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## GPON OLT

FHL2100-16Z (16\*GPON/4\*GE/4\*10G SFP+)

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## GPON OLT

### FHL2100-16Z

#### Overview

FHL2100-16Z is a high-density 1U box GPON OLT series. It uses the industry-leading commercial chip to fully support the ITU-T G.984.x and ITU-T G.988 GPON technology standard. It can realize ONU hybrid networking of different manufacturers and has good interoperability. The FHL2100-16Z system has good stability and high reliability. It supports multiple management modes such as CLI, WEB & SNMP. The graphical management interface is clear, friendly and easy to use. FHL2100-16Z provides 16 downstream GPON ports, 4\*1000Base-T up-link ports and 4\*10G optical SFP+ up-link ports. The SFP+ port with an expansion function, which can adapt to 1GE SFP or 10GE SFP+. FHL2100-16Z adopts the industrial advanced technology, with powerful Ethernet services and QoS feature, supporting SLA and DBA. The splitting ratio up to 1:128, supporting different types of ONU in different networks, minimizing operators' investments. The 1U height can be easy to install and maintain. It is an excellent choice for operators to quickly deploy FTTH networks.

## Characteristics

- \* Applicable to county and town level fiber optic network access and monitoring transmission,meets FTTH requirements to provide complete access to IP telephony, broadband data,IPTV,etc.
- \* System Structure:Provide 8 downstream GPON ports,4\*1000Base-T up-link ports and 4\*10GE optical SFP+ up-link ports.
- \* The SFP+ port with an expansion function,which can adapt to 1GE SFP or 10GE SFP+.
- \* System Capacity: 1:128 split ratio,full configuration supports up to 1024 GPON terminals.
- \* Up-link Interface:Flexible design supports multiple types network interfaces,optical or electrical interfaces optional based on network conditions.
- \* Supports dual power supply.
- \* 1U device takes small space,low power consumption,which reduce the total cost.

## Specification

General	
Item	FHL2100-16Z
Switching capacity	148Gbps
Mac Address	64K
Ports	16*PON ports,4*10G SFP+,4*GE TX
Power redundancy	Dual power supply.Can be double AC,double DC or AC+DC(optional)
Power supply	AC:Input 85~264V,47~63Hz; DC:Input -36V~-75V;
Maximum Power	80W
Outline dimensions (mm) (W*D*H)	440mm×310mm×44mm
Weight	≤5kg
Environmental requirements	Working temperature:-10°C~50°C Storage temperature:-40°C~85°C Relative humidity:5%~95%,no condensing

## Product Features

General	
Item	FHL2100-16Z
GPON	Satisfy ITU -T G.984.x/ITU -T G.988 standard High splitter rate,each PON port supports 128*ONUs Maximum transmission distance of 20KM Support uplink FEC,downlink FEC(Forward Error Correction)

	<p>ONU identifier authentication:SN /SN+PASSWD/LOID</p> <p>Bandwidth allocation mechanism</p> <p>5 types of T-CONT bandwidth</p> <p>Static Bandwidth Allocation</p> <p>Dynamic Bandwidth Allocation</p>
MAC	<p>MAC Black Hole</p> <p>Port MAC Limit</p>
VLAN	<p>4K VLAN entries</p> <p>Port-based/MAC-based/IP subnet-based VLAN</p> <p>Port-based QinQ and Selective QinQ(Stack VLAN)</p> <p>VLAN Swap and VLAN Remark and VLAN Translate</p> <p>Based on ONU service flow VLAN add,delete,replace</p>
L2 Protocol	<p>STP,RSTP,MSTP</p>
Port	<p>Bi-directional bandwidth control</p> <p>Static link aggregation and LACP(Link Aggregation Control Protocol)</p> <p>Port mirroring and traffic mirroring</p>
L3 Protocol	<p>OSPF,IS-IS,BGP</p>
User Security	<p>Anti-ARP Spoofing</p> <p>Anti-ARP Flooding</p> <p>IP Source Guard create IP+VLAN+MAC+Port binding</p> <p>Port Isolation</p> <p>MAC address binds to port and port MAC address filtration</p> <p>IEEE 802.1x and AAA/Radius authentication</p> <p>DHCP anti-attack,flood attack automatic suppression</p> <p>ONU isolation control</p>
Device security	<p>Anti-DOS attack(such as ARP,Syn flood,Smurf,ICMP attack),ARP detection,worm and Ms-blaster worm attack</p> <p>SSHv2 Secure Shell</p> <p>SNMP v3 encrypted management</p> <p>Security IP login through Telnet</p> <p>Hierarchical management and password protection of users</p>
Network security	<p>User-based MAC and ARP traffic examination</p> <p>Restrict ARP traffic of each user and force-out</p>

	<p>user with abnormal ARP traffic</p> <p>Dynamic ARP table-based binding</p> <p>Supports IP+VLAN+MAC+Port binding</p> <p>L2 to L7 ACL flow filtration mechanism on the 80 bytes of the head of user-defined packet</p> <p>Port-based broadcast/multicast suppression and auto-shutdown risk port</p> <p>URPF to prevent IP address counterfeit and attack</p> <p>DHCP Option82 and PPPOE+ upload user's physical location</p> <p>Plain-text authentication of OSPF/RIPv2 and MD5 cartography authentication</p>
IPv4	<p>ARP Proxy</p> <p>DHCP Relay</p> <p>DHCP Server</p> <p>Static route</p>
IPv6	<p>ICMPv6</p> <p>ICMPv6 redirection</p> <p>DHCPv6</p> <p>ACLv6</p> <p>Configured Tunnel</p> <p>6to4 tunnel</p> <p>IPv6 and IPv4 Tunnels</p>
ACL	<p>Standard and extended ACL</p> <p>Time Range ACL</p> <p>Packet filter providing filtering based on source/destination MAC address,source/destination IP address,port,protocol,VLAN,VLAN range,MAC address range,or invalid frame.System supports concurrent identification at most 50 service traffic</p> <p>Support packet filtration of L2~L7 even deep to 80 bytes of IP packet head</p>
QoS	<p>Rate-limit to packet sending/receiving speed of port or self-defined flow and provide general flow monitor and two-speed tri-color monitor of self-defined flow</p> <p>Priority remark to port or self-defined flow and provide 802.1P,DSCP priority and Remark</p> <p>CAR(Committed Access Rate),Traffic Shaping and flow statistics</p> <p>Packet mirror and redirection of interface and</p>

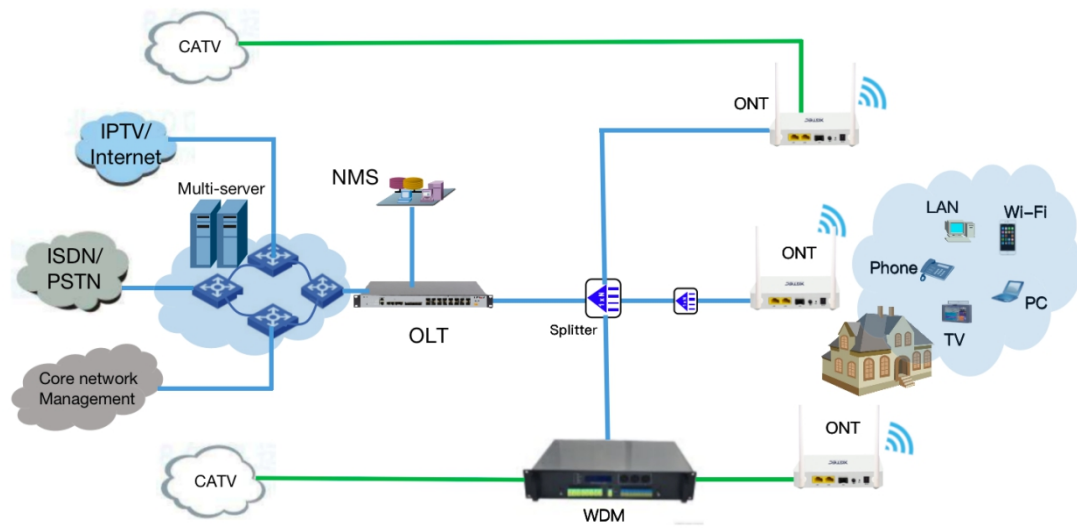
self-defined flow

Super queue scheduler based on port and self-defined flow.Each port/flow supports 8 priority queues and scheduler of SP,WRR and SP+WRR.Congestion avoid mechanism, including Tail-Drop and WRED

Multicast	IGMPv1/v2/v3 IGMPv1/v2/v3 Snooping IGMP Filter MVR and cross VLAN multicast copy IGMP Fast leave IGMP Proxy MLDv2/MLDv2 Snooping
Loop protection	EAPS and GERP(recover-time<50ms) Loop-back detection
Link protection	Flex-Link(recover-time<50ms) RSTP/MSTP(recover-time<1) LACP(recover-time<10ms)
Device protection	Double fault-tolerant backup of host program and configuration files 1+1 power hot backup
Network maintenance	Telnet-based statistics RFC3176 sFlow LLDP RFC 3164 BSD syslog Protocol Ping and Trace route
Device management	Web management,Console/Telnet, Command-line interface (CLI) Upgrade via FTP System configuration with SNMPv1/v2/v3 RMON (Remote Monitoring) Support SNTP network time protocol

## Application

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