



ONU MANUAL

WT-101G

Version: 1.0

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1 INTRODUCTION

1.1 General Description

ONU is a equipment used in PON networking system to provide data service for end users. The main function of ONU is receiving the optical signals from downlink and convert it into ethernet signals then deliver to users. And receiving the ethernet signals from uplink signal of users equipment or networking and switch it into optical signals then deliver to upper networking through PON networking system..

WT-101G is a Optical Network Unit of GPON series products. EPON series product uses PON technology, it precedes over the traditional optical accessing products on not only cost performance, maintainability but also extendibility.

WT-101G is a device with 1 uplink GPON port and 1 10/100/1000M RJ45 ports, it suits for the FTTB networking syetem.

1.2 FEATURE

WT-101G be connected to OLT via ODN (Optical Distributed Net), Compose Gepon net which optical ratio is 1: 32 or 1: 64 (Short Distance) .

Feature of WT-101G:

- Compatible with 802.3ah, Support up to 8 LLID
- Alarm of Power off
- Support IGMP Snooping
- Support remote online updating of software
- Data Encryption Support, Protection of User Data Safety
- Function of Bandwidth Control Based on Service, Support DBA
- Ports on User Isolated
- Support 802.1Q VLAN, QoS, Management for Priority of Service
- Support remote monitoring/data diagnosis function ,end user configuration / incident detection
- Remote Loop testing
- Centralized Management on OLT Side
- Optical Link Distence Testing Support

1.3 OUTLINE

1.3.1 Front Panel



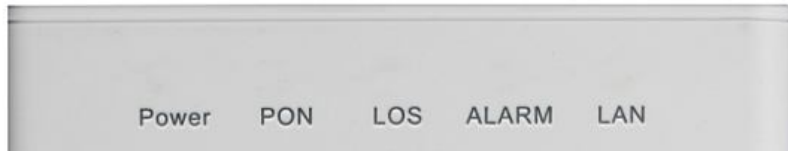
WT-101G Fron Panel

Ports Discription(From Left to Right):



- EPON Fiber Port: SC/PC, Connected to OLT .
- LAN: 10/100/1000M Base Ethernet Ports , Support auto MDI-MDIX Function.
- RST : Press this button, Reset ONU.
- DC12V: DC 12V/1A Input Port
- Power: Power Switch

LED Discription:



Leds	color	definition	
PON	blue	OFF	No Link
		ON:	ONU Registered
LOS	red	FLASH	No Normal Optical Signal
		OFF	Normal Optical Signal Received
LAN	blue	FLASH	Data Transporting
		OFF	Link Down
POWER	blue	ON	Power On
		OFF	Power Off
ALARM	red	FLASH	Device can not work normally
		OFF	Work Normally

Table 1 WT-101G LED Discription

1.3.2 Dimension、Weight

Dimension: 109.98mm(L) x 90.00mm(W) x 23.95mm (H)

Weight: 0.27kg



2 EQUIPMENT INSTALLING

2.1 INSTALLING ENVIRONMENT

- The device is a corridor equipment, it can be installed on wall or arrange on a platform as well.
- It should be waterproof, dampproof and lighting protecting when installing
- In order to make sure a good circumstance of heat radiation,pls leave enough space for devices when installing

2.2 POWER REQUIREMENT

WT-101G be supplied power by external power adapter.

Input of Power Adapter: 100~240V AC 50/60Hz

output of Power Adapter: 12V/0.5A

Power Consumption: < 6W

2.3 OPERATING ENVIRONMENT

Operating Temperature: - 5 °C ~ 55 °C

Storage Temperature: -40 °C ~ 80 °C

Relative Humidity: 5% ~ 95%

2.4 INSTALL

According to different installing environment and habit of customers. There are 2 kinds of installing patterns for WT-101G as follows, it is alternative

- Plane Installing
There are 4 pieces of pad at the bottom of the equipment, it can be arranged on the plane directly

Warning: Pls don't put any heavy goods on the equipment. A certain room should be left for the equipment

- Vertical Installing
There are 2 crossing grooves arranged at the bottom pad of the equipment. Pls install 2 screws on the wall as per the position of the grooves., aim and stuck the screws ,grooves softly

2.5 CABLE CONNECTING

PON Port Connecting:

Pick off the cover of the fiber and insert fiber into the PON connecting port of the equipment.



Warning : The fiber connecting port should keep clean

FE Port Connecting:

Ports FE1 support auto MDI/MDIX function , should be individually connected to equipment on users side.

2.6 ENERGIZATION

Firstly please check whether the power supply is in the range of the equipment. If yes, please insert the plug of power supply into the plug socket directly, then turn on the switch of the plug socket.

Warning: Power on the equipment after connecting with power supply unit.

After equipment is power on, if work nomally,
LEDs should be:

- ✓ Power light is on
- ✓ If there is regular optical input at PON port,the OPT IN light should be on
- ✓ If ONU has a regular connecting with OLT,the LINK guiding light of PON should blink.This means ONU is registering from OLT.The LINK light will stay on after the registration

Warrning: It will take approximate 30 seconds from power supply connecting to finish the start up.If more ONU connected,more time will cost.But can't be over 60 seconds.



3 TECHNICAL SPECIFICATION

3.1 PORTS SPECIFICATION

3.1.1 PON PORT

Parameter as following table:

Parameter	Min	Typical	Max	Unit
Optical Transmitter				
Wavelength	1300	1310	1320	nm
Power(average)	-1	—	+4	dBm
Rate		1.25		Gbit/s
Optical Receiver				
Wavelength	1480	1490	1500	nm
Sensitivity			-25	dBm
Overload	-3			
Rate		2.5		Gbit/s
Receptacle	SC/PC			

Table 2 Parameter for PON Port

3.1.2 ETHERNET PORT

Standard: Support IEEE802.3 Series

Transmission Rate: 10M、100M、10/100M Auto Negoniation

Operating Mode: Full、Half、Full/Half Auto Negoniation

Cable: RJ45 Connector, CAT3/5 Unshielded Twisted Pair

Transmission Distance: 100 Meters

Ports Quantity: 1

3.2 NETWORK MANAGEMENT

WT-101G support web management, can be managed in locate. And can be managed by software EMS on OLT side also. Detail of installing and using about EMS, please reference to manual of EMS.



APPENDIX A SECURITY REMINDER

- Please don't pick off the cover of fiber adapter before connect the fiber
- Don't look at the fiber port with your bare eyes
- Don't open up the out shell of equipment in personal
- Please make sure the operating voltage is suit for the equipment
- Don't bend the fiber, the semidiameter should be more than 38mm
- Keep it waterproof, dampproof

APPENDIX B COMMON FAULT ANALYSIS

Pls settle the faults with following advice if you meet issues when you are installing equipments. Please contact with us if you need help

Regular faults	Solutions
PWR LED OFF	Power adapter not connected
LED of OPT IN FLASH	Fiber of PON not connected
	Receptacle not match
	Loss of optical link is high
LED of PON REG/LNK FLASH	ONU registration failure, check whether optical power exceed optical overload power or not, Whether ONU MAC is included in block list of OLT or not
Packet Loss Rate High	Input optical power is too low, Radius of curvature is too short or end of fiber is not clean
	Configuration is right or not
	FE PORT is connected correctly or not, operating mode is matched or not
Registered, but no data	LLID of ONU is blocked or not, bandwidth is distributed or not, and other configuration is right or not

APPENDIX C APPLICATION

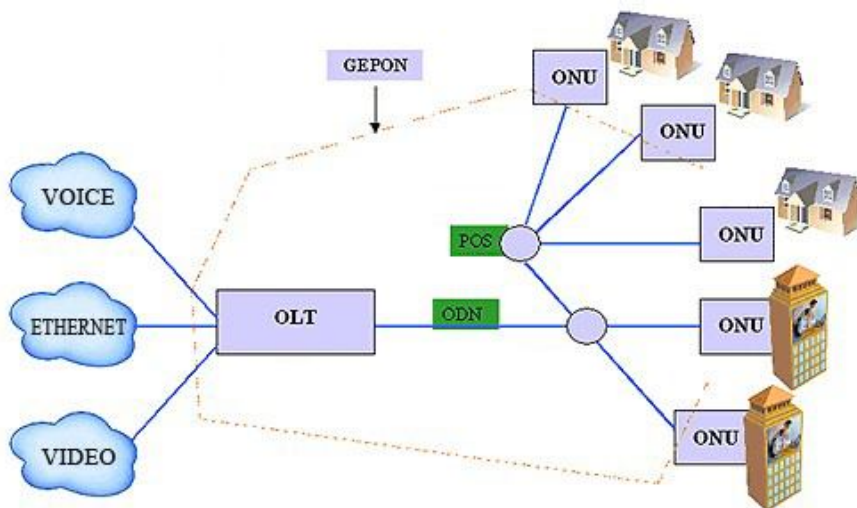


Figure 2 Network Topology