

XG-PON HGU with 4-Port GbE, 3000Mbps 802.11AX Wireless and 1-Port FXS

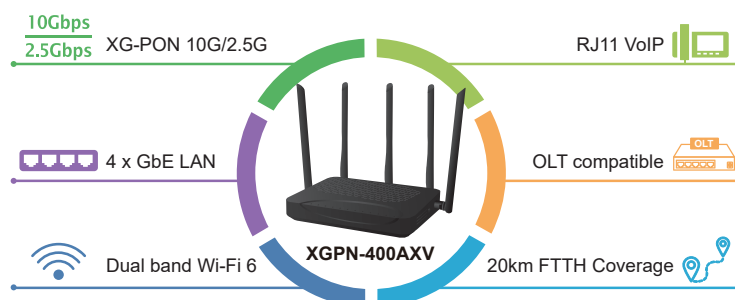


Delivering High-demanding Service Connectivity for ISP / Triple Play Devices

PLANET XGPN-400AXV is a high-performance XG-PON Wi-Fi ONU (Optical Network Unit) designed to deliver ultra-fast broadband connectivity for residential and office users. Equipped with one **10Gbps** downstream and **2.5Gbps** upstream XG-PON port, four Gigabit Ethernet LAN ports, one RJ11 VoIP port, and advanced Wi-Fi 6 technology, it provides the ideal solution for ultra-high-speed fiber broadband applications. Paired with an XGS-PON Optical Line Terminal (OLT), the XGPN-400AXV offers a highly-efficient and reliable FTTH solution.

Key Features:

- XG-PON 10Gbps downstream and 2.5Gbps upstream speeds, ensuring ultra-fast broadband connectivity
- 4 Gigabit Ethernet LAN ports, delivering stable wired connections for desktops, NAS, and media devices
- 1 RJ11 FXS VoIP port for high-quality voice communication
- Dual-band Wi-Fi 6 (802.11b/g/n/ac/ax), providing up to 3000Mbps wireless performance with 5 external antennas
- Supports up to 20km transmission distance, perfect for fiber-to-the-home applications
- Seamless compatibility with XGS-PON OLTs ensures a flexible and scalable deployment



XG-PON

- 1 SC/UPC type XG-PON port
- Up to 2.5Gbps upstream and 10Gbps downstream
- Maximum data transmission of up to 20km
- 128-bit triple DES (3DES) encryption algorithm
- LED indicators for link status

Ethernet

- 802.1Q VLAN, and QoS for virtual LAN tagging and traffic prioritization
- Broadcast storm protection to prevent and limit broadcast traffic
- Bandwidth control to manage and allocate network bandwidth
- IGMP snooping/proxy for efficient multicast traffic management
- IPv4 and IPv6 protocols supported

Wireless

- Up to 3000Mbps bandwidth
- Compatible with 802.11ax Wi-Fi 6
- Backward compatible with 802.11b/g/n/ac
- Compatible to equipment working on 2.4GHz and 5GHz

QoS

- IEEE 802.3x flow control for full-duplex communication
- Queue scheduling algorithms including WRR, Strict Priority, and FIFO

Multicast

- IGMP snooping v1/v2/v3
- IGMP proxy function

Security

- Firewall with MAC/IP/Port/URL/Domain filtering
- DDoS attack protection

Physical Hardware

- Four 10/100/1000Mbps Gigabit Ethernet ports
- 5 Wi-Fi 6 external antennas

Perfectly Designed for Fiber to the Home Applications

PLANET XGPN-400AXV is perfectly designed for fiber-to-the-home (FTTH) applications, delivering 10Gbps downstream and 2.5Gbps upstream speeds over a single optical fiber. With a maximum transmission distance of 20 kilometers and support for a 1:256 split ratio, the XGPN-400AXV ensures cost-effective large-scale fiber deployments. Built-in QoS features, including 8 priority queues, WRR, SP, and FIFO scheduling, guarantee smooth bandwidth allocation for IPTV, online gaming, VoIP, and cloud services.

Integrated VoIP Port for Triple-Play Services

The XGPN-400AXV features a built-in RJ11 FXS port, enabling voice-over-IP (VoIP) service for residential and small business users. With support for standard voice codecs such as G.711 and G.729, the device allows users to connect an analog telephone directly, providing high-quality voice communication over the fiber network. This makes the XGPN-400AXV ideal for triple-play deployments, combining internet, voice, and video services into a single, unified solution.



High-speed Wi-Fi 6 802.11ax Wireless

PLANET XGPN-400AXV features the latest Wi-Fi 6 technology, supporting dual-band 2.4GHz and 5GHz frequencies with speeds up to 574Mbps (2.4GHz) and 2402Mbps (5GHz). Compliant with 802.11b/g/n/ac/ax standards, it delivers enhanced wireless performance with 5 external antennas, ensuring excellent coverage and stable connections for bandwidth-intensive applications such as 4K streaming, cloud gaming, and smart home devices.



Features

- Dynamic Bandwidth Allocation (DBA) support
- IEEE 802.3x flow control
- WR, SP, and FIFO queue scheduling algorithms for traffic management
- Port-based VLAN and IEEE 802.1Q VLAN
- Firewall like MAC/IP/Port/URL/Domain filtering
- DDoS protection to safeguard against distributed denial-of-service attacks
- Loop detection to prevent network loops
- Dying-gasp mechanism for graceful device shutdown
- Type B dual-homing protection

Management

- Web, TELNET, TR-069, OMCI, and OAM remote management
- Firmware upgrade via TFTP, Web, TR-069, and OLT

Gigabit LAN Throughput Boosts Network Traffic

PLANET XGPN-400AXV provides four Gigabit Ethernet LAN ports, ensuring stable and high-speed wired connectivity for desktops, NAS, media players, and gaming consoles. Combined with Wi-Fi 6, it fully eliminates transmission bottlenecks, delivering both ultra-fast wired and wireless speeds for modern home and office environments.

IPv6/IPv4 Dual Stack Capability

With full support for IPv4 and IPv6 dual stack, the XGPN-400AXV seamlessly integrates into both current IPv4 networks and future IPv6 infrastructures. This ensures future-proof compatibility, enabling ISPs to smoothly deploy next-generation IPv6 FTTx services while maintaining backward compatibility with existing IPv4 networks.

Applications

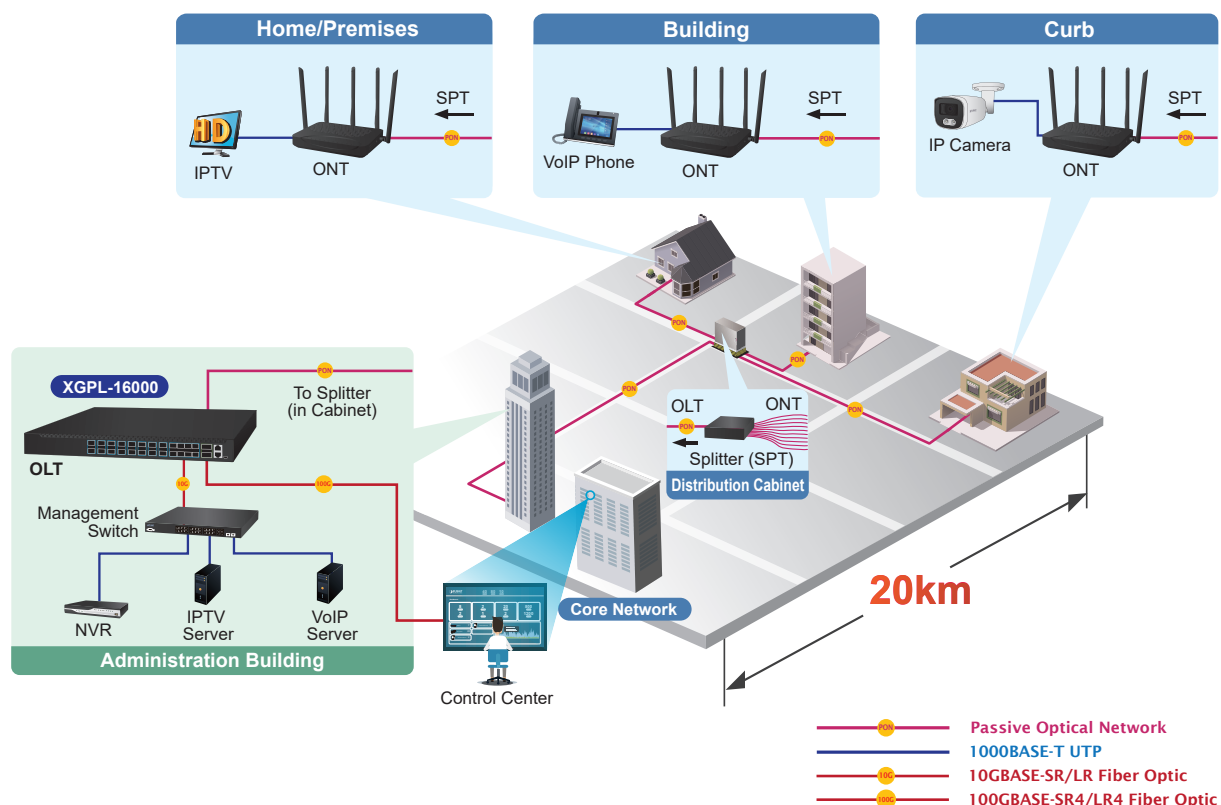
Seamless 10G XG-PON Connectivity for Residential Triple-Play and FTTH Services

PLANET XGPN-400AXV is a high-performance XG-PON Home Gateway Unit designed for next-generation fiber-to-the-home (FTTH) deployments. Working seamlessly with PLANET's XGPL-16000 OLT, the XGPN-400AXV delivers up to 10Gbps downstream and 2.5Gbps upstream connectivity, providing users with ultra-fast, low-latency broadband services across various environments, from single homes to multi-dwelling units.

With dual-band Wi-Fi 6, Gigabit Ethernet LAN ports, and a built-in VoIP FXS port, it supports triple-play services, including high-definition IPTV, IP telephony, and high-speed internet, all in a single, compact device. Its extended 20km transmission distance and support for 1:256 split ratio enable wide-area deployment while keeping cost and infrastructure complexity low.

Perfect for modern FTTH networks, the XGPN-400AXV ensures a highly-scalable, service-ready solution for both residential and commercial users, enabling stable wired and wireless access with superior throughput and coverage.

Fiber To The Home (FTTH) Application

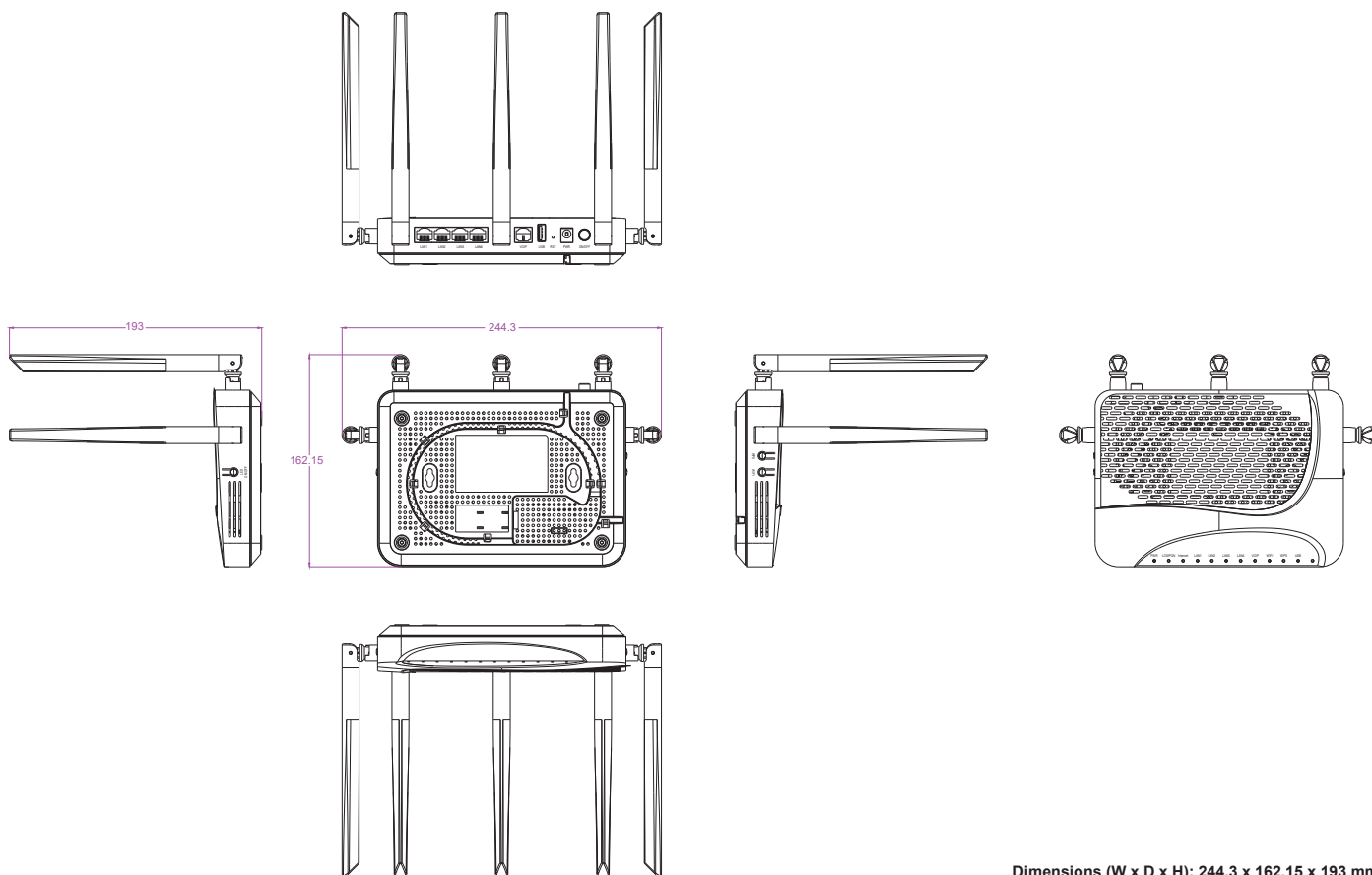


Specifications

Products	XGPN-400AXV
Hardware Specifications	
UNI port	4 x 10/100/1000BASE-T RJ45 copper Wi-Fi 6 external 5 antennas 1 USB 1 x RJ11 FXS port
PON port	Transmission rate: Downlink 10Gbps and uplink 2.5Gbps Network Coverage Radius: 20 kilometers Receiver Sensitivity: $\leq -28\text{dBm}$ Transmit Optical Power: 0.5~5dBm Optical interface type: SC/UPC
Button	1 x power ON/OFF button 1 x reset button (Press for about 15 seconds to reset the device to factory default.) 1 x WLAN enable/disable button 1 x WPS enable/disable button 1 x LED on/off button
Thermal Fan	Fanless
LED Indicators	PWR (Green) LOS/PON (Red)/(Green) Internet (Green) LAN1-LAN4 (Green) Wi-Fi (Green) WPS (Green) USB (Green) VoIP (Green)
Installation	Desktop installation or wall mounting
Power Requirements	12V DC, 1.5A max.
Power Consumption	7.32W max.
Weight	494g
Enclosure	Plastic
Wi-Fi	802.11b/g/n/ac/ax MIMO, with a maximum rate of 3000Mbps. multiple SSIDs and SSID encryption
Dimensions (WxDxH)	185 x 135 x 36mm (excluding antennas)
Heat dissipation	Extended use (24 hours) does not result in performance degradation or damage due to device overheating or deformation.
Wireless Interface Specifications	
Standard	IEEE 802.11ax 5GHz IEEE 802.11ax 2.4GHz IEEE 802.11a/b/g/n/ac compatible
Frequency Band	Simultaneous 2.4GHz and 5GHz
Modulation Type	802.11ax: OFDMA (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM) 802.11n/g/a: OFDM 802.11b: DSSS (DBPSK / DQPSK / CCK)
Data Transmission Rates	2.4GHz up to 574Mbps 5GHz up to 2402Mbps @ 160MHz)
Channel	2.4GHz: FCC (America): 2.412~2.462GHz (11 Channels) ETSI (Europe): 2.412~2.472GHz (13 Channels) 5.180~5.825GHz (up to 24 channels, depending on country)
Channel Width	802.11ax: 20/40/80/160MHz
Max. RF Power / EIRP	2.4GHz: < 20dBm 5GHz: < 23dBm (varies by region)
Wireless Management Features	
Encryption Security	64/128-bit WEP, WPA, WPA2-PSK, WPA3-SAE
Wireless Security	SSID broadcast enable/disable Wireless MAC address filtering WPS (Wi-Fi Protected Setup) support Client isolation

Wireless Advanced	Transmit power adjustment Beacon interval configuration WMM (Wi-Fi Multimedia) support Band steering (2.4GHz/5GHz auto-switch) Wi-Fi schedule
Max. Supported Clients	Up to 128 wireless clients
Router Features	
Data Forwarding	Routing mode, bridging mode, and routing + bridging hybrid Mode
DNS	DNS Relay
DHCP	DHCP server
VLAN	Port-based VLAN IEEE 802.1Q VLAN
Multicast	Supports IGMP snooping Supports CTC-defined dynamic multicast Supports MLD snooping Supports full routing multicast
QoS	Backpressure flow control (half-duplex) IEEE 802.3x flow control (full-duplex) Preventing Head-of-Line Blocking IEEE 802.1p, CoS 8 Priority Queues per Port WR, SP, and FIFO Port Rate Limiting
Reliability	Loop Detection Dying-Gasp Type B Dual Homing Protection
Security	Port MAC Address Limitation Port Protection Port Storm Suppression Supports firewall MAC/IP/Port/URL/Domain filtering Supports DDoS protection
Management Configuration	Web, TELNET, TR069, OMCI Software Upgrade through TFTP, WEB, TR069, and OLT
VoIP Protocols and Standard	
Standard	T.38 (G.711 Fax pass-through)
Voice Codec	G.711A/G.711U/G.723/G.729
Voice Standard	VAD (Voice Activity Detection)
Standards Conformance	
Standards	ITU-T G.987.3, G.988, G.989 GB/T 39577-2020 10Gbit/s Passive Optical Networks (XG-PON) IEEE 802.1Q, VLAN
Environment Specifications	
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -10 ~ 60 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

Dimensions



Dimensions (W x D x H): 244.3 x 162.15 x 193 mm

Ordering Information

XGPN-400AXV	XG-PON HGU with 4-Port GbE, 3000Mbps 802.11AX Wireless and 1-Port FXS
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Related Products

XGPL-16000	16-Port XGS-PON OLT with 8-Port 10G SFP+ + 2-Port 100G QSFP28
XGPN-100	XGS-PON SFU ONT with 1-Port 10GbE

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