

GP5810-16

Pizza Box 10G XG(S)-PON Combo OLT

Product Overview

GP5810-16 OLT is a highly integrated, large-capacity XG(S)-PON OLT for operators, ISPs, enterprises, and campus applications. The product follows the ITU-T G.987/G.988 technical standard, and can be compatible with three modes of G/XG/XGS at the same time.

The asymmetric system (up 2.5Gbps, down 10Gbps) is called XGPON, and the symmetric system (up 10Gbps, down 10Gbps) is called XGSPON. The product has good openness, strong compatibility, high reliability and complete software functions, together with the optical Network unit (ONU), it can provide users with broadband, voice, video, surveillance and other comprehensive service access. It can be widely used in operators' FTTH access, government and enterprise park access, campus network access, ETC. XG(S)-PON OLT provides higher bandwidth. In application scenarios, service configuration and O&M completely inherit GPON.

GP5810 is only 1U in height, easy to install and maintain, and save space. Supports mixed networking of different types of ONUs, which can save a lot of costs for operators.

Product Highlight

- Comply with ITU-T G.984/987/G.988 technical standards, with good connectivity capabilities
- Pon port can support GPON/XGPON/XGSPON three modes
- Rich Layer 2/3 switching features and Flexible management methods
- Support multiple link redundancy protocols such as FlexLink/STP/RSTP/MSTP/ERPS/LACP
- Support RIP、OSPF
- Support Power redundancy backup, Modular power supply, Modular fans supply
- Support ONT power failure alarm

Device Brief Information

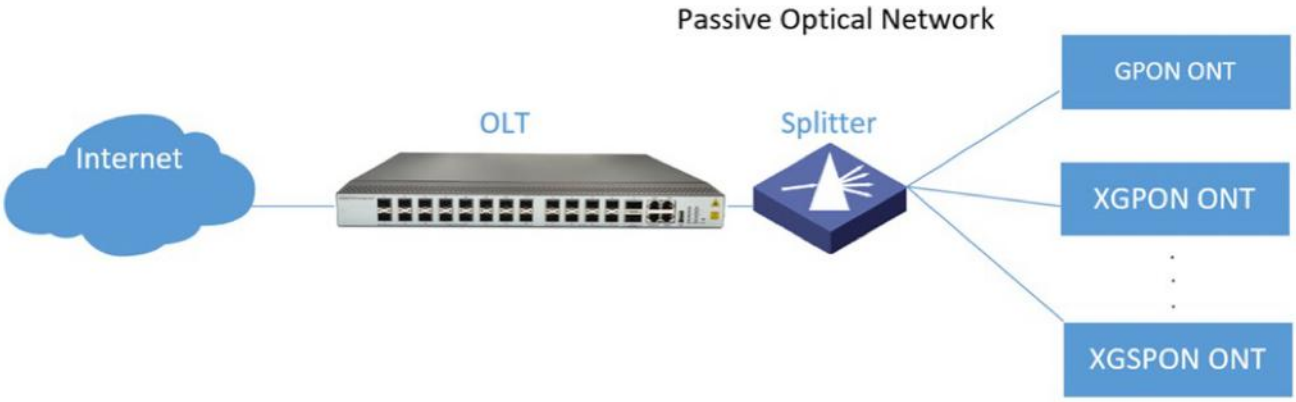


GP5810-16

- 16*XG(S)-PON/GPON Combo port
- 8*1000M Base-X SFP/8*10GE SFP+
- 2*40G/100G QSFP28
- 19" Rack-mount (440mm*320mm*44mm)
- AC: 100～240V 47/63Hz;
- DC: 36V～75V;

Solution Display

The XG-PON system usually consists of the OLT at the office side, the ONU and the ODN at the user side, and adopts a point-to-multipoint network structure. The ODN consists of single-mode optical fibers and passive optical devices such as optical splitters and optical connectors. It provides the optical transmission medium for the physical connection between the OLT and ONU.

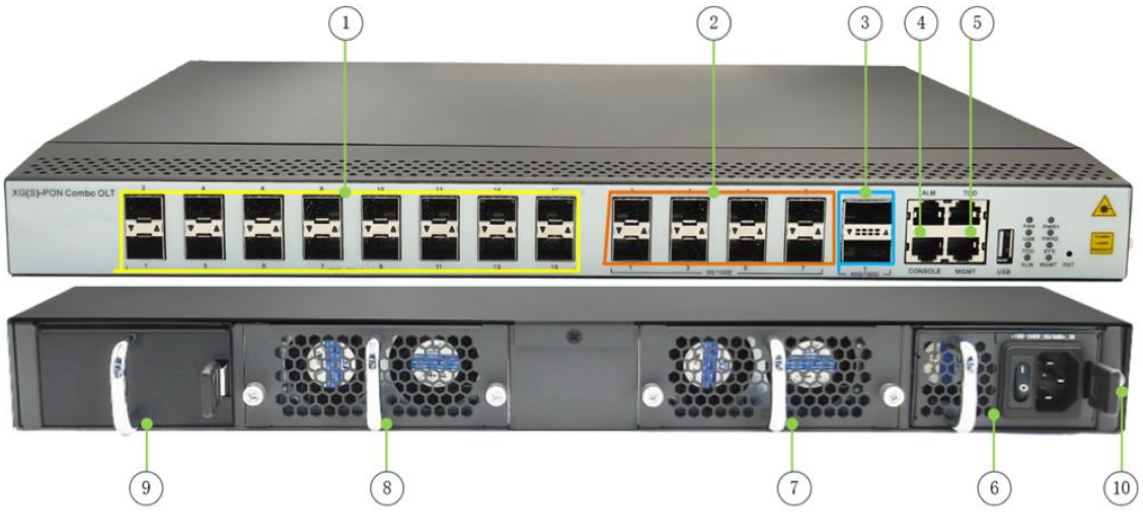


Hardware Specification

Attributes	GP5810-16
Interface	16*XG(S)-PON/GPON Combo port, 8*1000M Base-X SFP/8*10GE SFP+, 2*40G/100G QSFP28
Exchange Capacity	880Gbps
Forwarding Rate	654.72Mpps
Memory and Storage	Memory：2GB, Storage：8GB
MAC Address	32K
Packet Buffer	72Mbit
Management Port	Console, MGMT
PON	Comply with ITU-T G.987/G.988 standard; Wavelength of GPON: 1490nm downstream and 1310nm upstream; Wavelength of XGPON: 1577nm downstream, 1270nm upstream;
	GPON: Downstream – 2.48832Gbps, Upstream – 1.24416Gbps; XGPON: Downstream – 9.95328Gbps, Upstream – 2.48832Gbps. XGSPON: Downstream – 9.95328Gbps, Upstream – 9.95328Gbps;
	GPON supports a maximum distance of 60KM logical distance, 20KM physical distance, and 20KM differential distance; XGPON supports a maximum distance of 100KM logical distance, 40KM physical distance, and 40KM differential distance;
	PON port total 1:256 Maximum spectral ratio, GPON 1:128, XGPON/XGSPON 1:128;
	Standard OMCI management function; Open to any brand of ONT; ONU batch software upgrade; PON module adapts to standard 20PIN SFP+ package module
Environment Temperature	Working Temperature：-10℃～55℃ Storge temperature：-40℃～70℃
Environment Humidity	Relative Humidity: 5%~95%, non-condensing

Environment Friendly	RoHS
Weight	8KG
Fan	Modular fans supply (2)
Power	AC: 100～240V 47/63Hz; DC: -36V～-75V;
Power Consumption	150W
Dimensions(W*D*H)	440mm*320mm*44mm

Product Interface



1 Combo pon port 2 1G/10G SFP Port 3 40G/100G Q28SFP Port 4 ALM and Console Port
5 TOD and MGMT port 6 Power module1 7 FAN1 8 FAN2 9 Power module2 10 GND

Label	Connector Type	Connector Description
100G 1-2	QSFP28	Connect to external uplink equipment
1G/10G 1-8	SFP	Connect to external uplink equipment
XGSPON COMBO 1-16	SFP+	XGS-PON COMBO service port
MGMT	RJ45	The out-band management port
CONSOLE	RJ45	The software debug port
ALM	RJ45	4*external alarm input
TOD	RJ45	1*1PPS+TOD input
USB	USB2.0,3.0	Example Export debugging log files

LEDs Operating Status

The operation status of GP5810 can be determined by using the front LED. The panel LED indicator will display the status of each interface. The meaning of LED is shown in the following table.

LEDs/Buttons	Color	Function	Description	
SYS	Green	System running status	Green OFF	The device is not running or power off.
			Green Flash	The device is running normally.
MGMT	Green	Port status	ON	The link is properly connected (link up) and in action
			OFF	The link is interrupted (link down).
ALM	Red	Critical alarms	ON	Critical alarms are reported for the card.
			OFF	No critical alarm is reported for the card.
TOD	Green	Port status	ON	The link is properly connected (link up) and in action
			OFF	The link is interrupted (link down).
FAN	Green	Fan running status	ON	FAN is running normally.
			OFF	FAN is running abnormally.
PWR 1-2	Green	Power status	ON	The AC/DC power module is normal.
			OFF	The AC/DC power module faulty or unavailable Note: PWR1 indicates the left power card, and PWR2 indicates the right power card.
USB	Green	Link status	ON	Insert USB flash drive
			OFF	NO insert USB flash drive
100GE 1-2	Green	Port status	ON	The link is properly connected (link up) and in action
			OFF	The link is interrupted (link down).
1G/10G 1-8	Green	Port status	ON	The link is properly connected (link up) and action
			OFF	The link is interrupted (link down).
PON1~16	Green	PON port status	ON	At least one ONU has been successfully registered.
			OFF	No ONU has been successfully registered.
RST	N/A	Reset button	Long press on the RST button for to restart the equipment.	

Characteristic	GP5810-16
PRODUCT DATASHEET **FAN**	The temperature of the switch chip attachment starts at 30 degrees and rotates at 30% speed (about 3600 RPM). For every 1℃ increase, the speed increases by 1.57%x12000 rpm.

Plug-In Units

On the rear panel of the OLT, there are two slots for Power Supply Unit (PSU). The mounting slots can be equipped with DC or AC type PSUs. The different type of PSUs can be equipped into the OLT. The below shows AC and DC type of power supply modules Two PSUs, for supplying redundancy, dual PSUs have to be installed at a system.

The power supply unit (PSU) feeds the proper power voltage to the base board of OLT. Two PSUs are possible to be mounted into rear of the chassis and it can be DC or AC type of PSU. Therefore, you need to decide to choose proper power supply unit according to installation environment.

The power connector (AC and DC type) for main power supply is located on the rear panel of the PSU. For redundant power feeding, the second PSU has to be used.

The below shows the electrical characteristics of the OLT:

Characteristic	GP5810-16
Nominal DC power supply	DC: 36V ~ 75V;
Nominal AC power supply	AC:100 ~ 240V; 47/63Hz
FAN	The temperature starts at 0 degrees and rotates at 30% speed (about 3900 RPM), and the speed increases by 0.78%x13000 rpm for every 1℃ increase.
AC Rated power of power supply	220W
DC Rated power of power supply	220W





FAN Unit

The OLT provides 2 fan unit slots on the rear panel. This plug-in unit internally consists of 2 fans. User can insert fan unit to a fan slot by slowly adjusting them to fit into the slot guidance. The air flows from the front side inlet to the rear side outlet.



Software Specification

Attributes	GP5810-16
PON	Support N1/N2/E2 XG-PON or XGS-PON optical module Support N1/B+, N2/C+, E2/D Combo optical modules SN / SN + Password ONU authentication ONU optical power monitoring Rogue ONU detection
VLAN	Support 4K VLAN

	Support VLAN based on port, MAC and protocol Support dual Tag VLAN, port-based static Q-in-Q and flexible Q-in-Q
MAC	128K Mac address Support static MAC address setting Support black hole MAC address filtering Support port MAC address limit
Ring Network Protocol	Support STP/RSTP/MSTP Support ERPS Ethernet ring network protection protocol Support Loopback-detection port loopback detection
Port Control	Support two-way bandwidth control Support port storm suppression Support 9K Jumbo ultra-long frame forwarding
Port Aggregation	Support static link aggregation Support dynamic LACP Each aggregation group supports a maximum of 8 ports
Mirroring	Support port mirroring Support stream mirroring
ACL	Support standard and extended ACL Support ACL policy based on time period Provide flow classification and flow definition based on IP header information such as source/destination MAC address, VLAN, 802.1p, ToS, DSCP, source/destination IP address, L4 port number, protocol type, etc.
QoS	Support flow rate limiting function based on custom business flow Supports mirroring and redirection functions based on custom business flows Support priority marking based on custom service flow, support 802.1P, DSCP priority Remark capability Support port-based priority scheduling function, support queue scheduling algorithms such as SP/WRR/SP+WRR
VLAN	Support 4K VLAN Support VLAN based on port, MAC and protocol Support dual Tag VLAN, port-based static Q-in-Q and flexible Q-in-Q
Safety	Support user hierarchical management and password protection Support IEEE 802.1X authentication Support Radius&TACACS+ authentication Support MAC address learning limit, support black hole MAC function Support port isolation Support broadcast message rate suppression Support IP Source Guard Support ARP flood suppression and ARP spoofing protection
Layer3 Routing	Support ARP learning and aging

	Support static route Support dynamic route RIP/OSPF/BGP/ISIS Support VRRP
System management	CLI、Telnet、WEB、SNMP V1/V2/V3、SSH2.0 Support FTP, TFTP file upload and download Support SNTP Support LLDP neighbor device discovery protocol Support RFC 3164 Syslog Support Ping and Traceroute

Connector Specifications

The OLT provides standardized interfaces, thus facilitating rapid and trouble-free integration into the existing network infrastructures.

PON Interfaces

The OLT contains 16 XGS-COMBO PON interface ports for SFP+ modules and below table is available .

XGS COMBO PON module list.

1	XGS-COMBO PON OLT SFP+ . 20 PIN DFB . Single fiber bi-directional data links with downstream 9.953Gbps and 2.488Gbps . Single fiber bi-directional data links with upstream 9.953G/2.488Gbps and 1.244Gbps . 0 to 70°C operating case temperature . SFP+ package with SC Receptacle connector . High power 1577nm EML and 1490nm DFB transmitter . High sensitivity 1270nm/ 1310nm APD-TIA . Support 20km transmission distance with SMF . RoHS compliance

Network Interfaces

The OLT optical interface ports for SFP/SFP+ modules and below table is available SFP/SFP+ module list.

Index	SFP/SFP+ Module Description
1	- Wavelength: 850 nm / Distance: 550 m / Mode: multi-mode - Connector: LC / Data rate: 1.25Gbit/s / Core type: Dual Core - Operating Temperature: 0 °C - 70 °C
2	-. Wavelength: 1310nm / Distance: 5km / Mode: single-mode -. Connector: LC / Data rate: 1.25Gbit/s / Core type: Dual Core -. Operating Temperature: 0 °C – 70 °C
3	- Wavelength: 1310 nm / Distance: 10 km / Mode: single-mode

	- Connector: LC / Data rate: 1.25 Gbit/s / Core type: Dual Core - Operating Temperature: 0 °C – 70 °C
4	- Wavelength: 1310 nm / Distance: 15 km / Mode: single-mode - Connector: LC / Data rate: 1.25 Gbit/s / Core type: Dual Core - Operating Temperature: 0 °C – 70 °C
5	- Wavelength: 1310 nm / Distance: 20 km / Mode: single-mode - Connector: LC / Data rate: 1.25 Gbit/s / Core type: Dual Core - Operating Temperature: 0 °C - 70 °C
6	- Wavelength: 1310 nm / Distance: 40 km / Mode: single-mode - Connector: LC / Data rate: 1.25 Gbit/s / Core type: Dual Core - Operating Temperature: 0 °C - 70 °C
7	- Wavelength: 850nm / Distance: 300m / Mode: Multimode - Connector: LC / Data rate: 10.3125 Gbit/s / Core type: Dual Core - Operating Temperature: 0°C ~ 70 °C - 10GBASE-SR (10G)
8	- Wavelength: 850nm / Distance: 300m / Mode: Multimode - Connector: LC / Data rate: 10.3125 Gbit/s / Core type: Dual Core - Operating Temperature: 0°C ~ 70 °C - 1000BASE-SX (1G), 10GBASE-SR (10G)
9	- Wavelength: 1310nm / Distance: 10Km / Mode: Single mode - Connector: LC / Data rate: 10.3125 Gbit/s / Core type: Dual Core - Operating Temperature: 0°C ~ 70 °C - 10GBASE-LR (10G)
10	- Wavelength: 1550nm / Distance: 40Km / Mode: Single mode - Connector: LC / Data rate: 10.3125 Gbit/s / Core type: Dual Core - Operating Temperature: 0°C ~ 70 °C - 10GBASE-ER (10G)
11	- Wavelength: 1310nm / Distance: 70Km / Mode: Single mode - Connector: LC / Data rate: 10.3125 Gbit/s / Core type: Dual Core - Operating Temperature: 0°C ~ 70 °C - 10GBASE-ZR (10G)
12	- Wavelength: 850nm / Distance: 100m / Mode: MMF - Connector: MMF Data rate: 100 Gbit/s / Core type: Dual Core - Operating Temperature: 0°C ~ 70 °C 100GBASE-SR4

Purchase Info

Product Name	Product Description
GP5810-16	16*XG(S)-PON/GPON Combo port, 8*1000M Base-X SFP/8*10GE SFP+, 2*40G/100G QSFP28