



G100 GPON Terminal

User Guide

V 1.0

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Contents

Chapter 1 Product Overview.....	4
1.1 Overview.....	4
1.2 Package Contents.....	4
1.3 Product Features.....	4
Chapter 2 Hardware Description.....	5
2.1 Panels.....	5
2.1.1 Front Panel.....	5
2.1.2 Back Panel.....	5
2.2 Basic Requirement	6
2.4 Safety Caution.....	6
Chapter 3 Installation.....	8
3.1 Physical Installation.....	8
3.2 Configure PC.....	8
3.3 Login	9
Chapter 4 Advanced Settings.....	11
4.1 Status.....	11
4.1.1 System Status.....	11
4.1.2 LAN Info.....	11
4.1.3 UNI Info.....	11
4.1.4 PON Info.....	11
4.1.5 Optical Info.....	11
4.2 Network.....	11
4.2.1 LAN Setting.....	12
4.2.2 PON Setting	12
4.3 Safety.....	13
4.3.1 MAC Filter.....	13
4.4 Tools.....	13

4.4.1 System Log.....	13
4.4.2 Statistics.....	14
4.4.3 User Management.....	14
4.4.4 Firmware Update.....	15
4.4.5 Restore to Factory Default.....	15
4.4.6 Reboot.....	16
Appendix A FAQ.....	17
Appendix B Technical Specifications.....	19
1. Specifications.....	19
2. Network Protocol.....	20
Appendix C Abbreviations	21
Appendix D Safety and Emission Statement.....	22

Chapter 1 Product Overview

1.1 Overview

This GPON terminal, designed for FTTH/FTTO/FTTB, provides one PON port for connecting fiber which can be as long as 20km. With its 10/100/1000M auto-negotiation gigabit LAN port, it can be connected to switches or terminal devices indoors. Supporting 802.1q LAN and 802.1p QoS, it ensures good audio and video services quality for Internet, VoIP and HD videos. Besides, it supports OMCI remote management by default.

1.2 Package Contents

Unpack the box and verify the package contains the following items:

- GPON terminal
- Power adapter
- Ethernet cable
- Quick Install Guide

If any of the above items is incorrect, missing, or damaged, please contact your Tenda reseller for immediate replacement.

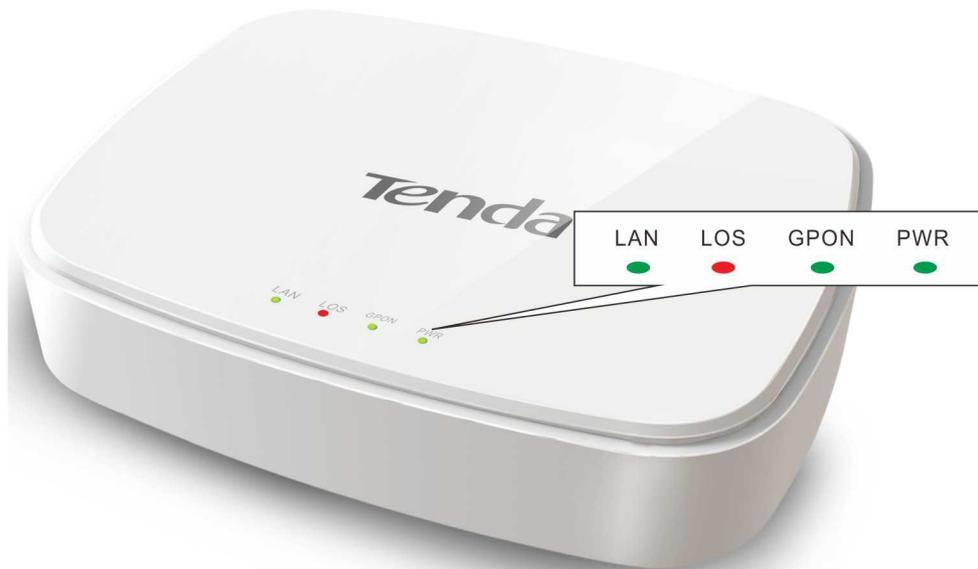
1.3 Product Features

- Support one PON port;
- Support WEB firmware update and provide the latest firmware;
- Compliant with ITU-T G.984 and Class B+;
- Support easy and convenient Web manager;
- Support MAC filter.

Chapter 2 Hardware Description

2.1 Panels

2.1.1 Front Panel



LED:

LED	Color	Status	Description
PWR	Green	Off	Improper power connection.
		Solid	Proper power connection.
GPON	Green	Off	No GPON connection is established.
		Solid	Proper GPON connection is established.
		Blinking	GPON connection is being established.
LAN	Green	Off	No connection is established on this port.
		Solid	Proper connection is established on this port.
		Blinking	Data transferring on this port.
LOS	Red	Off	Receiving optical power properly.
		Blinking	Optical signal is not stable.

2.1.2 Back Panel



- PON: Port for connecting fiber (Do not look steadily at it in case of eye damage).
- LAN: RJ-45 port for connecting to a hub, switch or PC (installed with NIC).
- Reset: Reset button for restoring default factory settings. Press it for 5 seconds with a pointed object to restore default factory settings and the device will reboot automatically.
- PWR: Port for connecting to power supply.
- ON/OFF: Power switch.

2.2 Basic Requirement

- GPON fiber broadband service;
- PC and Ethernet cable;
- Operation System supporting TCP/IP protocol;
- Internet Explorer 6.0 or higher.

2.4 Safety Caution

Use the following safety guidelines to ensure your own personal safety and to help protect your device from potential damage.

- Do Not look steadily at the PON port on this device in case of eye damage.
- Keep the device out of children's reaches.
- Ensure proper ventilation space ($\geq 10\text{CM}$) and keep this device away from heat sources, water and electromagnetic devices, such as microwave, refrigerator, cellphone, etc.
- Follow the instructions provided in this manual to install the device.
- Ensure the basic supply voltage standard must be met and use the provided power adapter.
- Keep your hands dry while plugging cables.
- Do not put any object on this device in case of damage.
- Prevent some matters, such as metals, and water or other liquids from entering the

- device through the ventilation hole.
- Please cut off power supply immediately, pull out all cables and contact the specified maintenance staff if any fault happens.
- Disconnect the power supply and pull out all cables, such as the power cord, fiber, Ethernet cable, etc. in lightening days.

Chapter 3 Installation

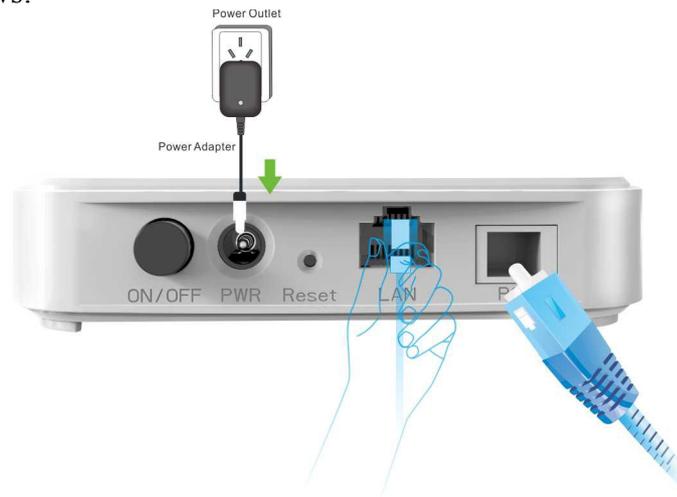
3.1 Physical Installation



Note:

For physical installation, please cut off the power supply and keep your hands dry.

Steps are as follows:



Step 1: Connecting PC, set top box, hub or switch to the LAN port on this device with Ethernet cable.

Step 2: Connecting to the PON port on this device with fiber (Please select single mode fiber and the PON port and GPON ONU port should be the SC type).

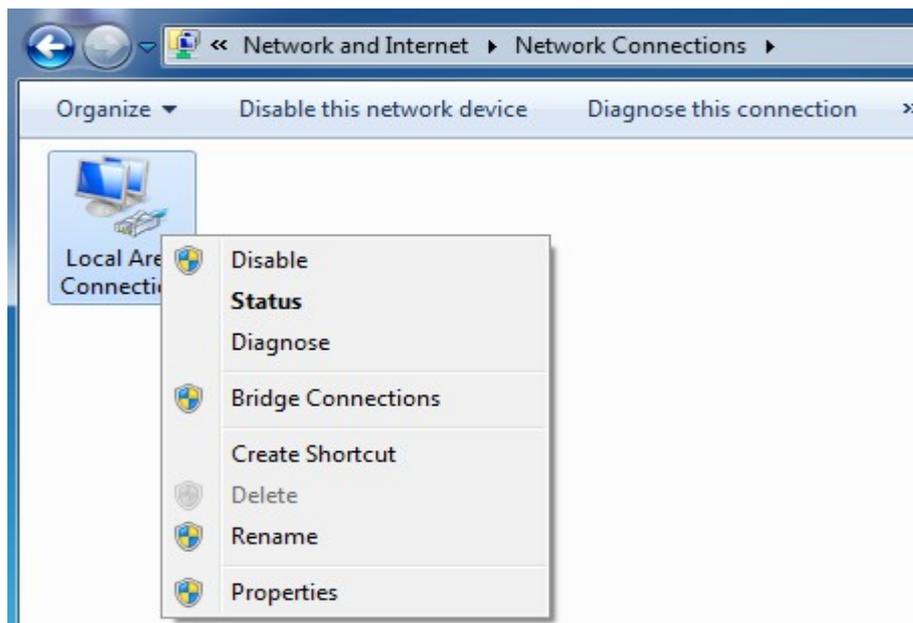
Step 3: Connecting to power supply with the provided power adapter.

Step 4: Pressing the power switch (ON/OFF).

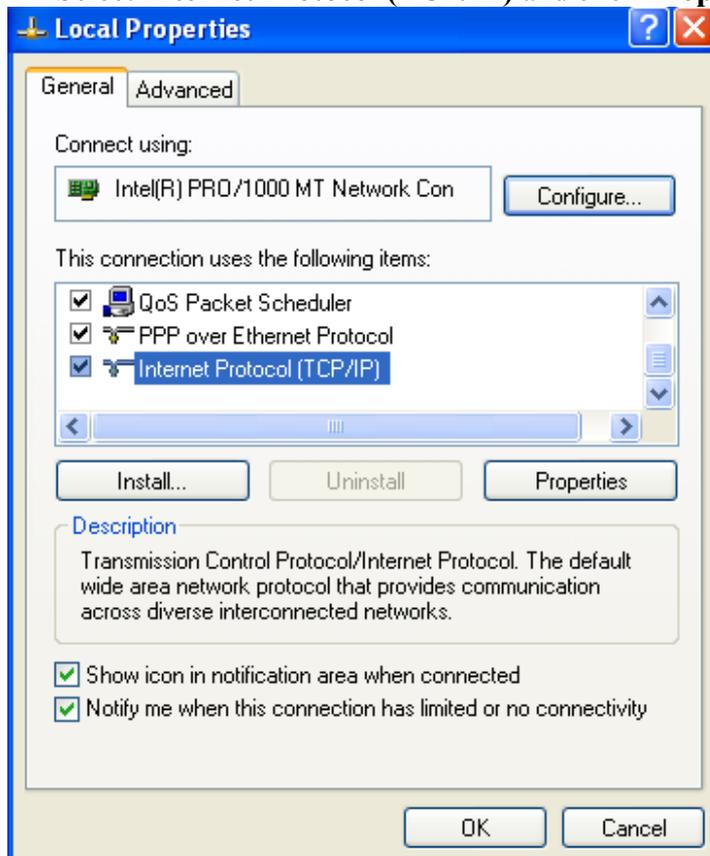
3.2 Configure PC

The default IP address of this device is 192.168.1.1. If you are using the default IP subnet, the computer you are using to connect to the device should be configured with an IP address that starts with 192.168.1.x (where x can be any number between 2~254) and a Subnet Mask of 255.255.255.0; if you have changed the subnet of this device, the computer you are using to connect must be within the same subnet. This section takes Windows XP for example to help you to login this device's web page.

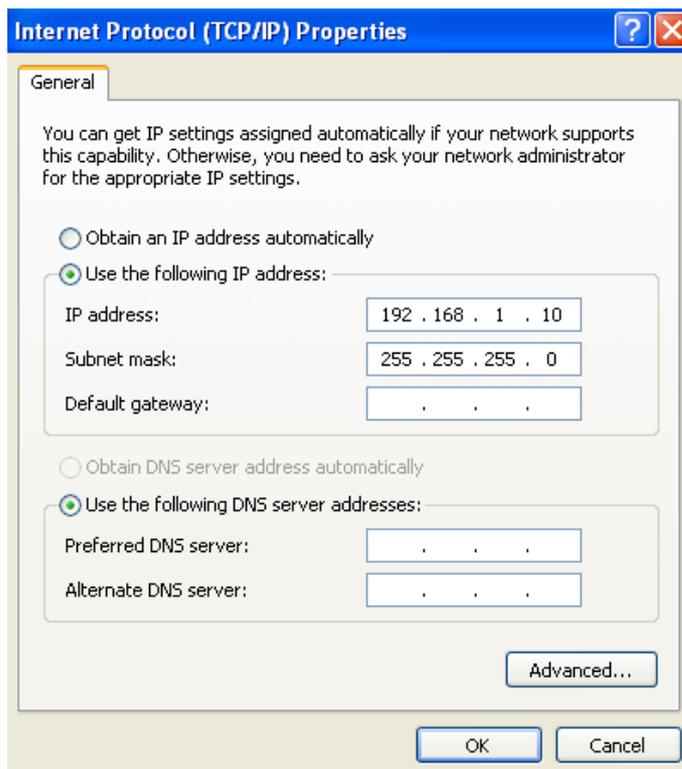
- A. Right click **My Network Places**, select **Properties**, right click **Local Area Connection** and select **Properties**;



B. Select **Internet Protocol (TCP/IP)** and click **Properties**;



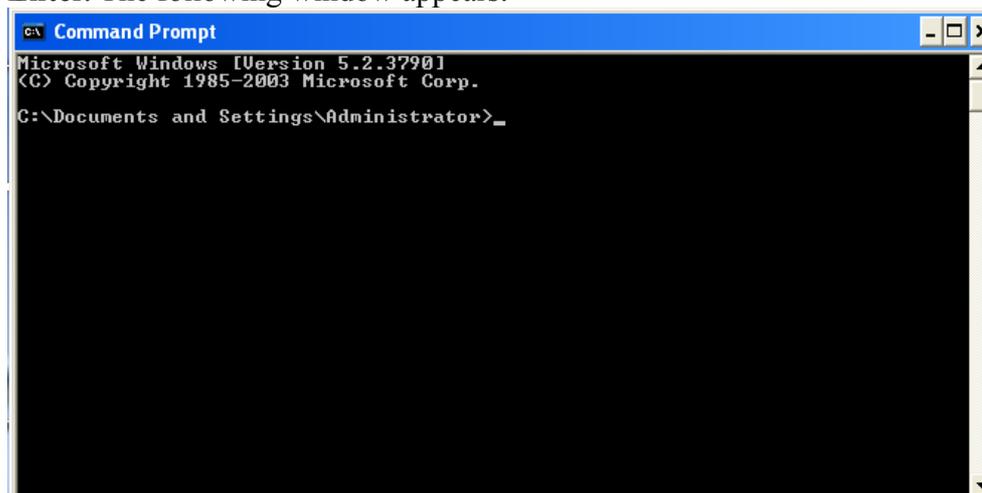
C. Select **Use the following IP address**, enter **192.168.1.X (X: 2~254)** and **255.255.255.0** in corresponding blanks and click **OK** to save the configurations.



 **Note:**

This device does not support DHCP feature, thus you have to configure your PC manually. As for Windows 98 or earlier version of operation systems, after the above mentioned configuration, you may need to restart your PC.

D. Click **Start** > **Run**, input cmd on the appearing dialog box and then click **OK** or **Enter**. The following window appears.



E. Input ping 192.168.1.1 and press **Enter**.

1) If you get a screen as seen below, your computer have successfully connected to this device.

```

CA Command Prompt
Microsoft Windows [Version 5.2.3790]
(C) Copyright 1985-2003 Microsoft Corp.

C:\Documents and Settings\user>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\user>

```

2) If you get a screen as the following,

```

C:\Documents and Settings\user>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Documents and Settings\user>

```

It indicates installation failure still exists. Please verify the following step by step:

a. The physical installation is correct.

The LAN LED on the device and NIC LED on your PC should be lighted.

b. TCP/IP configuration is correct.

3.3 Login

1). Launch a web browser; in the address bar, input 192.168.1.1 and press the **Enter** button;



Login

User Name

Password

2) Enter the user name and password (The values are admin/admin or user/user by default.) and click **OK** to visit its web page as shown below.

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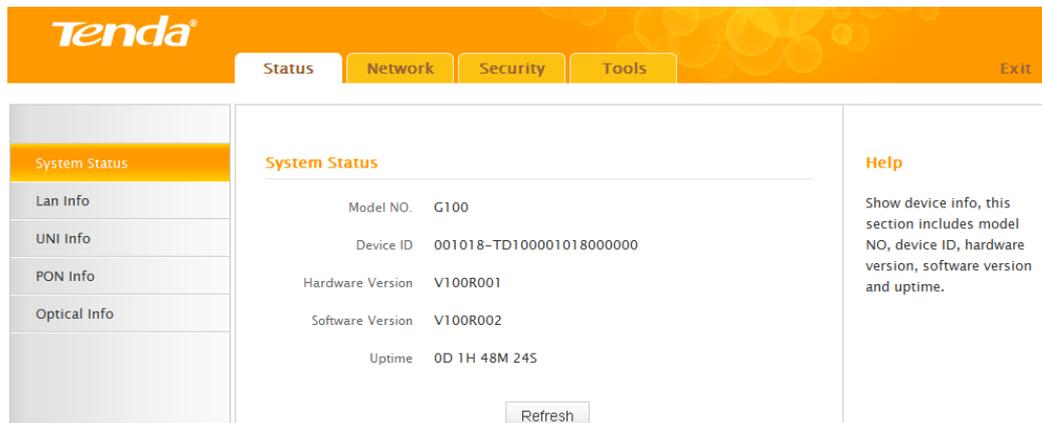
Status Network Security Tools Exit

System Status	System Status	Help Show device info, this section includes model NO, device ID, hardware version, software version and uptime.
Lan Info	Model NO. G100	
UNI Info	Device ID 001018-TD100001018000000	
PON Info	Hardware Version V100R001	
Optical Info	Software Version V100R002	
	Uptime 0D 0H 6M 8S	
	<input type="button" value="Refresh"/>	

Chapter 4 Advanced Settings

4.1 Status

This section allows you to view this device's current system status, LAN info, UNI info, PON info and optical info.



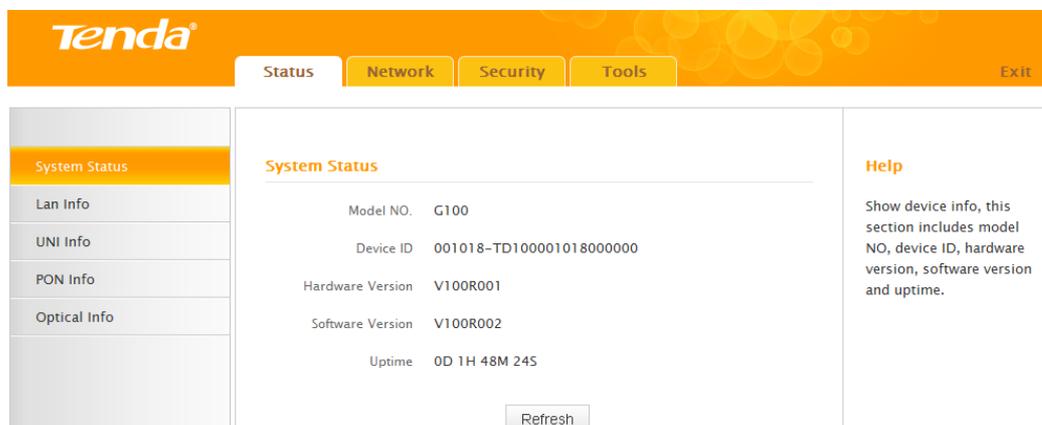
The screenshot shows the Tenda web interface with the 'Status' tab selected. The 'System Status' section is active, displaying the following information:

Model NO.	G100
Device ID	001018-TD100001018000000
Hardware Version	V100R001
Software Version	V100R002
Uptime	0D 1H 48M 24S

A 'Refresh' button is located below the information. On the right side, there is a 'Help' section with the text: 'Show device info, this section includes model NO, device ID, hardware version, software version and uptime.'

4.1.1 System Status

This page displays the system info, including model NO., device ID, hardware version, software version and uptime. Click **Refresh** to refresh the current info.



This screenshot is identical to the one above, showing the 'System Status' page with the same system information and 'Refresh' button.

4.1.2 LAN Info

This page displays LAN info, including LAN MAC address, IP address and subnet mask. Click **Refresh** to refresh the current data info.

The screenshot shows the Tenda web interface with the 'Network' tab selected. The left sidebar contains a menu with 'Lan Info' highlighted. The main content area displays the following LAN information:

LAN Info	
LAN MAC Address	00:10:18:00:00:00
IP Address	192.168.1.1
Subnet Mask	255.255.255.0

A 'Refresh' button is located at the bottom right of the LAN Info section.

4.1.3 UNI Info

This page displays current UNI info, including connection status, mode and speed of the LAN port. Click **Refresh** to refresh current info.

The screenshot shows the Tenda web interface with the 'Network' tab selected. The left sidebar contains a menu with 'UNI Info' highlighted. The main content area displays the following UNI information:

UNI Info	
Connection status	Up
Mode	Full
Speed	100 Mbps

A 'Refresh' button is located at the bottom right of the UNI Info section.

4.1.4 PON Info

This page displays the WAN info, including WAN connection status, enable upstream FEC, enable downstream FEC. Click **Refresh** to refresh the current info.

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Status Network Security Tools

System Status

Lan Info

UNI Info

PON Info

Optical Info

PON Info

Connection Status	O1 INITIAL
Enable Upstream FEC	Disabled
Enable Downstream FEC	Disabled

Refresh

4.1.5 Optical Info

This page displays current optical info, including optical module temperature, optical module power feed volt, optical module bias current, optical module TX power and optical module RX power. Click **Refresh** to refresh current info.

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Status Network Security Tools

System Status

Lan Info

UNI Info

PON Info

Optical Info

Optical Info

Optical Module Temperature(°C)	57.19
Optical Module Power Feed Volt(mV)	3.35
Optical Module BIAS Current(mA)	4.22
Optical Module Tx Power(dbm)	-40.0
Optical Module Rx Power(dbm)	-40.0

Refresh

4.2 Network

This section allows you to configure LAN and PON settings.

4.2.1 LAN Setting

This page allows you to modify the LAN IP address and subnet mask.



The screenshot shows the Tenda web manager interface. At the top, there is an orange header with the Tenda logo and four navigation tabs: Status, Network, Security, and Tools. Below the header, on the left side, there is a sidebar with two menu items: 'LAN Setting' (which is highlighted in orange) and 'PON Setting'. The main content area is titled 'LAN Setting' and contains two input fields. The first field is labeled 'IP Address' and contains the value '192.168.1.1'. The second field is labeled 'Subnet Mask' and contains the value '255.255.255.0'. Below these fields is a button labeled 'Apply/Save'.

IP Address: Device's LAN IP address. The default is 192.168.1.1. You can change it according to your need.

Subnet Mask: Device's LAN subnet mask, 255.255.255.0 by default. For normal network connection, do not change it unless necessary.

After the configuration, click **Apply/Save** to save your settings.



Note:

1. If the LAN IP address is changed, you need to enter the new IP address to login its web manager.
2. All devices' subnet masks in this LAN should be the same as this subnet mask.

4.2.2 PON Setting

This page allows you to configure this device's Password and SN. This device has a SN and no password by default. If these two parameters are the same with that provided by your ISP, then there is no need to configure them; If not, please enter the new password and SN provided by your ISP.

Current Password: Device's current password. No password by default.

New Password: Enter the new password provided by your ISP.

After the configuration, click **Apply/Save** to save your settings and the new password will be displayed in the Current Password blank.

Current SN: Device's current certificated SN.

New SN: Enter the new certificated SN provided by your ISP.

After the configuration, click **Apply/Save** to save your settings and the new SN will be displayed in the Current SN blank.

4.3 Safety

This section allows you to set the times specific clients can or cannot access the Internet via the devices' MAC Addresses.

4.3.1 MAC Filter

Enable: Select it to enable MAC filtering setup.

Policy: Select FORWARD or BLOCKED.

FORWARD: Entries allowed to access.

BLOCKED: Entries forbidden to access.

Change: Select it to switch the policy.

Change Policy: Click to confirm the policy switch.

Add/Remove: Click the **Add** button or the **Remove** button to configure the MAC filtering rules list. Up to 8 rules can be added.



Note:

1. Once the **Policy** is changed, all previous MAC filter settings will be cleared.
2. The correct MAC address format is XX:XX:XX:XX:XX:XX.

4.4 Tools

This section is used for some system operations and maintenance, including system log, statistics, user management, firmware update, restore to factory default and reboot.

4.4.1 System Log

This page allows you to view and configure system log.

Click **View System Log** to view the current system logs.

System Log

Date/Time	Facility	Severity	Message
1st day 00:01:58	syslog	emerg	BCM96345 started: BusyBox v1.17.2
1st day 00:01:58	kern	err	kernel: wl: Unsupported thread priority 0
1st day 00:01:58	kern	crit	kernel: eth0 Link UP 1000 mbps full duplex
1st day 00:01:58	kern	crit	kernel: eth0 Link DOWN.
1st day 00:01:58	kern	crit	kernel: eth0 Link UP 100 mbps full duplex
1st day 00:01:58	kern	crit	kernel: eth0 Link DOWN.
1st day 00:01:58	kern	crit	kernel: eth0 Link UP 100 mbps full duplex
1st day 00:01:58	kern	crit	kernel: eth0 Link DOWN.
1st day 00:01:58	kern	crit	kernel: eth0 Link UP 100 mbps full duplex
1st day 00:01:58	kern	crit	kernel: eth0 Link DOWN.
1st day 00:01:58	kern	crit	kernel: eth0 Link UP 100 mbps full duplex

Refresh Close

Click **Configure System Log** to configure current log level.

Log: Enable it to record logs or Disable it not to record logs.

Log Level: Select the log level, including emergency, alert, critical, error, warning, notice, informational and debugging.

Display Level: Select log's display level, including emergency, alert, critical, error, warning, notice, informational and debugging.



Note:

If you select Disable, all system logs will be lost.

4.4.2 Statistics

Here you can view the send packets and receive packets of the PON, OMCI and UNI port.

Statistics	
PON	
Send Packages	0
Receive Packages	0
OMCI	
Send Packages	8
Receive Packages	0
UNI	
Send Packages	16734
Receive Packages	14414
Lose Packages	0
Wrong Packages	0

Refresh

4.4.3 User Management

This page allows you to modify your login user name and password. There are two user names and passwords by default: admin/admin and user/user.

User Management

Access to your ONU is controlled through two user accounts: admin and user.

The user name "admin" has unrestricted access to change and view configuration of your ONU.

The user name "user" can access the ONU, view status and statistics.

Use the fields below to enter up to 16 characters and click "Apply/Save" to change or create passwords.

User Name

Old Password

New Password

Confirm Password

**Note:**

1. For safety, you'd better change the password. If you forgot the password, please press the reset button to restore default factory settings.
2. If the user name and password error occurs three times continuously, the system will be locked, but unlocked automatically one minute later.
3. If you select user/user to login, you can only view status and statistics.

System Status

Model NO. G100

Device ID 001018-TD100001018000000

Hardware Version V100R001

Software Version V100R002

Uptime 0D 4H 3M 52S

4.4.4 Firmware Update

Firmware update is released periodically to improve the functionality of your device and also to add new features.

Update Software

Step 1: Obtain an updated software image file from your ISP.

Step 2: Enter the path to the image file location in the box below or click the "Browse" button to locate the image file.

Step 3: Click the "Update Software" button once to upload the new image file.

NOTE: The update process takes about 1 minute to complete, and your ONU will reboot.

Software File Name

Browse: Click to locate and select the firmware.

Update Software: Click to update firmware. Device will restart automatically when update completes.



Note:

1. Before you upgrade the firmware, make sure you are having a correct firmware. A wrong firmware may damage the device.
2. Do NOT disconnect device from power supply while firmware update is in process. After updating, the device will reboot automatically.

4.4.5 Restore to Factory Default

Click the **Restore Default Settings** button to reset device to factory default settings and the device will reboot automatically.

Restore Default Settings

Restore ONU settings to the factory defaults.

The default factory settings are listed below:

- IP Address: 192.168.0.1

- Subnet mask: 255.255.255.0.
- User name and password: admin/admin or user/user.

4.4.6 Reboot

Click the **Reboot** button to restart the device.



Appendix A FAQ

Q1: What should I do if I forget the login user name and password (How to reset this device)?

Press the RESET button on the back panel for 5 minutes to restore default factory settings.



Note:

- 1. The default login IP is 192.168.1.1. The default user name/password is admin/admin or user/user.*
 - 2. Make sure your PC's IP address is 192.168.1.X (X: 2~254).*
-

Q2: What should I do if I can't visit the Internet?

1) PWR LED is off;

- Please verify the power adapter is tightly plugged;
 - Please verify the power button is on;
 - Please ensure the power supply specification is met;
- After the above-mentioned checks, if the PWR LED is still off, please contact the local reseller.

2) GPON LED is off;

- Please verify the GPON terminal is authorized;
- Please verify the GPON port is properly connected;

3) LOS LED is blinking;

If the LOS LED is blinking for a long time:

- Please verify the fiber is properly connected;
 - Please verify the fiber is in good condition;
- After the above-mentioned checks, if the LOS LED is still blinking, please contact your ISP.

4) LAN LED is off;

- Please verify the Ethernet cable is tightly plugged. If the LAN LED is still off, try to change your Ethernet cable;
- Please verify your PC's NIC is functioning properly;

5) If you still have no access to Internet;

- Ensure the dial software is correctly installed;
- Ensure the user name and password provided by your ISP is valid;
- Ensure your browser is correctly configured;
- Try to log in different websites in case of web server failure;

After the above-mentioned checks, if you are still unable to visit the Internet, please contact your ISP.

Q3: What should I do if often drop line?

Dropping line involves many reasons, including line fault, line interference, etc.

we recommend you:

- Verify the fiber and Ethernet cable is tightly connected;
- Ensure the basic supply voltage standard must be met;
- Ensure your PC is functioning properly;
- If the above-mentioned problems do not exist, please contact your ISP.

Appendix B Technical Specifications

1. Specifications

Item	G100
Size (length×width×height)	116*90.5*24mm
Weight (including the power adapter)	196g
Power Supply Specification	12V1A
Power Adapter Input	100-240AC
Temperature	0-45
Humidity	10%-90%, non-condensing

2. Network Protocol

ITU-T G.984

IEEE 802.3ab

Appendix C Abbreviations

DHCP: Dynamic Host Configuration Protocol
GPON: Gigabit-capable Passive Optical Network G
FTTH: Fiber To The Home
ISP: Internet Service Provider
LAN: Local Area Network
ONU: Optical Network Unit
OLT: Optical Line Terminal
PON: Passive Optical Network
PPPoE: Point to Point Protocol over Ethernet
QoS: Quality of Service
VLAN: Virtual Local Area Network

Appendix D Safety and Emission Statement



CE MARK Warning

This is a Class B product In a domestic environment, this product may cause radio

interference, in which case the user may be required to take adequate measures. This device complies with EU 1999/5/EC.

NOTE:(1)The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.(2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.



FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other

antenna or transmitter.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

NOTE: (1)The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.(2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.

NCC Notice

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更設計之特性及功能。

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