Quick Installation Guide
HALNy GPON ONT
HL-4GXV-F

1 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 device.

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.

2.1 Front panel

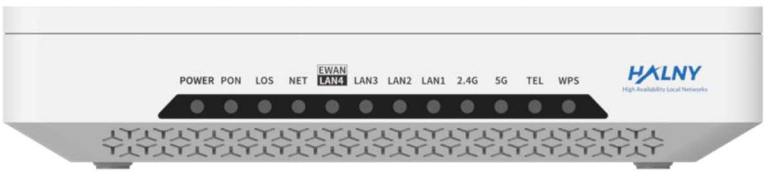


Fig1. Front panel

On the front panel a row of LEDs is placed. Those LEDs allows you to easily check the status of the device and it's interfaces.

LED	Kolor	Status	Opis
POWER	Green	On	Power is ON.
		Off	Power is OFF / Faulty PSU.
PON	Green	Blinks	Device detected by OLT.
		On	Device registered by OLT.
LOS	Red	Blinks	No connection with OLT.
		Off	Active connection with OLT.
NET	Green	On	Network access.
		Off	No network access.
LAN1-4	Green	On	Ethernet link up.
		Blinks	Data transmission.
		Off	Ethernet link down.
TEL	Green	On	VoIP account registered.
		Blinks	Active call.
		Off	VoIP account not registered.
2.4G	Green	On	WiFi interfaces enabled.
		Blinks	Data transmission.
5G			
		Off	WiFi interfaces disabled.
WPS	Green	On	WPS enabled.
		Blinks	Pairing in progres.
		Off	WPS disabled.

Table 1.ONU LED indication table

LED	Kolor	Status	Opis
WPS	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 agent mode

LED	Kolor	Status	Opis
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.
WPS		On	Pairing ok.
		Blink	Initialization of adding a agent.
		Off	Not activated/not triggered.

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

2.2 Rear panel

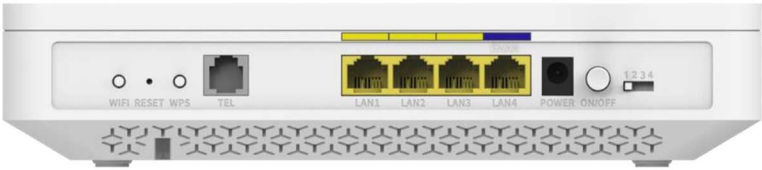


Fig2. Rear panel

ONU rear panel description：

	Function	
POWER	PSU socket.	
LAN1-4	Ethernet socket (RJ45).	
TEL	Phone socket (RJ11).	
ON/OFF	Device power ON/OFF button.	
WPS	Hold for 5s to activate WPS If MESH is enabled, press for 10 seconds to activate MESH pairing. In MESH mode, WPS paring is disabled.	
RESET	Press and hold the button for at least 30 seconds (and no longer than 40 seconds) to restore the device to factory settings.	
WIFI	Hold for 5s to activate/deactivate WiFi.	
SLIDER 1-4	1-3	Front panel LEDs active.
	4	Front panel LEDs inactive.

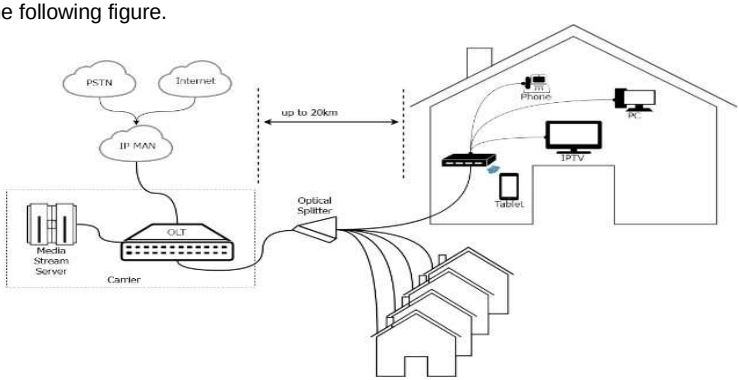
Table 4.Rear panel port description

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

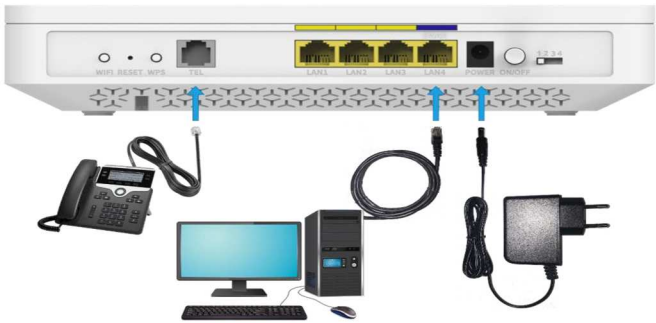
Fiber to the Home (FTTH) means to install the ONU to residences or enterprise buildings. The optical line terminal (OLT) is placed in the central equipment room. The ONU can be placed in the home of a user, or it can provide connection for the user through the Ethernet interface, according to the user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



Caution:

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 Connecting ONU



3.2.1 Wiring connection and power on

1. Connect fiber optical cable (ended with AC/APC plug) to the optical port located on the bottom of the device.
2. You can connect an Ethernet devices to LAN1 … LAN4 sockets (ex. computer with wired NIC, printer, gaming console, set-top-box, TV, etc.)
3. You can connect a phone to TEL socket
4. Plug in the PSU plug to the POWER socket. Before you install the PSU please make sure the ON/OFF button is in OFF position
5. Connect the PSU to the power grid socket
6. Turn on the device by pressing the ON/OFF button.

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.

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	ITU-T G.984, TR156/TR255
Rate	Uplink	1.25Gbps
	Downlink	2.5Gbps
Interface	1 WAN port	SC/APC, Single Mode optical fiber
	4 LAN ports	RJ-45 10/100/1000Mbps, auto-MDI/MDIX
	1 POTS port	RJ-11 FXS
	WiFi 2.4Ghz WiFi 5Ghz	802.11n/ax (2T2R MIMO) 576Mbps 802.11ac/ax (2T2R MIMO) 1201Mbps
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%~90% (non-condensing)
Dimension		L x W x H：225mm x 143mm x 47mm
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 and 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.

Documents are available on below web page or upon contact with importer:

CE / 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: 2AWIZHL4GXVF

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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).