

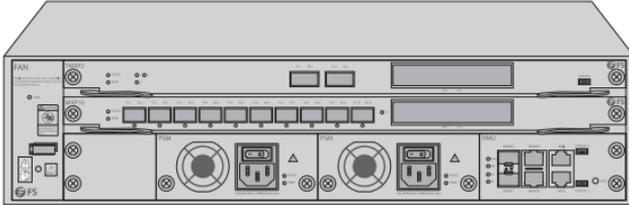
M6500 Series

# M6500 100G OTN PLATFORM

Quick Start Guide **V1.0**

# Introduction

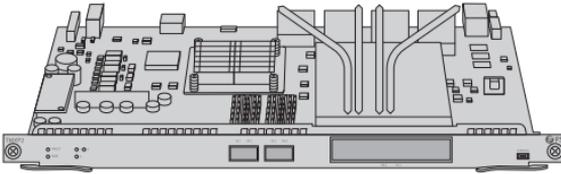
M6500 series 100G Platform provides a managed, flexible and scalable architecture for fiber networks. It can support up to 2x transponder card, muxponder card to construct a high transport capacity of 100G over a single wavelength in the optical transmission platform.



M6500 series 100G Platform

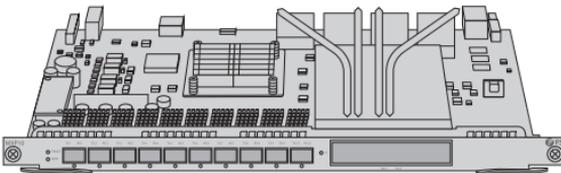
## M6500 series 100G Platform Overview

### 100G Transponder/Muxponder Module



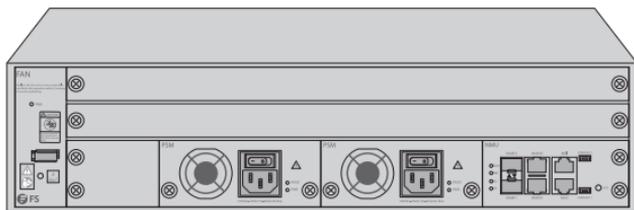
M6500-TMXP2

### 100G Muxponder Module



M6500-MXP10

# 100G Managed Chassis



M6500-CH2U

## Accessories



Power Cord x2



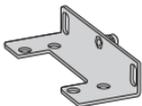
Console Cable x1



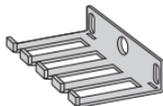
Ethernet Cable x1



CD x1



Mounting Bracket x2



Cable Manager x1



ESD Wrist Strap x1



Grounding Cable x1

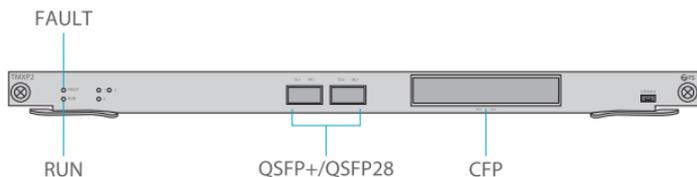


M6 Screw Set x4



M4 Screw x8

## 100G Transponder/Muxponder Module



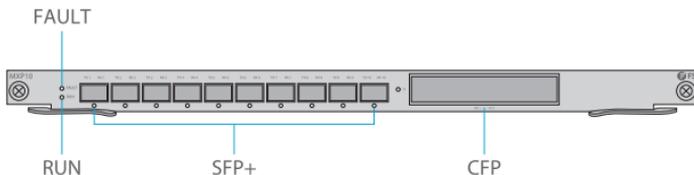
Front Panel Port

Port	Description
QSFP+/QSFP28	Client interface, supports 2x 40G QSFP+ or 1x 100G QSFP28
CFP	Line interface, supports 1x coherent 100G CFP

Front Panel LED

LED	Status	Description
RUN	Slow Flash of Green Light	The system has been successfully started.
	Green Light always OFF	The system has not been started.
FAULT	Red Light always ON	There is critical alarm of the module.
	Orange Light always ON	There is major alarm of the module.
	Yellow Light always ON	There is minor alarm of the module.

## 100G Muxponder Module



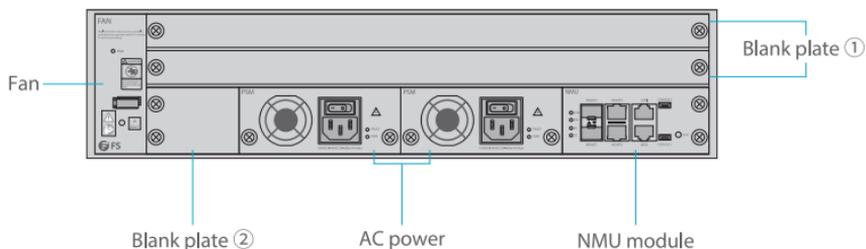
Front Panel Port

Port	Description
SFP+	Client interface, supports 10x 10G SFP+
CFP	Line interface, supports 1x coherent 100G CFP

## Front Panel LED

LED	Status	Description
RUN	Slow Flash of Green Light	The system has been successfully started.
	Green Light always OFF	The system has not been started.
FAULT	Quick Flash of Red Light	The board is mismatched.
	Slow Flash of Red Light	There is latch-open alarm of the module.
	Red Light always ON	There is alarm of the module.
	Red Light always OFF	There is no alarm of the module.

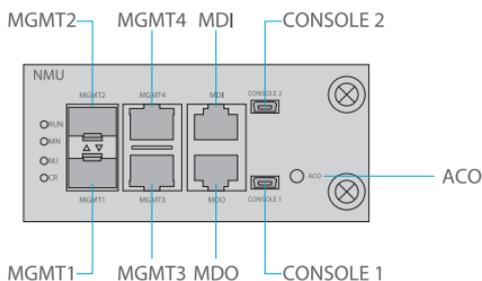
## Managed Chassis



## Front Panel Slot

Slots	Description
NMU module	Network Management Unit (NMU), the main control module of chassis
Blank plate ①	Used for 1-slot type M6500 100G Muxponder/Transponder
AC power	AC power supply, 100V~240V, 45Hz~65Hz
Blank plate ②	Optional DC power supply, -72V~-40V
Fan	Support field-replaceable and hot-swappable

## Networking Management Unit



### Front Panel Port

Port	Port Type	Description
MGMT1&2	SFP	In and out-of-band OSC management
MGMT3&4	RJ45 ETH	Internet communication and management
MDI	RJ45 ETH	External alarm input interface
MDO	RJ45 ETH	External alarm output interface
CONSOLE1	Micro USB	Debugging & upgrading port, connects to active infrastructure modules
CONSOLE2	Micro USB	Debugging & upgrading port, connects to standby infrastructure modules

### Front Panel LED

LED	Status	Description
RUN	Green	Module is working properly.
	OFF	Module is not working properly.
MN	OFF	Devices are working in normal state.
	Red	There is minor alarm.
MJ	OFF	Devices are working in normal state.
	Orange	There is major alarm.
CR	OFF	Devices are working in normal state.
	Yellow	There is critical alarm.



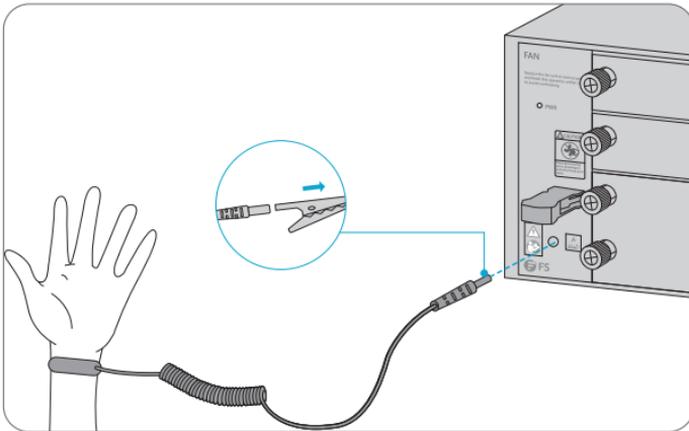
- NOTE:** 1. CONSOLE1&2 are provided for internal program debugging, which are not available for customers.  
2. ACO button on the front panel of NMU module is used to clear MDO alarm.

# 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.

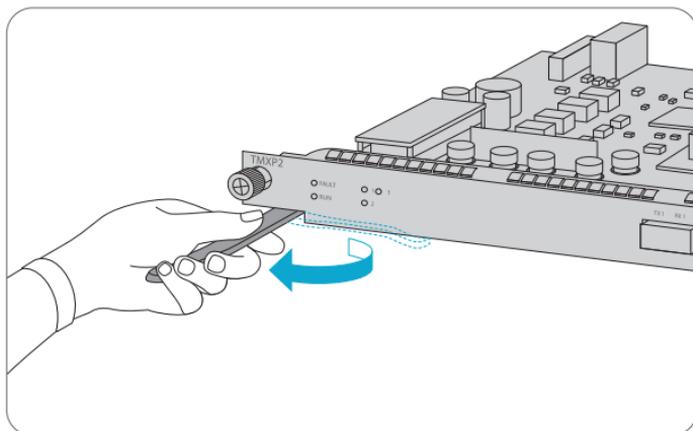
# Installing

## Wearing ESD Wrist Strap

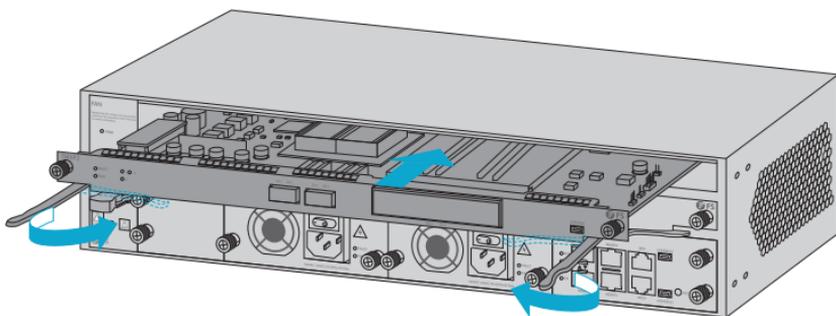


1. Before touching any device or module, wear an ESD wrist strap or ESD gloves to protect sensitive components against electrostatic discharge from the human body.
2. Connect other end of the ESD wrist strap to the PGND point on the chassis.

## Installing Business Module

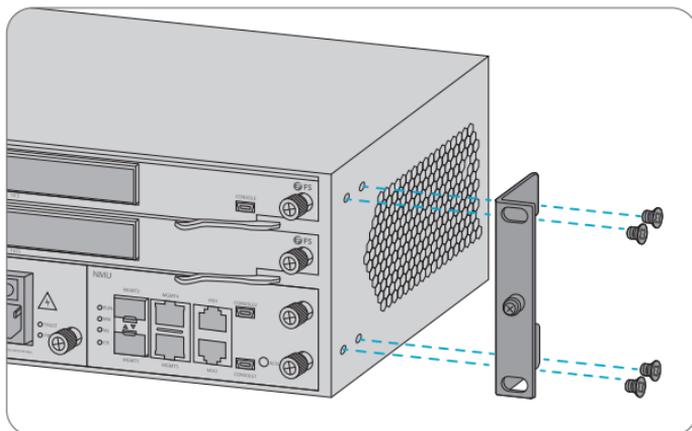


1. Hold the ejector levers on the front panel of the module and raise them.



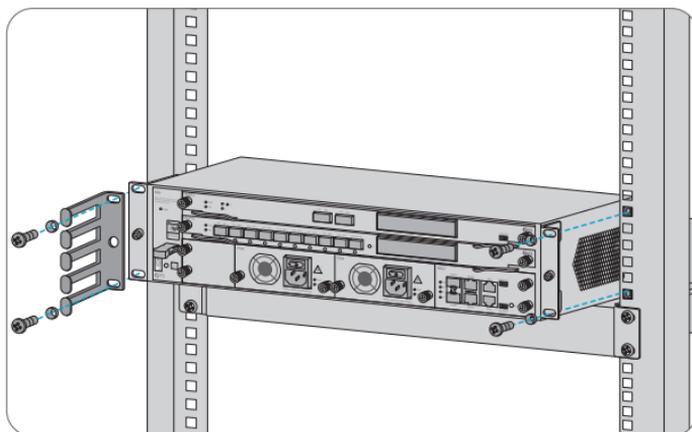
2. Push the module gently along the guide rail until the module cannot go any further. Then lower the two ejector levers of the module.

## Installing Mounting Brackets



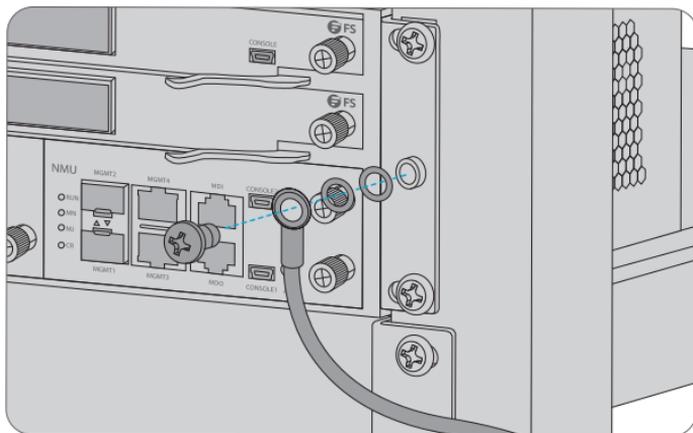
1. Secure the mounting brackets to the two sides of the M6500 series managed chassis with 8x M4 screws.

## Rack Mounting



1. Put the M6500 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 M6500 Series Managed Chassis

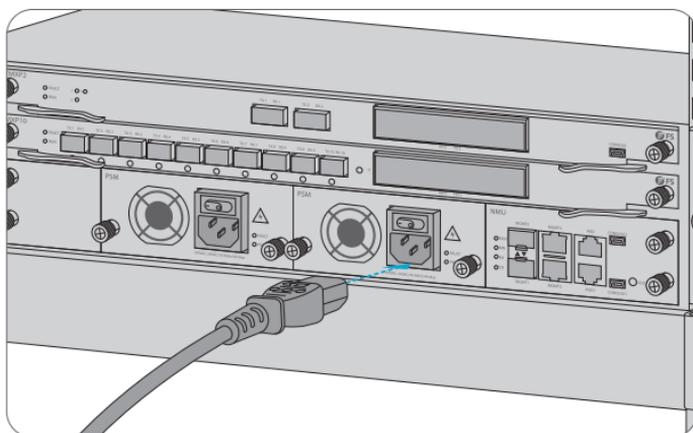


1. Secure the grounding lug to the grounding point on the chassis front panel with the washers and screws.
2. Connect the other end of the cable to a proper earth ground, such as the rack in which M6500 series managed chassis is mounted.



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

## Connecting Power Cord

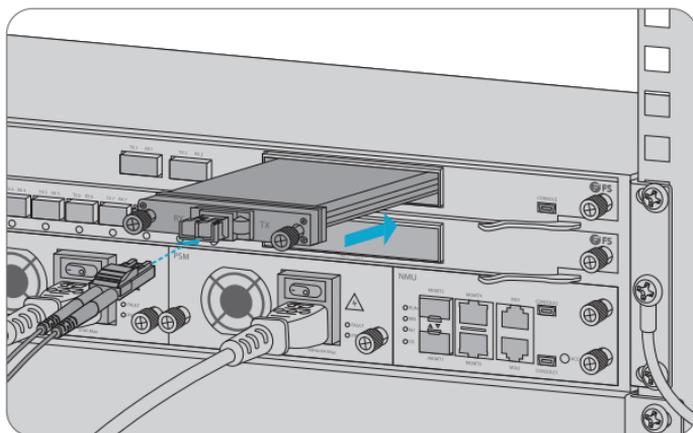


1. Plug AC power cord into the power port on the front panel of AC power module.
2. Connect the other end of the power cord to an AC power source.



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

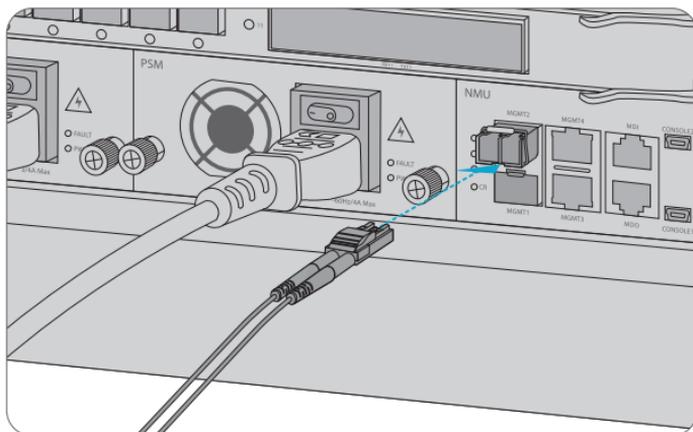
## Connecting Coherent CFP Transceiver



1. Plug the CFP transceiver into the CFP slot on Transponder/Muxponder.
2. Connect one end of fiber cable to the CFP transceiver.
3. Connect the other end of the fiber cable to Mux/optical amplifier/CFP transceiver module.

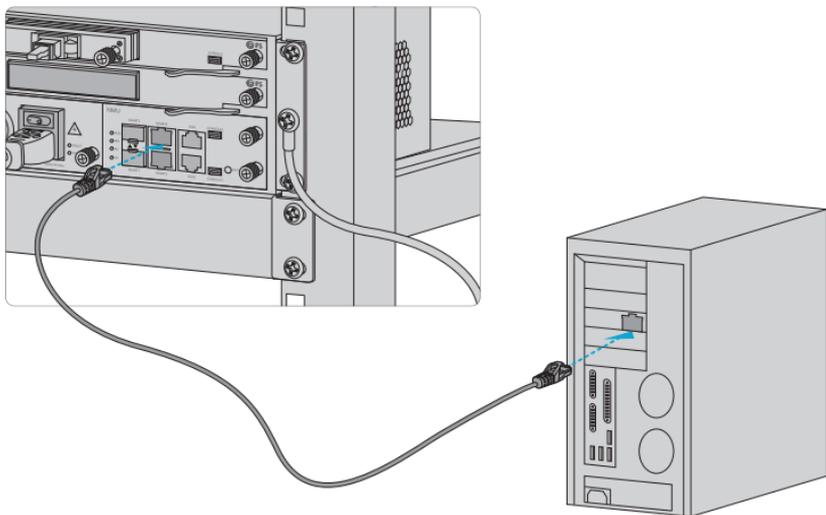
## Connecting to the Management Ports

### SFP Management Port



1. Plug the compatible SFP/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.

### RJ45 Management Port

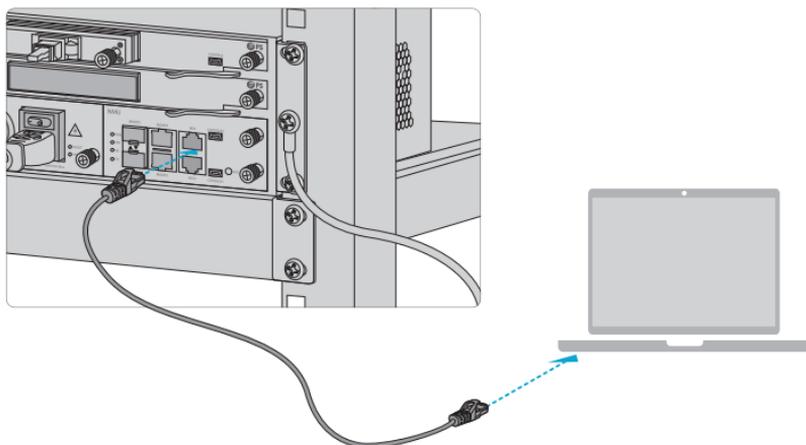


1. Connect one end of the standard RJ45 Ethernet cable to the MGMT1&2 port on the front of NMU module.
2. Connect the other end of cable to a computer.



- 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 four management ports.

## Connecting to the MDI/MDO Alarm Port



1. Connect one end of standard RJ45 Ethernet cable to the MDI/MDO port on the front of NMU module.
2. Connect the other end of the cable to the management device, such as a computer or an intelligent management cabinet.

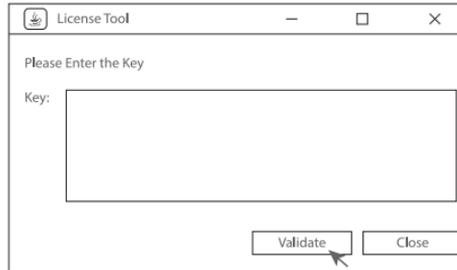
## Configuring the M Series Platform

### Configuring the M Series Platform Using the Web-based Interface

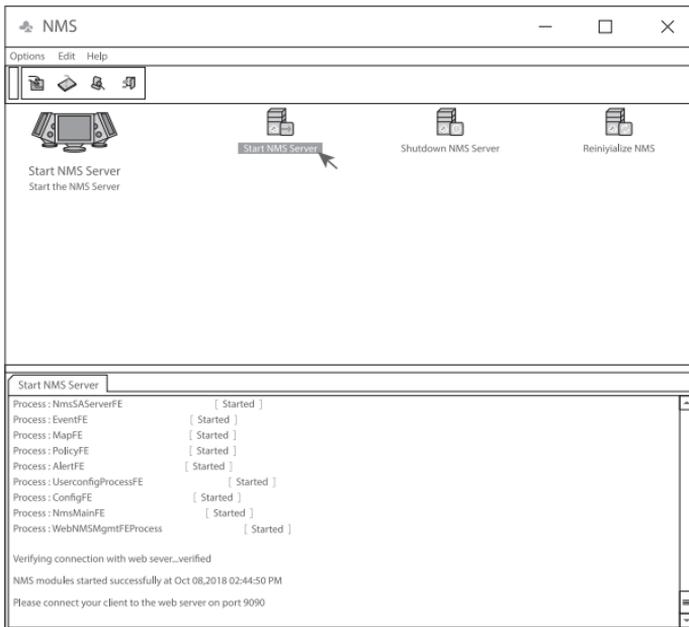
- Step 1: Connect your computer with the network cable to any Ethernet MGMT port of the NMU module.
- Step 2: Get the NMS software from the CD of chassis accessories or download the file "NMS software" online, and then install it.



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 the M Series Platform.



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

## Troubleshooting

### Module LEDs Working Abnormally

1. Check the power cable connections at the M Series 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 M Series 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 M Series 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](https://www.fs.com/service/help_center.html)
- Contact Us [https://www.fs.com/contact\\_us.html](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: M 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](https://www.fs.com/policies/day_return_policy.html)

Q.C. PASSED