



High Availability Local Networks



DESIGNED AND DEVELOPED
IN POLAND

by



HALNY NETWORKS

**Best-in-class independent vendors
GPON / XGS-PON ONTs and Ethernet
Routers (CPE)**

→ halny.com

GPON and XGS-PON

- Customized CPEs and ONTs (hardware and software)
- Interoperable ONTs with adaptive OMCI stack
- Proven interoperability with over **11** OLT vendors
- Universal provisioning methods (XML / TR-069 / DHCP / OTT / API) same for ONTs and CPEs
- **EtherWAN support** (change mode between PON and Ethernet) to simplify migration to GPON
- 2.5 Gigabit Ethernet LAN port



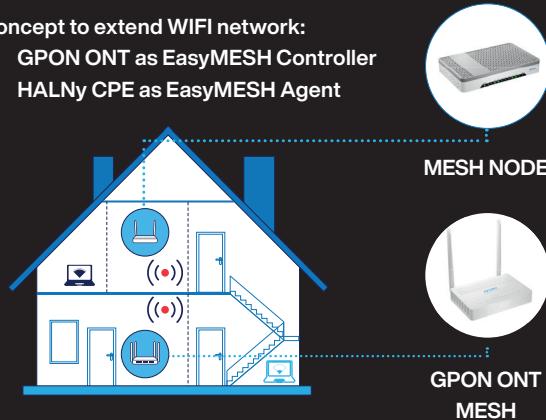
SUPPORT

- Free of charge
- New firmware versions free of charge (no licence needed)
- Knowledge base
- Helpdesk system

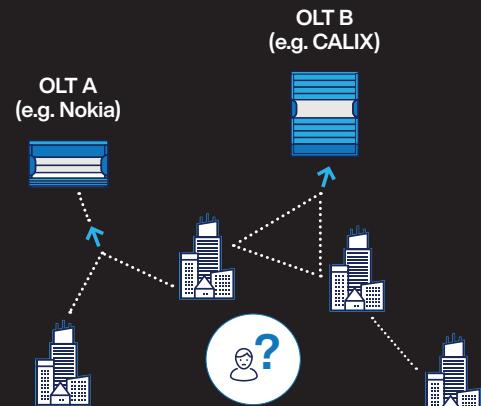
1 Extend WIFI network with HALNy EasyMESH

Concept to extend WIFI network:

- GPON ONT as EasyMESH Controller
- HALNy CPE as EasyMESH Agent

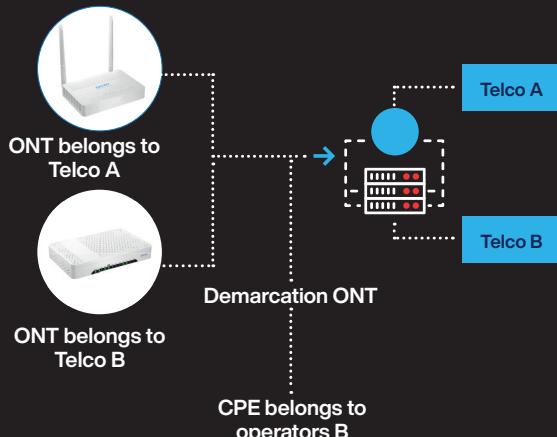


2 Interoperable GPON and XGS-PON ONTs

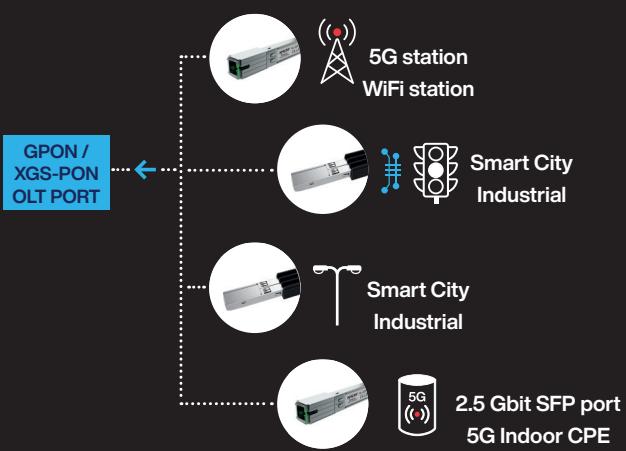


3 Fixed Broadband Sharing

Infrastructure operator responsibility



4 Industrial HALNy ONT HL-GSFP or HLX-SFPX as Demarcation Device



HALNy



HALNy
High Availability Local Networks

GPON ONT



HL-GSFP

GPON ONU SFP with 2.5Gb SFP port and embedded chipset, industrial temperature



HL-1GE / HL-1GC

GPON ONT with 1x Gigabit LAN port and SFU/HGU mode support



HL-1GR

GPON ONT with 1x Gigabit LAN port and RF port for CATV/DVB overlay



HL-1

NEW

GPON ONT with 1x 2.5Gigabit LAN port and SFU/HGU mode support



HL-2BV

GPON ONT with 1x 2.5Gigabit LAN, 1x Gigabit LAN port, 1x VoIP FXS port and SFU/HGU mode support



HL-4G2

NEW
GPON ONT with 4x Gigabit LAN ports and SFU/HGU mode support



HL-4GMV2

GPON ONT with 4x Gigabit LAN ports, Wi-Fi 2x2 5GHz, 2x2 2.4GHz and 2x VoIP FXS ports



HL-4GMVR

GPON ONT with 4x Gigabit LAN ports, Wi-Fi 2x2 5GHz, 2x2 2.4GHz, 1x VoIP FXS port and RF port for CATV/DVB overlay



HL-4GXV-F

GPON ONT with 4x Gigabit LAN ports, Wi-Fi 6 (AX1800), 2x2 2.4GHz and 2x2 5GHz, 1x VoIP FXS port, mode button



HL-4BX3V-F

NEW

GPON ONT with 1x 2.5Gigabit LAN port, 3x Gigabit LAN ports, Wi-Fi 6 (AX3000), 2x2 2.4GHz, 2x3 5GHz and 1x VoIP FXS port



HL-4GX3VR

GPON ONT with 4x Gigabit LAN ports, Wi-Fi 6 (AX3000), 2x2 2.4GHz, 2x2 5GHz, 1x VoIP FXS port and RF port for CATV/DVB overlay



HL-4BY3V-F

coming soon

GPON ONT with 1x 2.5Gigabit LAN port, 3x Gigabit LAN ports, Wi-Fi 7 Dual Band 4x4 and 1x VoIP FXS port



HL-4BY7V-F

coming soon

GPON ONT with 1x 2.5Gigabit LAN port, 3x Gigabit LAN ports, Wi-Fi 7 Dual Band 4x4 and 1x VoIP FXS port

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XGS-PON ONTs



HLX-SFPX

XGS-PON ONU with 10GB SFP+ port and embedded chipset

NEW



HLX-1TL

XGS-PON ONT with 1x 10Gigabit LAN port and SFU mode support

NEW



HLX-1TLV

XGS-PON ONT with 1x 10Gigabit LAN port, 1x VoIP FXS port and SFU mode support

NEW



HLX-TGV

XGS-PON ONT with 1x 10Gigabit LAN port, 1x Gigabit LAN port, 2x VoIP FXS ports and SFU/HGU mode support



HLX-4BYV-F

coming soon
XGS-PON ONT with 1x 2.5Gigabit LAN port, 3x Gigabit LAN ports, Wi-Fi 7
TriBand and 1x VoIP FXS port

coming soon

HALNy CPE



HLE-3GX-F

HALNy Ethernet Gateway with 3x Gigabit LAN ports, 1x Gigabit WAN port, Wi-Fi 2x2 5GHz and 2x2 2.4GHz, Wi-Fi 6



HLE-4BX3V-F

HALNy Ethernet Gateway with 3x Gigabit LAN ports, 1x 2.5Gigabit WAN port, Wi-Fi 6 (AX3000), 2x2 2.4GHz, 2x3 5GHz and 1x VoIP FXS port

NEW

Active Ethernet (SFP WAN)

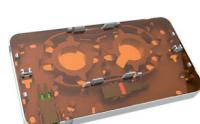


HLS-4BX3V-F

Active Ethernet Router with 1xSFP port, 1x 2.5Gigabit LAN, 3x Gigabit LAN ports, Wi-Fi 6 (AX3000), 2x2 2.4GHz, 2x3 5GHz and 1x VoIP FXS port

coming soon

HALNy accessories



HL-FIBER-TRAY

HALNy customer splice outlet with 2x adapters SC/LC/SCA/LCA 1x Optical patch cord reserve holder, possibility to mount optical splitters

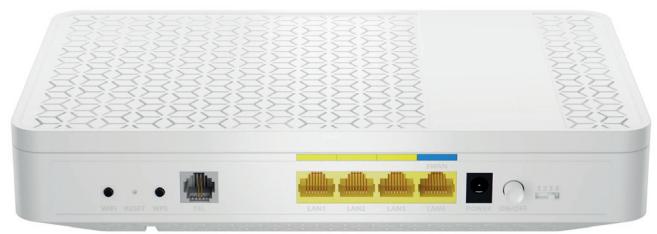
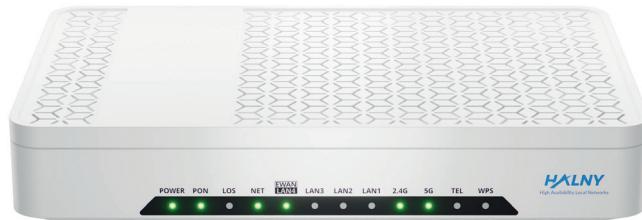


HALNy



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HALNy Customized Housing



Features

- Possibility to use LAN4 port as an Ethernet WAN port, like a normal Ethernet router
- The only thing to use this mode is to switch the transfer mode button on the device
- Same housing for new generation GPON / XGS-PON ONTs and CPE
- All functionality like VLAN, VOIP and others remain
- Based on one-touch provisioning. You can easily migrate from your actual technology (for example DOCSIS) to GPON, without visits to the subscriber

Top cover housing available in additional colors



HALNy Customized software:

- HALNy WEB interface with ISP logo and colours
- WIFI Prefix with ISP name
- Possibility to customize device with ISP default settings (like ACS, WAN, VLANs etc.)
- Device ready OUT-OF-THE-BOX to install
- Possibility to provision customization by ISP

HALNy



Partnered Integrated NMS

OPENOLT → OpenOLT.com

A Multivendor PON and Rest API cloud Network Management & Provisioning System for GPON

**WIFI DASHBOARD**

Optimize subscriber's Wi-Fi network and identify devices that are hogging more bandwidth.

**EASY TO USE**

We hide complexity of GPON Networks into easy to use web interface.

**VIRTUALIZATION**

Fixed Access Broadband Sharing included, share infrastructure with others and increase your penetration.

**SOFTWARE UPDATES**

Having up to date device reduce successful attacks on your network. You can perform or schedule update in the way to prevent failures. Upgrade can be performed during recommended off-peak time.

**LOWER TRUCK ROLLS**

Dispatching a technician takes valuable time for you and your subscriber. We help to reduce network outage and provide tools to remotely recover the service in the shortest time.

**VOTDR**

Virtual OTDR helps to identify issues with the passive network.

**PROVISIONING**

ONT XML Generator with simple steps.

**SUPER FAST**

Get information about the situation in field in seconds right from your browser. No java clients needed.

**SAVES TIMES ON SUPPORT CALLS**

Subscribers will get what they want in seconds, don't lose precious time.

**API AND MANAGEMENT**

JSON or XML Rest API for super easy integration with billing and CRMs.

**INNOVATION**

Game-changing features allow you to unleash full potential of your network.

**AUTOCARE**

Schedule task or perform recommended action during problem detection. With self-learning platform you can apply proven solution right away.

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FIBRAIN GPON Comprehensive Passive components



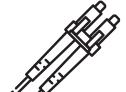
APT®
technology



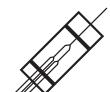
1x2N /
1x3N / 2x2N



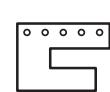
Fiber Optic
Cables



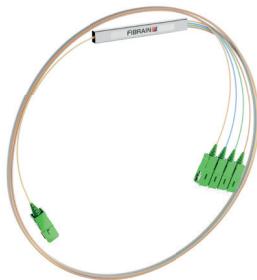
Connectivity



Passive Optical
Network



Distribution



Alubox splitter



Blackbox splitter



FIBRAIN Drop Cables D_{ca} CPR
1-4F Single-Mode Fiber



Asymmetrical 1x5 Splitters
for FTTH network with cascaded star
topology



Symmetrical Splitter
for FTTH network 1x2N or 1x3N



FIBRAIN Drop Cable Patchcords
1-4F Single-Mode Fiber



SCAB-19-X

self-supporting outdoor OLT cabinet,
12U, 15U or 18U

→ Possibility to customize variants/height

HALNy GPON ONTs

| MODEL NAME | HL-GSFP | HL-1GE / HL-1GC | HL-1GR | HL-1B | HL-2BV | HL-4G2 |
|--|---|---|---|---|---|---|
| DEVICE VIEW |  |  |  |  |  |  |
| REAR VIEW | |  |  |  |  |  |
| DESCRIPTION | GPON ONU SFP with 2.5Gb SFP port and embedded chipset, industrial temperature | GPON ONT with 1x Gigabit LAN port and SFU/HGU mode support | GPON ONT with 1x Gigabit LAN port and RF port for CATV/DVB overlay | GPON ONT with 1x 2.5Gigabit LAN port and SFU/HGU mode support | GPON ONT with 1x 2.5Gigabit LAN, 1x Gigabit LAN port, 1x VoIP FXS port and SFU/HGU mode support | GPON ONT with 4x Gigabit LAN ports and SFU/HGU mode support |
| MODE | SFU (Bridge only) | SFU (bridge) HGU (router NAT) | SFU (bridge) HGU (router NAT) | SFU (bridge) HGU (router NAT) | SFU (bridge) HGU (router NAT) | SFU (bridge) HGU (router NAT) |
| LAN | 1x1000/2500 | 1x10/100/1000 | 1x10/100/1000 | 1x100/1000/2500 | 1x100/1000/2500 1x10/100/1000 | 4x10/100/1000 |
| VOIP | - | - | - | - | - | 1 |
| WIFI | - | - | - | - | - | - |
| WIFI 5GHZ SPEED | - | - | - | - | - | - |
| CATV / RF | - | - | 1 | - | - | - |
| USB | - | - | - | - | - | - |
| ETHERWAN (LAN4 AS WAN PORT) | - | - | - | - | - | - |
| MODE BUTTON | - | - | - | - | - | - |
| FIBRAIN NEW UNIFIED HOUSING CUBE FIBERTRAY SUPPORT | - | - | - | - | - | - |
| OPTICAL CLASS | B+ | B+ or C+(HL-1GC) | B+ | B+ | B+ | B+ |

PRODUCTS PRESENTATION

| HL-4GMV2 | HL-4GMVR | HL-4GXV-F | HL-4BX3V-F | HL-4GX3VR | HL-4BY3V-F | HL-4BY7V-F |
|--|---|--|---|---|--|--|
|  |  |  |  |  |  |  |
|  |  |  |  |  | coming soon | coming soon |
| GPON ONT with 4x Gigabit LAN ports, Wi-Fi 2x2 5GHz, 2x2 2.4GHz and 2x VoIP FXS ports | GPON ONT with 4x Gigabit LAN ports, Wi-Fi 2x2 5GHz, 2x2 2.4GHz, 1x VoIP FXS port and RF port for CATV/DVB overlay | GPON ONT with 4x Gigabit LAN ports, Wi-Fi 6 (AX1800), 2x2 2.4GHz and 2x2 5GHz, 1x VoIP FXS port, mode button | GPON ONT with 1x 2.5Gigabit LAN port, 3x Gigabit LAN ports, Wi-Fi 6 (AX3000), 2x2 2.4GHz, 2x2 5GHz and 1x VoIP FXS port | GPON ONT with 4x Gigabit LAN ports, Wi-Fi 6 (AX3000), 2x2 2.4GHz, 2x2 5GHz, 1x VoIP FXS port and RF port for CATV/DVB overlay | GPON ONT with 1x 2.5Gigabit LAN port, 3x Gigabit LAN ports, Wi-Fi 7 Dual Band and 1x VoIP FXS port | GPON ONT with 1x 2.5Gigabit LAN port, 3x Gigabit LAN ports, Wi-Fi 7 Dual Band 4x4 and 1x VoIP FXS port |
| HGU (router NAT) | HGU (router NAT) | HGU (router NAT) | HGU (router NAT) | HGU (router NAT) | HGU (router NAT) | HGU (router NAT) |
| 4x10/100/1000 | 4x10/100/1000 | 4x10/100/1000 | 1x100/1000/2500 3x10/100/1000 | 4x10/100/1000 | 1x100/1000/2500 3x10/100/1000 | 1x100/1000/2500 3x10/100/1000 |
| 1 or 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2T2R Wi-Fi 5 | 2T2R Wi-Fi 5 | 2T2R AX1800 Wi-Fi 6 | 2T3R AX3000 WiFi6 | 2T2R AX3000 Wi-Fi 6 | Wi-Fi 7 Dual-Band 2.4/5 | Wi-Fi 7 Dual-Band 2.4/5 4x4 |
| 1166Mbs (2.4G / 5G) | 1166Mbs (2.4G / 5G) | 1800Mbs (2.4G / 5G) | 3000Mbs (2.4G / 5G) | 3000Mbs (2.4G / 5G) | BE3600 | BE7200 |
| - | 1 | - | - | 1 | - | - |
| - | - | optional | - | - | - | - |
| ● | ● | ● | ● | ● | ● | ● |
| - | - | ● | - | - | - | - |
| - | - | ● | ● | - | ● | ● |
| B+ | B+ | B+ | B+ | B+ | B+ | B+ |
| white top panel | white top panel | white top panel | white top panel | white top panel | white top panel | white top panel |

HALNy XGS-PON ONTs

| MODEL NAME | HLX-SFPX | HLX-1TL | HLX-1TLV | HLX-TGV | HLX-4BYV-F |
|----------------------------------|---|--|---|--|---|
| DEVICE VIEW |  |  |  |  |  |
| REAR VIEW |  |  |  |  | coming soon |
| DESCRIPTION | XGS-PON ONU with 10GB SFP+ port and embedded chipset | XGS-PON ONT with 1x 10Gigabit LAN port and SFU mode support | XGS-PON ONT with 1x 10Gigabit LAN port, 1x VoIP FXS port and SFU mode support | XGS-PON ONT with 1x 10Gigabit LAN port 1x Gigabit LAN port, 2x VoIP FXS ports and SFU/HGU mode support | XGS-PON ONT with 1x 2.5Gigabit LAN port, 3x Gigabit LAN ports, WI-FI 7 TriBand and 1x VoIP FXS port |
| MODE | SFU (bridge only) | SFU (bridge only) | SFU (bridge only) | SFU (bridge) HGU (router NAT) | HGU (router NAT) |
| LAN | 1x1000/10000 | 1x1000/2500/10000 | 1x1000/2500/10000 | 1x1000/2500/10000 1x10/100/1000 | 1x100/1000/2500 3x10/100/1000 |
| VOIP | - | - | 1 | 2 | 1 |
| WIFI | - | - | - | - | WIFI 7 Triband 2.4/5/6GHz |
| CATV / RF | - | - | - | - | - |
| USB | - | - | - | - | - |
| MODE BUTTON | - | - | - | - | ● |
| FIBRAIN NEW UNIFIED HOUSING CUBE | - | - | - | - | ● white top panel |
| OPTICAL CLASS | N1 | N1 | N1 | N1 | N1 |

HALNy CPE

| MODEL NAME | HLE-3GX-F | HLE-4BX3V-F | HLS-4BX3V-F |
|--|---|---|--|
| DEVICE VIEW |  |  |  |
| REAR VIEW |  |  | coming soon |
| DESCRIPTION | HALNy Ethernet Gateway with 3x Gigabit LAN ports, 1x Gigabit WAN port, Wi-Fi 6 (AX3000), 2x2 2x2.5GHz and 2x2 2.4GHz, Wi-Fi 6 | HALNy Ethernet Gateway with 3x Gigabit LAN ports, 1x 2.5Gigabit WAN port, Wi-Fi 6 (AX3000), 2x2 2.4GHz, 2x3 5GHz and 1x VoIP FXS port | Active Ethernet Router with 1xSFP port, 1x 2.5Gigabit LAN, 3x Gigabit LAN ports, Wi-Fi 6 (AX3000), 2x2 2.4GHz, 2x3 5GHz and 1x VoIP FXS port |
| WAN | 1x10/100/1000 | 1x100/1000/2500 Ethernet | 1x100/1000/2500 SFP |
| LAN | 3x10/100/1000 | 3x10/100/1000 1x100/1000/2500 | 3x10/100/1000 1x100/1000/2500 |
| VOIP | - | 1 | 1 |
| WIFI | 2T2R WiFi6 | 2T2R WiFi6 | 2T3R WiFi6 |
| WIFI 5GHZ SPEED | 1800Mbs (2.4G / 5G) | WiFi6 AX3000 | 3000Mbs (2.4G / 5G) |
| USB | no | no | no |
| FIBRAIN NEW UNIFIED HOUSING CUBE FIBERTRAY SUPPORT | ● grey top panel | ● grey top panel | ● grey top panel |



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– we can help!**

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