Quick Installation Guide
GPON ONT
HALNY HL-4GMV2



Safety guidance

1.1 Safety check

Before installing the device, you must check the following items.

1.1.1 Electric safety

- Ensure that there are no inflammable, conductive or moist objects around. Check whether the cables are aged and whether other electrical appliances are placed stably,
- check whether the alternating or direct input current is within the allowed range of the device, whether the polarity of the direct current is correct, and whether the earth line is properly connected.

1.1.2 Device position

- Because the running electric device easily generates heat, please ensure to place the device in a well-ventilated environment,
- avoid direct sunshine and do not place the device on a PC case,
- keep the device away from heat and water,
- check whether power supply is available. The input voltage fluctuation range must be smaller than 10%. The power plug should not share one socket with a hair drier, an iron or a refrigerator.

1.2 Safety caution

- Read the quick installation guide carefully before using the device.
- note all cautions in the quick installation guide,
- do not use any accessory that does not belong to the device without prior consent of the manufacture, as it may cause fire or product damage,
- use the power adapter accompanied in the package,
- do not place any object on the device,
- keep the device dry, ventilated, rainproof and clean,
- during lightning weather, unplug the power plug and all connection cables, to protect the device against lightning,
- clean the device using a soft and dry cloth rather than liquid or atomizers. Power off the device before cleaning it,

- power off the idle device,
- keep the ventilation hole clean and prevent any object from dropping into the device through it. Otherwise, it may cause short circuit and further cause device damage or fire. Do not spray liquid on the surface of the device,
- do not open the case of the device, especially during device power-on,
- before plugging or unplugging the power, ensure that the power is off, thus avoiding surge,
- be careful when unplugging the power, as the transformer may be very hot,
- cover the optical interface with fiber interface cap when it is not in use. Avoid direct eye exposure to the laser emitted from the optical interface. Wear safety glasses if possible, to protect your eyes.



Caution:

Please read the above safety guidance carefully before device use. Users should assume responsibilities for any accidents due to incompliance with the above instructions.

2 Overview

This chapter mainly describes functions and the structure of the **HALNy**.

2.1 Features and function

- Fast rate. Support up to 1.25Gbps uplink and 2.5Gbps downlink data transmission rates,
- strong maintainability. Provide various statuses of LED indicators, to help troubleshooting,
- long transmission distance, up to 20 km.

2.2 Front, rear and side panel

The description of the front, rear and side panel of the GPON ONU as follows.

2.2.1 Front panel



Fig. 1 - Front panel

LED	Color	Status	Description
PWR	Green	On	The power works normally.
		Off	Powered off or the power supply is abnormal.
PON	Green	Refer to Table 4: “PON LED Status Instruction”.	
LOS	Red	Refer to Table 4: “PON LED Status Instruction”.	
NET	Green	On	Got WAN IP address successfully.
		Blink	Data is being transmitted.
		Off	Device in bridged mode or no IP.
LAN1-4	Green	On	The connection of Ethernet interface is normal.
		Blink	Data is being transmitted through the Ethernet interface.
		Off	The connection of the Ethernet interface fails to establish.
2.4G	Green	On	The connection of Ethernet interface is normal.
		Blink	Data is being transmitted through the Ethernet interface.
		Off	The connection of the Ethernet interface fails to establish.
5G	Green	On	The connection of Ethernet interface is normal.
		Blink	Data is being transmitted through the Ethernet interface.
		Off	The connection of the Ethernet interface fails to establish.
TEL1-2	Green	On	Voip account is registered.
		Blink	Phone call.
		Off	Port deactivated or Voip account is unregistered.

Table 1. ONU LED indication table

LED	Color	Status	Description
NET	Green	On	Got WAN IP address successfully.
		Blink	Connecting with controller.
		Off	Device in bridged mode or no IP.

Table 2.ONU LED indication table for Easy Mesh controller mode

LED	Color	Status	Description
2.4G	Green	On	The connection of Ethernet interface is normal.
		Blink	Initialization of adding a agent.
		Off	The connection of the Ethernet interface fails to establish.
5G		On	The connection of Ethernet interface is normal.
		Blink	Initialization of adding a agent.
		Off	The connection of the Ethernet interface fails to establish.

Table 3.ONU LED indication table for Easy Mesh agent mode

PON LED Status Instruction		
PON	LOS	Description
Off	Off	The ONT is disabled by the OLT.
Flash	Off	The ONT is registering to the OLT.
On	Off	The ONT has already registered to OLT.
Off	Flash	The fiber is not connected properly.

Table 4.PON LED status instruction

2.2.2 Rear panel

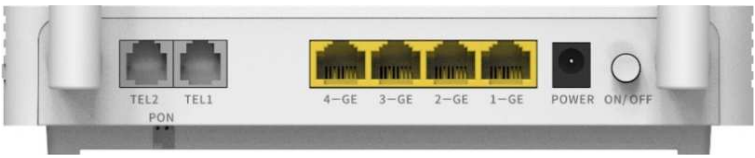


Fig 2. Rear panel

ONU rear panel description：

Interface / Button	Function
LAN1-4	Ethernet interface, for connecting to a computer or an Ethernet interface of a switch. LAN4 - EWAN - WAN interface when ONT works as Ethernet router, not ONT.
Power	Connect power cable .
ON/OFF	Turn on/off the power supply.
TEL1-2	RJ-11 telephone port.

Table 5.Rear panel port description

2.2.3 Side panel

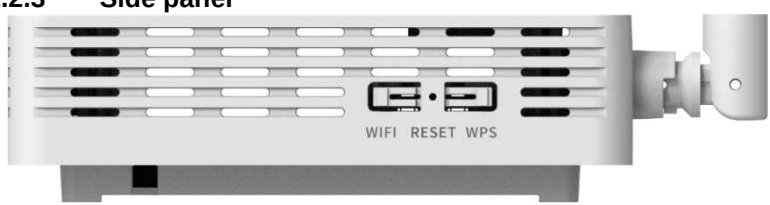


Fig 3 Side panel

ONT side panel description：

Button	Function
WLAN	Press and hold for 5 seconds to disable/enable Wi-Fi.
WPS	Press and hold for 5 seconds to activate WPS pairing. If MESH is enabled, press for 10 seconds to activate MESH pairing. In MESH mode, WPS paring is disabled.
RST	Press and hold the button for at least 30 seconds (and no longer than 40 seconds) to restore the device to factory settings.

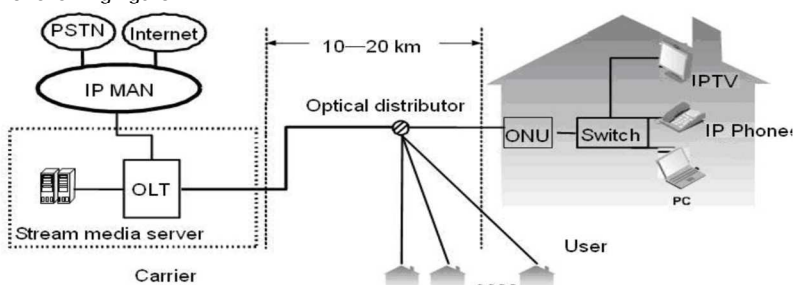
Table 6. Side button description

3 ONU installation

The chapter describes the required installation operations before you use the device for the first time.

3.1 Product networking application - FTTH

Fiber to the Home (FTTH) means to install the ONU to residences or enterprise buildings. The optical line terminal (OLT) is placed in the central equipment room. The ONU can be placed in the home of a user or it can provide connection for the user through the Ethernet interface, according to the user requirement. The OLT connects to the ONU with an optical distributor in the point-to-multipoint way. See the following figure.



FTTH

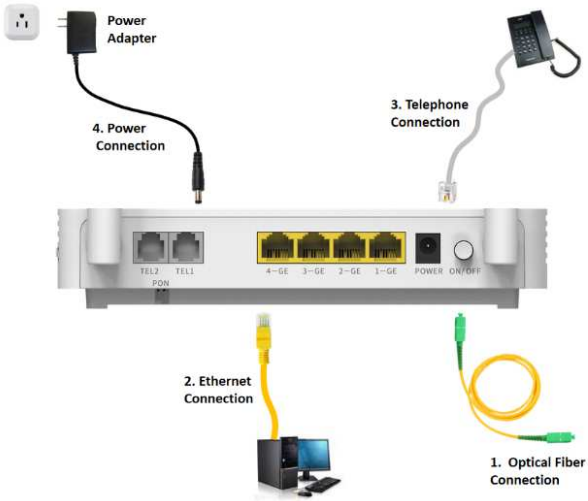
Note：

ONU can be placed in a room or the corridor. Because installation and cabling in the corridor are relatively complex, let the professional engineers deploy according to the actual situation. This manual describes the procedure for installing the device at home, and is for reference only.

3.2 Installation preparations

The Ethernet interface of your computer connects to the Ethernet interface of the ONU. Before installing it, ensure that an Ethernet adapter is already installed in your computer.

3.3 Connecting ONU



3.3.1 Connecting the network cable

Step 1 Use the one end of the network cable to connect the Ethernet interface of the computer.

Step 2 Use other end of a network cable to connect the Ethernet interface on the rear panel of the **HALNy.**

3.3.2 Connecting the fiber

Caution:

- When a fiber is not in use, ensure to cover the optical interface of the ONU and the dust cap of the optical fiber. Prevent grease, dust pollution or water immersion, which may lead to unavailable fiber and optical interface of the device,
- if fibers need to be fixed or bended during cabling, do not fasten the fibers too tight. Avoid fiber extrusion, which may lead to increase of fiber material or unavailable fiber.

3.2.3 Connecting the power adapter and power cord

- Connect the output end of the power adapter included in the device package to the input end of the power supply of the ONU,
- insert one end of the power cord attached with the device into the input end of the power adapter. Insert the other end of the power cord into the power socket,
- check whether the Power indicator is on. If it is on, the power supply is normal. Otherwise, check whether the power cord and the power adapter are correctly connected.

4 Troubleshooting

Symptom	Solution
The **POWER** indicator is not on	● Check whether the power connection is correct, ● check whether the power adapter matches the device.
The **PON** indicator is not on	● Check whether the SN of ONU matches OLT, ● check whether the optical attenuation is in the normal range.
The **LOS** indicator is not on	● Check whether the optical fiber cable is properly inserted, ● check whether the optical fiber connector is clean.
The **LAN** indicators are not on	● Check whether the PC NIC is enabled, ● check whether the network cables included in the device package are used, ● check whether the network cable connection is normal, ● check whether the LED for your corresponding LAN port is on, ● check whether the network adapter works in the normal state.

5 Technical specification

Main technical specifications		
Standard	GPON Standard	ITU-T G.984, TR156/TR255
Rate	Uplink	1.25Gbps
	Downlink	2.5Gbps
Interface	Optical interface	SC/APC, Single Mode
	4 LAN ports	RJ-45 10/100/1000Mbps MDI/MDIX Self adaption
	2 POTS port	RJ-11 FXS
	WiFi 2.4Ghz WiFi 5Ghz	802.11n (2T2R MIMO) 300Mbps 802.11ac (2T2R MIMO) 867Mbps
Physical characteristics and environment requirements		
Power adapter input		100V～240V AC，50Hz～60Hz
Whole-device power supply		12V DC，1.5A
Standard power consumption		<18W
Operating temperature		0˚C～45˚C
Operating humidity		10%~95% (non-condensing）
Dimension		L x W x H：151mm x 185mm x 38mm
Weight		<500g

Appendix a acronyms and abbreviations

GPON	Gigabit Passive Optical Network
FTTB	Fiber to the Building
FTTH	Fiber to the Home
OLT	Optical Line Terminal
ONU	Optical Network Unit
PON	Passive Optical Network

Additional information:

Declaration of conformity (CE/FCC)

This device has been tested and found to comply with the stated standards which are required by the Council Directive of 2014/30/EU and Part 15, subpart B of FCC Rules. The device complies with this CE and FCC Declaration when the installation is done in accordance with the instruction and documentation. The importer don't take responsibility for any issues caused by improper use of the device.

CE / FCC / Warranty terms and conditions:

www.halny.com

Importer:
FIBRAIN Sp. z o.o
36-062 Zaczernie 190F (POLAND)
info@fibrain.pl
BDO: 000007477
FCC ID: 2AWIZHL4GMV2

Information furnished by HALNy Networks is believed to be accurate and reliable. However, no responsibility is assumed by importer for its use, nor for any infringements of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of the manufacturer. Manufacturer reserves the rights to change specifications at any time without notice.

Recycling



This product bears the selective sorting symbol for Waste electrical and electronic equipment (WEEE). This means that this product must be handled according to European directive 2012/19/EU in order to be recycled or dismantled. This will minimize the negative effects on the environment and human health resulting from the possibility of the presence in the equipment substances, mixtures and hazardous components. A user can give the product to a competent recycling organization, to WEEE collection points or to a distributor (in accordance with local regulations).