

Quick Installation Guide

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HALNy GPON ONT

HL-4GXV-F

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### Installation

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

#### Product Networking Application - FTTH

to the Home (FTTH) means to install the ONU to residences or enterprise rooms. 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 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 applies to installation at home or in the corridor. Because the laying 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 reference only.

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## 1 Safety Guidance

### 1.1 SafetyCheck

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

#### 1.1.1 ElectricSafety

- 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 SafetyCaution

- 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 manufacturer, 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.

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## 3.2 connecting ONU

### 3.2.1 Wiring connection and power on

- Connect fiber optical cable (ended with AC/APC plug) to the optical port located on the bottom of the device.
- You can connect an Ethernet devices to LAN1 ... LAN4 sockets (ex. computer with wired NIC, printer, gaming console, set-top-box, TV, etc.).
- You can connect a phone to TEL socket.
- 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.
- Connect the PSU to the power grid socket.
- Turn on the device by pressing the ON/OFF button.

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## 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.

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### 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 | <ul style="list-style-type: none"><li>Check whether the power connection is correct.</li><li>Check whether the power adapter matches the device.</li></ul>  |
| The PON Indicator is not on   | <ul style="list-style-type: none"><li>Check whether the SN of ONU matches OLT.</li><li>Check whether the optical attenuation is in the normal range.</li></ul>  |
| The LOS Indicator is not on   | <ul style="list-style-type: none"><li>Check whether the optical fiber cable is properly inserted.</li><li>Check whether the optical fiber connector is clean.</li></ul>   |
| The LAN Indicators are not on | <ul style="list-style-type: none"><li>Check whether the PC NIC is enabled.</li><li>Check whether the network cables included in the device package are used.</li><li>Check whether the network cable connection is normal.</li><li>Check whether the indicator of the network adapter is on.</li><li>Check whether the network adapter works in the normal state.</li></ul> |

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## 2.1 Front panel

On the front panel a row of LEDs is placed. Those LEDs allow you to easily check the status of the device and its 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    | Czerwony | Blinks     | No connection with OLT      |
|        |          | Off        | Active connection with OLT  |
| NET    | Green    | On         | Network access              |
|        |          | Off        | No network access           |
| LAN4-1 | Green    | On         | Ethernet link up            |
|        |          | Blinks     | Data transmission           |
| TEL    | Green    | On         | Ethernet link down          |
|        |          | Blinks     | VoIP account registered     |
| 2.4G   | Green    | On         | Active call                 |
|        |          | Blinks     | VoIP account not registered |
| 5G     | Green    | On         | WiFi interfaces enabled     |
|        |          | Blinks     | Data transmission           |
| WPS    | Green    | On         | WiFi interfaces disabled    |
|        |          | Off        | WPS enabled                 |
|        |          | Miga       | Pairing in progress         |
|        |          | Nie świeci | WPS disabled                |

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## 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               | Single Mode, SC/APC connector                |
|   | 4 LAN ports                     | RJ-45 10/100/1000Mbps MDI/MDIX Self adaption |
|   | 1 POTS port                     | RJ-11 FXS                                    |
|   | WiFi 2.4Ghz                     | 802.11n/ax (2T2R MIMO) 576Mbps               |
|   | WiFi 5Ghz                       | 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                                 | -5°C~45°C                       |  |
| Operating humidity                                    | 5%~95% (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         |

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## 2.2 Rear panel

| 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                           |                           |
| RESET      | Hold for 30-40s to restore 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 |

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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.

FCC Statement: 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 or more 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.

The equipment complies with FCC Radiation exposure limit set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

**Importer:**  
FIBRAIN Sp. z o.o.  
36-062 Zaczernie 190F (POLAND)  
info@fibrain.pl

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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).