

A solid teal circle.

# GPON-SFP-ONT-MAC-I Configuration Guide

## Basic Product Introduction

The transceiver is designed for Passive Optical Network application, 2.488Gbps downstream and 1.244Gbps upstream. It is fully compliant with ITU-T G.984.2. The product is an MSA compliant SFP that incorporate not just the optics for an ONU, but all of the electronics need as well. It is a 'PON on a Stick' that an entire FTTH ONU is a slightly oversized SFP. It can be plugged into networking equipment. Allowing the data interfaces in a switch, router, etc., to be customized for different fiber environment and distance requirements.

- Single fiber bi-directional data links GPON ONU and application with GPON MAC function
- Transmitter 1310nm 1.244Gbps with DFB-LD
- Receiver 1490nm 2.488Gbps with APD-TIA
- SFP package with SC/APC receptacle
- Single 3.3V power supply
- Digital diagnostic monitor interface compatible with SFF-8472
- Compliant with MSA SFP-8074
- Compliant with ITU-T G.984.2 Operating temperature range commercial -40°C to 85°C
- Power dissipation < 2.5W, Distance up to 20km
- 0.5dBm ~ 5dBm launch power, -28dBm ~ -8dBm for receiving

### Applications:

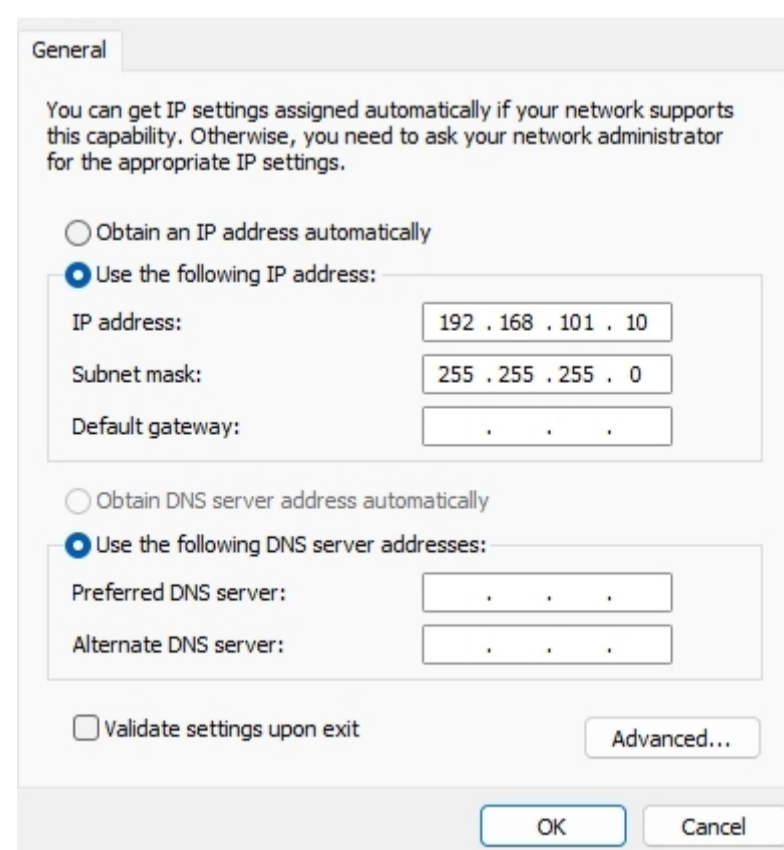
- GPON
- FTTx
- Wireless Backhaul

## Physical Connection

- **Step 1:** Insert the GPON ONU Stick into an SFP+ port on your router or switch.
- **Step 2:** Connect the Stick ONU module to the OLT module using an SC/APC fiber optic cable.
- **Step 3:** Check the LED indicators on the router or switch; a solid green light indicates a successful connection.
- **Step 4:** Connect your computer to a LAN port on the router or switch using an Ethernet cable.

## Computer initial configuration

- **Step 1:** Set your computer's IP address to be in the same IP address range as the Stick module.



- **Step 2:** Open the Command Line Interface (CLI) on your PC and ping [192.168.101.1](http://192.168.101.1). A successful reply confirms connectivity.

```
Command Prompt
Microsoft Windows [Version 10.0.26100.6584]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Bianca>ping 192.168.101.1

Pinging 192.168.101.1 with 32 bytes of data:
Reply from 192.168.101.1: bytes=32 time=2ms TTL=128
Reply from 192.168.101.1: bytes=32 time<1ms TTL=128
Reply from 192.168.101.1: bytes=32 time<1ms TTL=128
Reply from 192.168.101.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.101.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\Users\Bianca>
```

## How to log in to the module

The default IP address of the GPON-SFP-ONT-MAC-I module is [192.168.101.1](http://192.168.101.1).

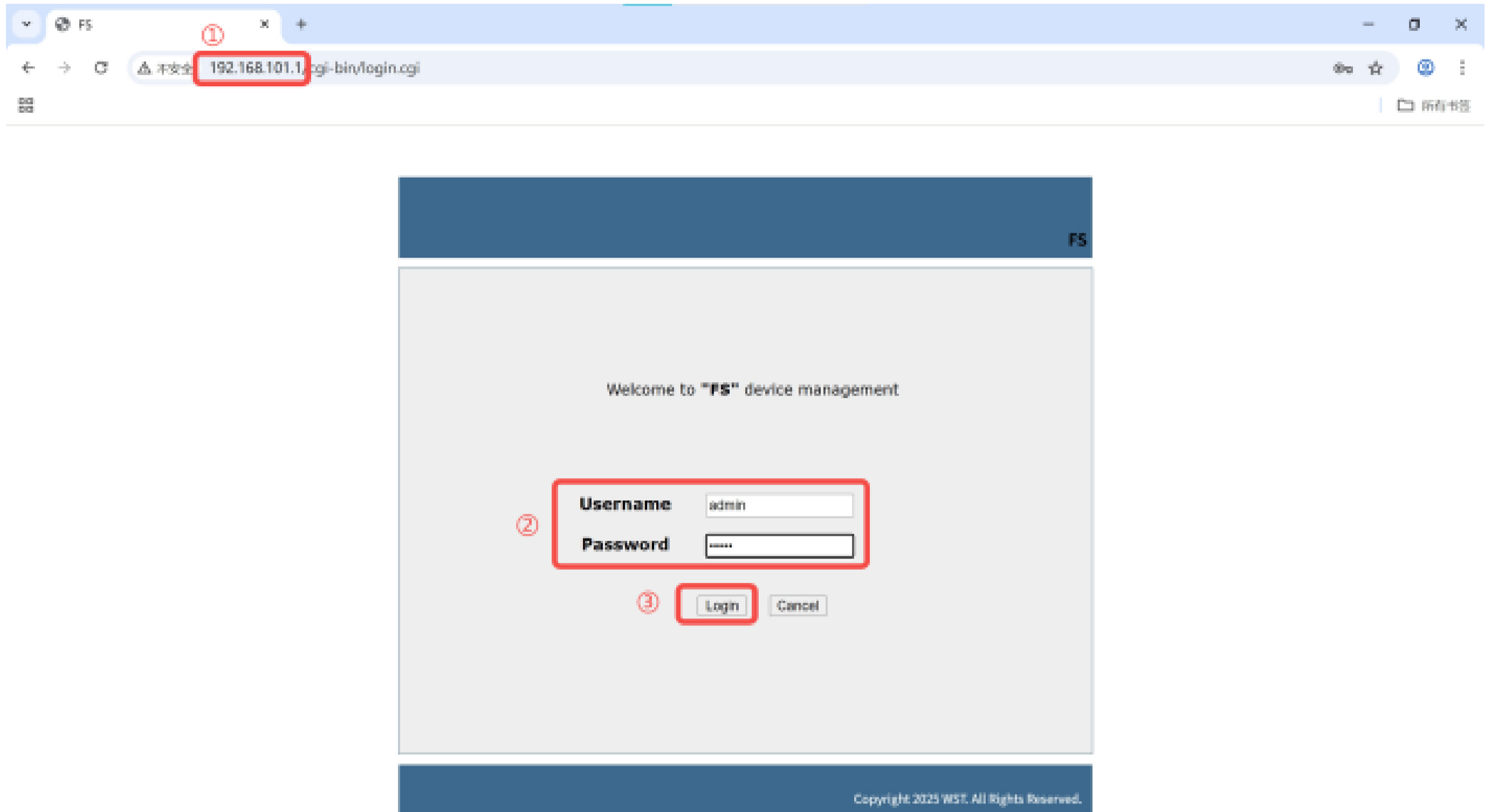
Access Methods: Web, SSH, Telnet.

- **Web Login**

Open a web browser and navigate to <http://192.168.101.1>.

Enter the username and password: **admin / admin**.

Click **Login** to access the module's Web GUI graphical management interface.

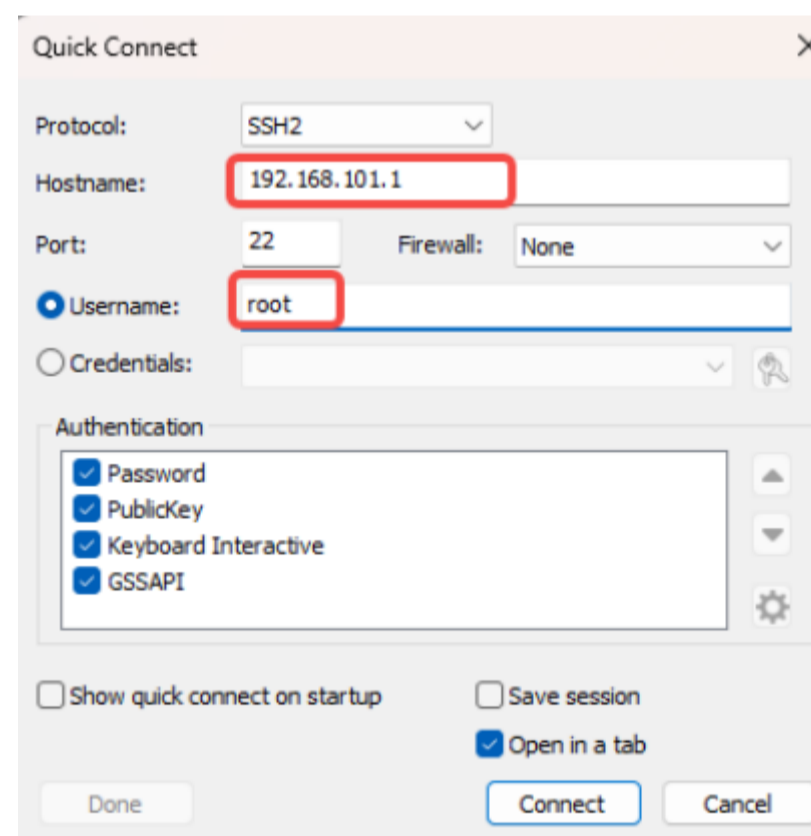


#### • SSH Login

Open an SSH client (e.g., SecureCRT, MobaXterm) and create a new SSH session.

Enter the IP address [192.168.101.1](http://192.168.101.1), and the username/password: **root / root**.

Click **Connect** to access the module's command-line interface via SSH.



```

root@FS:~ #
root@FS:~ #
root@FS:~ #
root@FS:~ #
root@FS:~ #
root@FS:~ #
root@FS:~ #
root@FS:~ #
root@FS:~ #

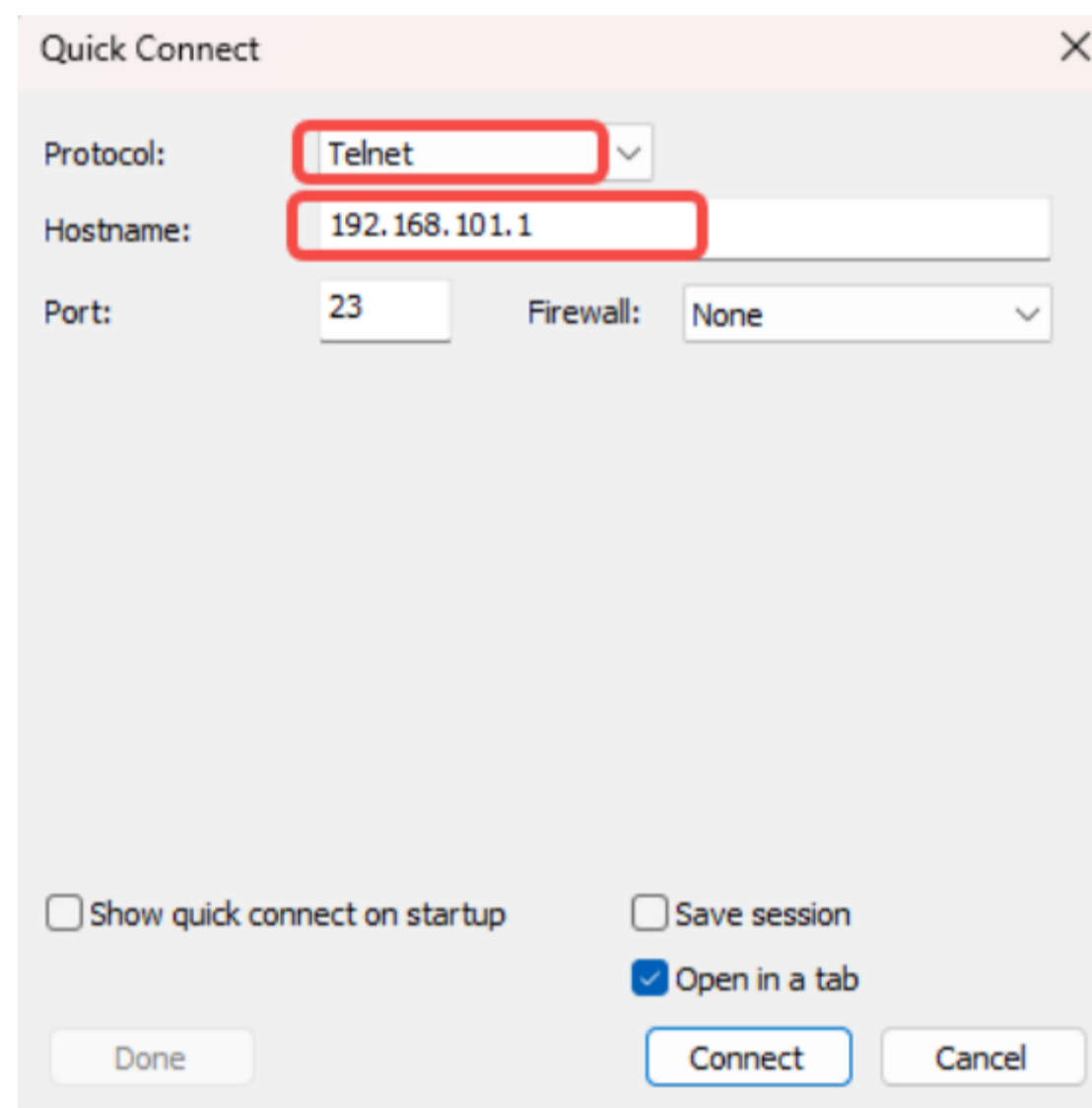
```

- Telnet Login

Open a terminal client (e.g., SecureCRT, MobaXterm) and create a new Telnet session.

Enter the IP address [192.168.101.1](http://192.168.101.1), and the username/password: root / root.

Click **Connect** to access the module's command-line interface via Telnet.



```

GC1601
login: root
Password:

BusyBox v1.31.1 Built-in shell (ash)
Enter 'help' for a list of built-in commands.

/#
/#
/#

```

## Basic Web Interface Configuration

### Checking device and module status

- Status>Device Information

FS
Logout

- Status
- Device Information
- PON Information
- WAN Information
- Eth Port Information
- LAN Allocated Status
- WAN Configuration
- LAN Configuration
- Routing(IPv4)
- Security Configuration
- Network Application
- System Tool
- Diagnosis

Device Information

Manufactory	FS
Model	FS
Serial Number	000000-FS0025061209
Hardware Version	V1.0
Software Version	V1.2.3
Bootloader Version	V1.2.2
PON Serial Number	FS0025061209
PON Password	1234567891
PON MAC	00:00:50:00:00:4a
PON Mode	GPON
Build Info	Build. Sun Jul 27 15:20:13 CST 2025

Refresh

• Status>PON Information

FS
Logout

- Status
- Device Information
- PON Information
- WAN Information
- Eth Port Information
- LAN Allocated Status
- WAN Configuration
- LAN Configuration
- Routing(IPv4)
- Security Configuration
- Network Application

PON Information

GPON State	Optical Los
Optical Module RX Power(dBm)	-inf
Optical Module TX Power(dBm)	3.14
Optical Module Working Voltage(uV)	3135200
Optical Transmitter Bias Current(uA)	0
Working Temperature of the Optical Module(°C)	46

Refresh

### Modify module information

• WAN Configuration>PON Mode

**FS**

Logout

**Status**

**WAN Configuration**

WAN

**PON Mode**

ONT Authentication

**LAN Configuration**

**Routing(IPv4)**

**Security Configuration**

**Network Application**

**System Tool**

**Diagnosis**

**Help Information**

**Configure the PON Mode**

Note: Change ONT PON Mode, the device will reboot after operation.

Pon Mode GPON

Auto

EPON

GPON

**Confirm** X

Are you sure to change the PON mode? This operation will reboot the device.

Confirm Cancel

View or modify module LOID, LOID Password, SN, SN Password, etc.

- WAN Configuration > ONT Authentication

- Status
- WAN Configuration
  - WAN
  - PON Mode
  - ONT Authentication**
- LAN Configuration
- Routing(IPv4)
- Security Configuration
- Network Application
- System Tool
- Diagnosis
- Help Information

Configure the ONT Authentication

LOID	FS0000000001
Password	*****
SN	FS0025061209
SN Password	*****

Apply Cancel

View or modify module IP address

- LAN Configuration > DHCP Configuration

- Status
- WAN Configuration
- LAN Configuration
  - DHCP Configuration
  - DHCPv6 Configuration
  - Port Configuration
- Routing(IPv4)
- Security Configuration
- Network Application
- System Tool
- Diagnosis
- Help Information

Configure the LAN DHCP

Note: After change the LAN IP address, the connection will be closed.

LAN IP Address	192.168.101.1
Subnet Mask	255.255.255.0

Note: The DHCP Start IP and End IP address should be in the same subnet as the LAN IP.

Enable DHCP Server	<input type="checkbox"/>
DHCP Start IP Address	192.168.101.2
DHCP End IP Address	192.168.101.254

Assign IspDNS	<input type="checkbox"/>
DNS Server1 IP address	
DNS Server2 IP address	
DNS Server3 IP address	

Default Gateway	192.168.101.1
Lease Time	86400 s

Viewing the module MAC address

- Status > Device Information

FS
中文
Logout

**Status**

**Device Information**

PON Information

WAN Information

Eth Port Information

LAN Allocated Status

**WAN Configuration**

**LAN Configuration**

**Routing(IPv4)**

**Security Configuration**

**Network Application**

**System Tool**

**Diagnosis**

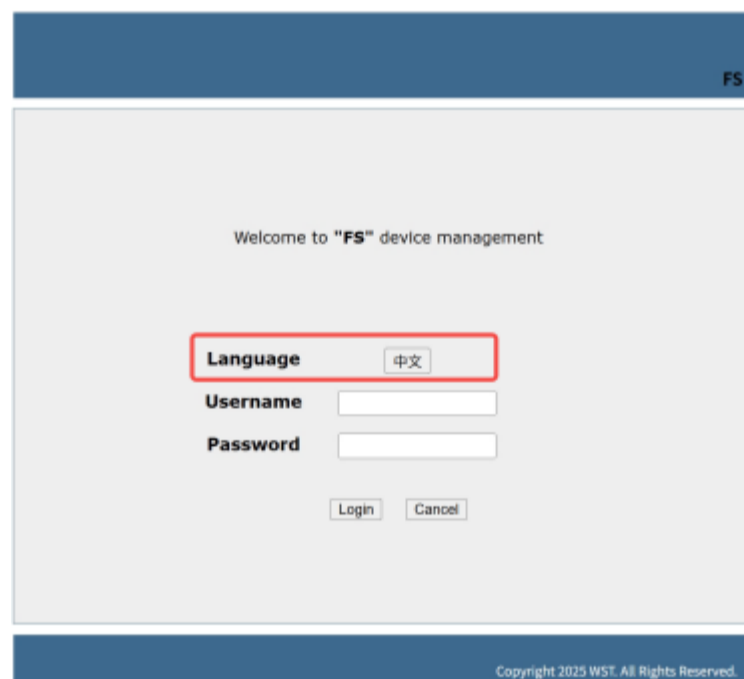
**Device Information**

Manufactory	FS
Model	FS
Serial Number	000000-FS0025061209
Hardware Version	V1.0
Software Version	V1.2.3
Bootloader Version	V1.2.2
PON Serial Number	FS0025061209
PON Password	1234567891
PON MAC	00:00:50:00:00:4a
PON Mode	GPON
Build Info	Build. Sun Jul 27 15:20:13 CST 2025

Refresh

## Modify the WEB interface language

- For the first time, you need to use SSH to change the language and save it;
- Click on the language switch on the WEB interface for the second time.



## SSH/Telnet main operation instructions

### Configuring SN and MAC

- Query GPON SN

```
root@FS:~ # gccli sys sn
```

```
SN: FS0025061209
```

- Modify GPON SN

**Note:** The first 4 bytes are in ASCII, and the last 8 bytes are in Hex.

```
root@FS:~ # gccli sys sn
```

SN: FS0025061209

```
root@FS:~ # gccli sys sn FS0025061208
```

sys sn success

```
root@FS:~ # gccli sys save
```

sys save success

```
root@FS:~ #
```

- **Query MAC address**

```
root@FS:~ # gccli sys mac
```

Mac Address: 00:00:50:00:00:4A

- **Modify MAC address**

```
root@FS:~ # gccli sys mac
```

Mac Address: 00:00:50:00:00:4A

```
root@FS:~ # gccli sys mac 00:00:50:00:00:4B
```

sys mac success

```
root@FS:~ # gccli sys save
```

sys save success

```
root@FS:~ #
```

## Configuring the Vendor and Vendor ID

- **Query Vendor & Vendor ID**

```
root@FS:~ # gccli sys vendor
```

Vendor: FS

- **Query Vendor ID**

```
root@FS:~ # gccli sys vendorid
```

Vendor Id: FS

```
root@FS:~ #
```

## Configuring Hardware and Software Version Numbers

- **Query hardware and software version numbers**

```
root@FS:~ # gccli sys hwversion
```

Hardware Version: V1.0

```
root@FS:~ # gccli sys version
```

Software Version: V1.2.3

```
root@FS:~ #
```

- **Modify hardware and software version numbers**

```
root@FS:~ # gccli sys hwversion V1.0
```

sys hwversion success

```
root@FS:~ # gccli sys save
```

```
sys save success
root@FS:~ # gccli sys version
Software Version: V1.2.3
sys version success
root@FS:~ # gccli sys save
sys save success
root@FS:~ #
```

## Configuring LOID and LOID Password

- Query LOID

```
root@FS:~ # gccli sys loid
LOID Name: FS0000000001
```

- Revise LOID

```
root@FS:~ # gccli sys loid
LOID Name: FS0000000001
root@FS:~ # gccli sys loid FS0000000002
sys loid success
root@FS:~ # gccli sys save
sys save success
root@FS:~ #
```

- Query LOID PASSWORD

```
root@FS:~ # gccli sys loidpw
LOID Password: 1234567891
```

- Revise LOID PASSWORD

```
root@FS:~ # gccli sys loidpw 1234567890
sys loidpw success
root@FS:~ # gccli sys save
sys save success
root@FS:~ #
```

## Configuring Language Switching

```
root@FS:~ # gccli sys language
Language: English
root@FS:~ # gccli sys language Chinese
sys language success
root@FS:~ # gccli sys save
sys save success
```

```
root@FS:~ # gccli sys language
```

```
Language: Chinese
```

```
root@FS:~ #
```



### Delaware, United States

Address: Delaware: 380 Centerpoint Blvd, New Castle, DE 19720, United States  
Email: US@fs.com  
Tel: +1 (888) 468-9910

### Germany

Address: Röntgenstraße 18, 85757 Karlsfeld, Germany  
Email: DE@fs.com  
Tel: +49 (0) 8131 377 3008

### Australia

Address: 57-59 Edison Rd, Dandenong South, VIC 3175, Australia  
Email: AU@fs.com  
Tel: +61 3 5909 9990

### Japan

Address: JS Progress Building 5F, 4-1-23, Heiwajima, Ota Ku, Tokyo, 143-0006, Japan  
Email: JP@fs.com  
Tel: +81-3-6897-9438

### California, United States


Address: California: 15241 Don Julian Rd, City of Industry, CA 91745, United States  
Email: US@fs.com  
Tel: +1 (888) 468-9910

### United Kingdom

Address: Unit 8, Urban Express Park, Union Way, Aston, Birmingham B6 7FH, United Kingdom  
Email: UK@fs.com  
Tel: +44 (0) 121 726 4775

### Singapore

Address: 7002 ANG MO KIO AVENUE 5 #05-02 Singapore 569914  
Email: SG@fs.com  
Tel: +65 31381992



FS has several offices around the world. Addresses, phone numbers are listed on the FS Website at [https://www.fs.com/contact\\_us.html](https://www.fs.com/contact_us.html). FS and FS logo are trademarks or registered trademarks of FS in the U.S. and other countries.