

# HALNY

High Availability Local Networks

by

FIBRAIN



DESIGNED AND DEVELOPED  
IN POLAND



# HALNY NETWORKS

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

→ [halny.com](http://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



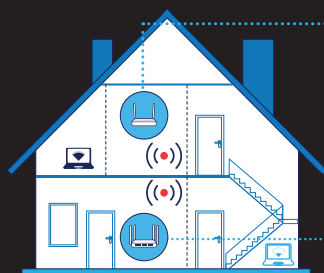
## SUPPORT

- 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

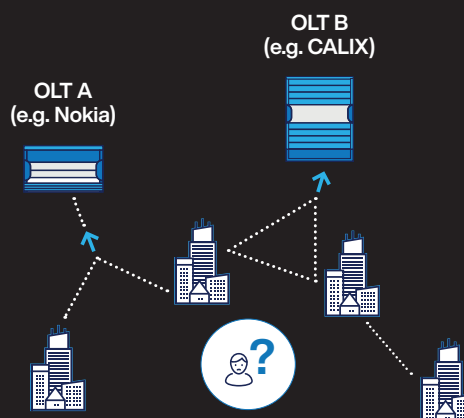


MESH NODE



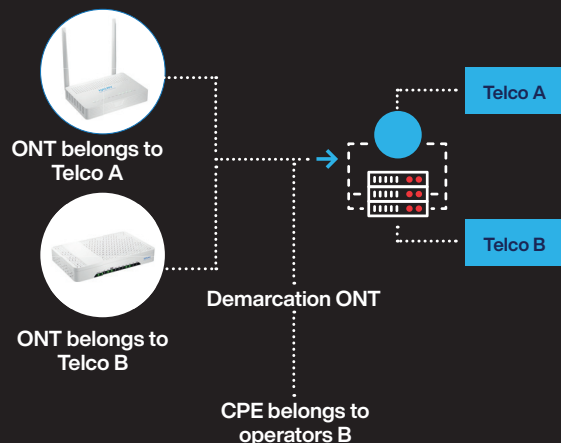
GPON ONT  
MESH

## 2 Interoperable GPON and XGS-PON ONTs

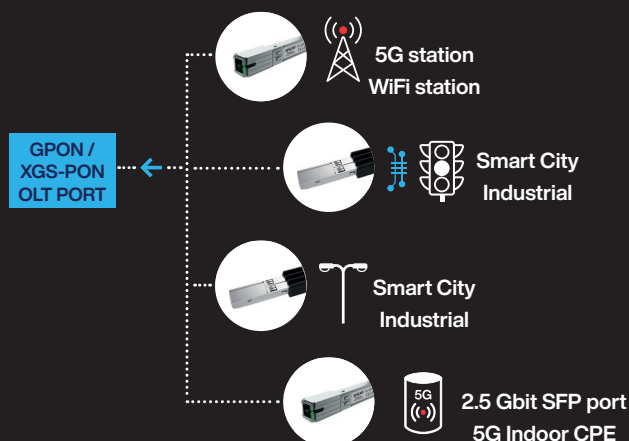


## 3 Fixed Broadband Sharing

Infrastructure operator responsibility



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





# HALNy



## 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-1B

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

NEW



### HL-2BV

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



### HL-4G2

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

NEW



### 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

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

NEW



### 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

NEW



### HL-4BY3V-F

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

coming soon



### HL-4BY7V-F

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

coming soon

# HALNy



## XGS-PON ONTs



**NEW** ✦

### 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



### HLX-TGV

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



coming soon

### HLX-4BYV-F

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

## 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



**NEW** ✦

### 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

## Active Ethernet (SFP WAN)



### HLS-4BX3V-F

coming soon

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

## HALNy accessories



### HL-FIBER-TRAY

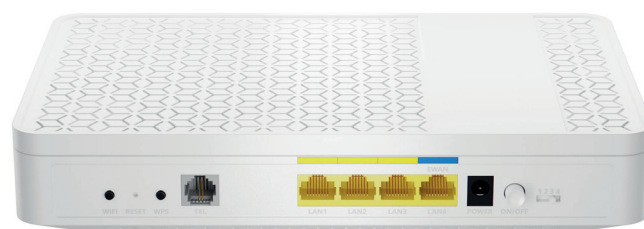
HALNy customer splice outlet with 2x adapters SC/LC/SCA/LCA 1x Optical patch cord reserve holder, possibility to mount optical splitters



# HALNy



## 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](https://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 CRM's.



### 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.





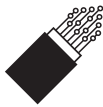
## FIBRAIN GPON Comprehensive Passive components



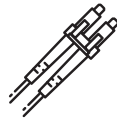
**APT®  
technology**



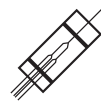
**1x2N /  
1x3N / 2x2N**



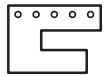
**Fiber Optic  
Cables**



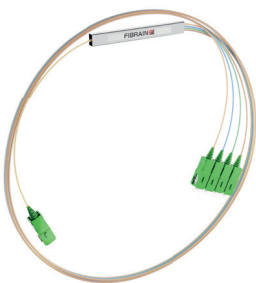
**Connectivity**



**Passive Optical  
Network**



**Distribution**



**Alubox splitter**



**Blackbox splitter**



**FIBRAIN Drop Cables D<sub>CA</sub> 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, 2x3 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
1or 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
1166Mbps (2.4G / 5G)	1166Mbps (2.4G / 5G)	1800Mbps (2.4G / 5G)	3000Mbps (2.4G / 5G)	3000Mbps (2.4G / 5G)	BE3600	BE7200
-	1	-	-	1	-	-
-	-	optional	-	-	-	-
●	●	●	●	●	●	●
-	-	●	-	-	-	-
-	-	● white top panel	● white top panel	-	● white top panel	● white top panel
B+	B+	B+	B+	B+	B+	B+



# 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 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 Wi-Fi 6
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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Where ultrafast  
broadband is needed  
– we can help!

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