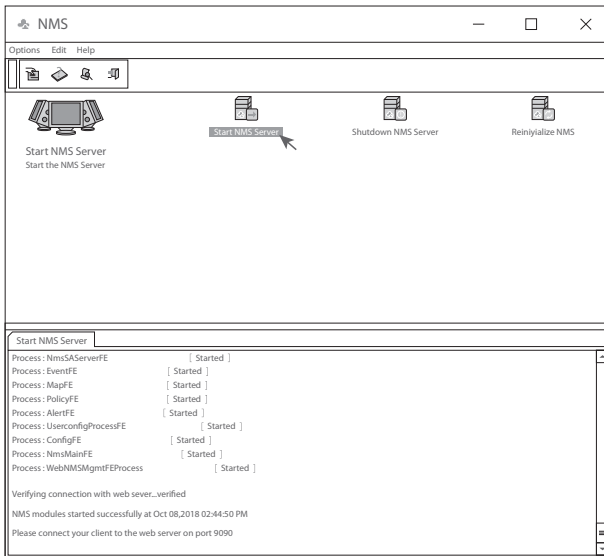
- Step 1: Connect your computer with the network cable to any Ethernet MGMT port of the NMU module.
- Step 2: Get the NMS software from the CD of chassis accessories or download the file "NMS software" online, and then install it.



- Step 3: Double Click "NMS Server" icon on the desktop and the dialogue box of license validation will pop up. Enter the license key (included in the CD) to finish validation. (If you can't find the license key, please contact FS sales manager for help.)



Step 4: Then the NMS server interface pops up. Double click "Start NMS Server" to run the server, when it prompts "Please connect your client to the web server on port: 9090", it means that you have successfully started the NMS server. And then you can close the NMS Server window, the server is still running in the background.



Step 5: Open a browser window. (Recommend IE11.0 and above version or Google Chrome browser).

- (1) If you log in from local NMS host, enter localhost:9090 in the address bar to open the login interface.
- (2) If you log in from other remote host, enter the server IP address XXX.XXX.XXX.XXX:9090 (IP address of NMS server) to open the login interface.

Step 6: Enter correct user name and password (For the administrator, the default login user name is “root”, and the default password is “public”), as shown in the figure below:



Step 7: Click login, you are now ready to configure M series platform



NOTE: Refer to the **M SERIES NETWORK MANAGEMNT USER MANUAL** online for further information

Troubleshooting

Module LEDs Working Abnormally

1. Check the power cable connections at the M6200 series managed chassis and the power source.
2. Make sure that all cables are used correctly and comply with the power specifications.
3. Make sure that business modules are in the right position in the M6200 series managed chassis.

Accessing the Web-based Configuration Page Unsuccessfully

1. Check MGMT ports LED on the NMU module and make sure the Ethernet cable is connected properly.
2. Try another port on the NMU module and make sure the Ethernet cable is suitable and works normally.
3. Power off the M6200 series managed chassis. After a while, power it on again.
4. Make sure the IP address of your NMS server is correctly configured.
5. If you still cannot access the configuration page, please reinitialize NMS server to its factory defaults.

Business Module Cannot Be Added

1. Enter through CMD.
2. Ping business module IP to check whether it can communicate.
3. Check whether normal communication can be made between business module and NMU module.
4. Change another business module.

Online Resources

- Download <https://www.fs.com/download.html>
- Help Center https://www.fs.com/service/help_center.html
- Contact Us https://www.fs.com/contact_us.html

Product Warranty

FS ensures our customers that any damage or faulty items due to our workmanship, we will offer a free return within 30 Days from the day you receive your goods. This excludes any custom made items or tailored solutions.



Warranty: M6200 series enjoy 2 years limited warranty against defect in materials or workmanship. For more details about warranty, please check at :

<https://www.fs.com/policies/warranty.html>



Return: If you want to return item(s), information on how to return can be found at:

https://www.fs.com/policies/day_return_policy.html