



# ISCOM6820-GP GPON OLT

## ▼ Introduction

The ISCOM6820-GP is a next-generation, compact, small-capacity, 2U GPON OLT with a card plug-in design intended for industrial and rural networking. It provides abundant functions and flexible networking modes that meet the requirement for low-density and long-distance fiber access. It is perfect for low-density coverage area, outdoor applications, limited installation space, and long distance coverage.

The ISCOM6820-GP features a high backplane bandwidth of 320 Gbit/s, strong switching capacity of 200 Gbit/s, non-blocking forwarding performance for all services, and high reliability. Cards and fans all adopt an energy-saving design to reduce power consumption and emissions.



ISCOM6820-GP

6.Fan	4. Service slot			
	3.Basic Card			
	1. MCU	2.MCU	5. Power Supply	

SCOM6820-GP slots

## ▼ Features

### ◆ Compact and High Bandwidth

- 2U high with 6slots. Supports dual Main Control Cards (MCCs). Provide 1 basic slot (16 GPON interfaces) and 1 expansion slot (support 16 GPON or GE interfaces). The expansion/MCC slots support 80/40 Gbit/s bandwidth and L2/L3 wire-speed forwarding.
- The entire device provides 16 or 32 GPON interfaces and 4096 GPON ONUs, and supports 10GE uplink interfaces.

- Supports multi-service access, such as bandwidth, voice, and IPTV, applicable to multiple access scenarios, such as carrier, China Broadcast & TV network, and premise network.

### ◆ Carrier-Grade Reliability

- MCC 1+1 redundancy protection and hot swapping for all cards.
- Class B PON protection and carrier-grade switching performance.
- Private Ethernet ring network (10GE ring) with a switching time of 50ms.

### ◆ Abundant Carrier Features

- VLAN, including selective QinQ, VLAN mapping and aggregation.
- Complete QoS, including Dynamic Bandwidth Assignment (DBA), priority control, multiple traffic classification modes and multiple queue scheduling modes, thus meeting different QoS requirements on VoIP, video, and Internet access services.
- Complete ACL, including L2, L3, L4, and user-defined ACLs.
- Static multicast, IGMP Snooping, Proxy, MVR, and controllable multicast.
- IPv4/IPv6 static routes and OSPF.
- IPv4 multicast routing, PIM-SM, and SSM.
- STP/MSTP, link aggregation, DHCP, interface isolation, etc.

### ◆ Energy-Saving Design

- Low power consumption design for the MCC and cards, with overall power consumption less than 200 W.
- An intelligent fan adjusts rotational speed according to temperature, prolonging fan life, reducing noise, and saving energy.
- Supports powering off the PON cards and uplink cards to save energy.

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▼ Specifications

Hardware features			
<b>Number of slot</b>	6	<b>Number of MCC</b>	2 Support up to four 10GE uplink interfaces.
<b>Number of basic card</b>	1, with 16 GPON interfaces	<b>Number of expansion card</b>	1 Support expanding to 16 GPON or GE interfaces.
<b>Number of power supply</b>	1	<b>Number of fan</b>	1
<b>GPON optical interface</b>	Compliance standard: ITU-T 984.2 CLASS B+/C+ Working wavelength: <ul style="list-style-type: none"> <li>• Uplink: 1310 nm, 1.244 Gbit/s</li> <li>• Downlink: 1490 nm, 2.488 Gbit/s</li> </ul> Transmission distance: 20/60 km; supporting DDM, complying with RoHS		
<b>GE optical interface</b>	<ul style="list-style-type: none"> <li>• Support IEEE 802.3 1000BASE-LX/SX/CX.</li> <li>• Transmission rate: 1000 Mbit/s</li> </ul>		
<b>GE optical interface</b>	<ul style="list-style-type: none"> <li>• Support IEEE 802.3ae-2002</li> <li>• Transmission rate: 10 Gbit/s</li> </ul>		
<b>In-band management interface</b>	Support in-band management. Any service interface as the local Ethernet management interface.		
<b>Out-of-band management interface</b>	<ul style="list-style-type: none"> <li>• Transmission rate: 10/100/1000 M auto-negotiation; interface type: RJ45</li> <li>• Working mode: full/half duplex, auto-negotiation</li> </ul>		
<b>Console interface</b>	<ul style="list-style-type: none"> <li>• Physical interface: RJ45</li> <li>• Level: RS232</li> <li>• Baud rate: 9600 baud</li> </ul>		
<b>Power supply (DC)</b>	<ul style="list-style-type: none"> <li>• Rated voltage: -48 VDC</li> <li>• Voltage range: -38.4 to -57.6 VDC</li> </ul>		
<b>Lightning protection level</b>	DC power <ul style="list-style-type: none"> <li>• 0.5 kV in differential mode</li> <li>• 1 kV in common mode</li> </ul>		
System performance			
<b>Switching capacity</b>	200 Gbit/s	<b>Backplane bandwidth</b>	320 Gbit/s

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<b>Capacity of the MAC address table</b>	64K	<b>PON line rate</b>	Standard rate
<b>Maximum transmission distance</b>	20 KM	<b>Maximum optical splitting ratio</b>	GPON: 1:128
<b>Maximum number of PON interface</b>	GPON: 32	<b>Maximum number of ONU</b>	GPON: 4096
<b>Reliability</b>	<ul style="list-style-type: none"> <li>• Support 1+1 MCC hot backup and inter-card protection for uplink interfaces.</li> <li>• Support class B PON protection (inter-card), able to meet carrier-grade switching time.</li> <li>• Support private Ethernet ring protection with 50ms switching time.</li> </ul>		
<b>Software features</b>			
<b>VLAN</b>	<ul style="list-style-type: none"> <li>• Support 4K VLANs.</li> <li>• Support basic QinQ and adding SVLAN based on interface.</li> <li>• Support selective QinQ and selective QinQ rules based on QinQ-ACL.</li> <li>• Support CVLAN-based selective QinQ rules of ONU LUID</li> <li>• Support VLAN mapping: 1:1 VLAN mapping rules in both the ingress and egress directions, N:1 VLAN mapping rules based on interface, VLAN mapping rules based on SVLAN ID or VLAN ID + CoS, and N:1 VLAN mapping based on GEM PORT.</li> </ul>	<b>Multicast</b>	<ul style="list-style-type: none"> <li>• Support IGMP/MLD Snooping (v1/v2/v3).</li> <li>• Support IGMP/MLD Proxy.</li> <li>• Support MVR (inter-VLAN VoD).</li> <li>• Support controllable multicast.</li> <li>• Support 4K multicast entries.</li> </ul>
<b>ACL</b>	<ul style="list-style-type: none"> <li>• Support flexible ACL based on L2-L7.</li> <li>• Support 8K ACL rules.</li> </ul>	<b>Link aggregation</b>	<ul style="list-style-type: none"> <li>• Support up to 32 link aggregation groups. Support 8 GE interfaces (including 10GE interface) by each group.</li> <li>• Support 6 load balancing modes based on MAC address, IP address, etc.</li> <li>• Support LACP.</li> </ul>
<b>Route</b>	<ul style="list-style-type: none"> <li>• Support IPv4/IPv6 static route and OSPF.</li> <li>• Support IPv4 multicast route, PIM-SM, and SSM.</li> <li>• Support L3 wire-speed forwarding.</li> </ul>	<b>Security</b>	Support storm control.
<b>QoS</b>	<ul style="list-style-type: none"> <li>• Support interface-based queue scheduling and rate limiting. Each interface supports 8 priority queues.</li> <li>• Support SP, WRR, WDRR, and SP+WRR queue scheduling modes.</li> <li>• Support the trust CoS and DSCP priority. Support flexible mapping from CoS to queue and DSCP to queue.</li> </ul>		

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	<ul style="list-style-type: none"> <li>• CoS (802.1p) priority remark.</li> <li>• Configuring CoS or DSCP priority for packets that matching ACL rules.</li> <li>• Modifying 802.1p CoS, DSCP, and IP precedence based on flow.</li> <li>• Packet filtering, redirection, traffic mirroring, traffic statistics, traffic monitoring, interface queue scheduling, interface rate limiting, priority policies, and VLAN modification policies based on traffic rule.</li> </ul>		
<b>Physical features</b>			
<b>Dimensions (mm) (W × D × H)</b>	442 mm × 236 mm×88 mm	<b>Overall power consumption</b>	< 200 W
<b>Full-load weight</b>	<ul style="list-style-type: none"> <li>• DC model : 8.5 kg</li> <li>• AC model : 8.8 kg</li> </ul>	<b>Environment</b>	<ul style="list-style-type: none"> <li>• Operating temperature : 0–55 °C</li> <li>• Operating humidity: 10%–90% RH (non-condensing)</li> </ul>

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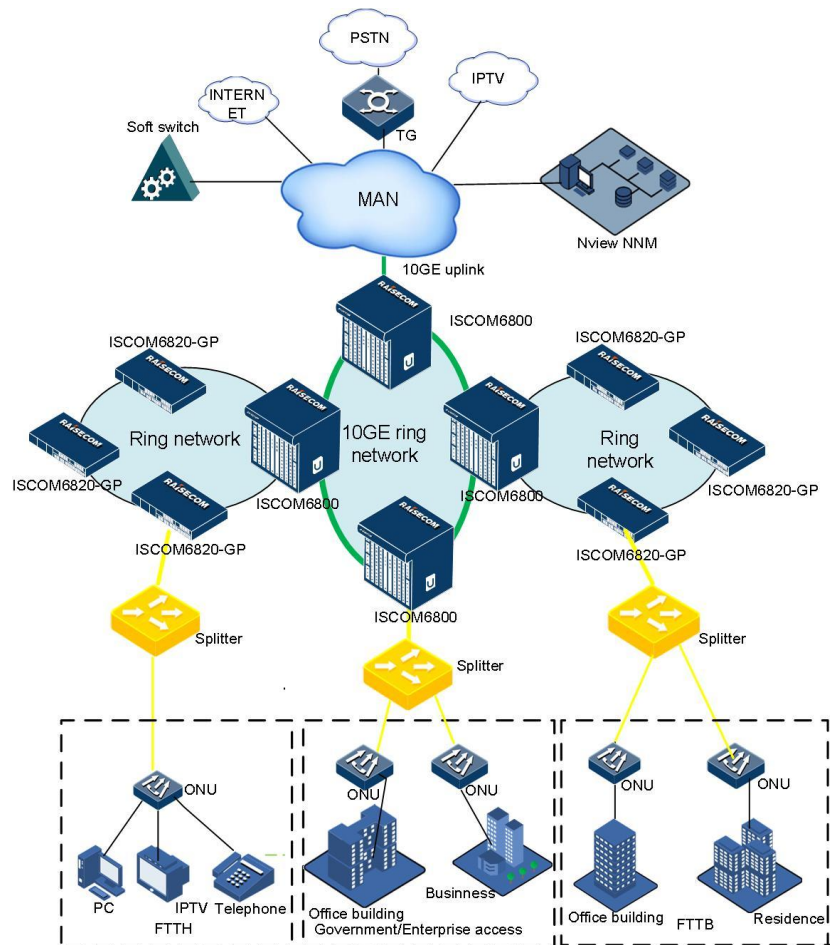
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▼ Typical applications



**Figure 1 Ring network with ISCOM6820-GP and ISCOM6800**

- In this scenario, the ISCOM6820-GP can form a ring network with ISCOM6800, providing customers with reliable access services. In addition, the ISCOM6800 devices located at the aggregation point of each area can form a 10G Ethernet ring, which not only protects the ring network (switching time less than 50 ms) but also saves the trunk fiber resources and meanwhile meet customers' requirements on high-bandwidth transmission.
- The ISCOM6820-GP is very suitable for customers, such as carriers and premise network, to provide low-density user areas, such as villa districts, outskirts, towns, and countryside with typical bandwidth access, IPTV, private line access, and video monitoring services.

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▼ Ordering information

Model	Description
ISCOM6820-GP-AC	<p><b>Basic System:</b> 16 GPON SFP ports, 2 GE/10GE ports, 1 fan card, 1 AC card, (slot2&amp;4, Vacant) ISCOM6820 MCUA workable in slot 2and GP16/GE16 workable in slot 4; 32 GPON at Max.</p> <p><b>Configuration details:</b> ISCOM6820 Chassis + ISCOM6820-MCUA + ISCOM6820-GPSC + RPA1302-220D4805 + ISCOM6820-FANS380 (without SFP module)</p>
ISCOM6820-GP-DC	<p><b>Basic System:</b> 16 GPON SFP ports, 2 GE/10GE ports, 1 fan card, 1 DC card(dual inputs), (slot2&amp;4, Vacant) ISCOM6820 MCUA workable in slot 2and GP16/GE16 workable in slot 4; 32 GPON at Max.</p> <p><b>Configuration details:</b> ISCOM6820 Chassis + ISCOM6820-MCUA + ISCOM6820-GPSC+ RPD1302-48D4805 + ISCOM6820-FANS380 (without SFP module)</p>
ISCOM6820-MCUA	10GE card, 2*10G SFP+ ports, Slot 1&2 1 Console interface (RJ45) for local management and 1 SNMP out-of-band management interface (RJ45) (without SFP module)
ISCOM6820-GPSC	16*GPON SFP ports, as a basic card of ISCOM6820 system, Slot 3 For spare parts ordering (without SFP module)
ISCOM6800-GP16	GPON card, 16* GPON SFP ports, slot 4. (without SFP module)
ISCOM6800-GE16	GE card, providing 16* GE SFP ports, Slot4. (without SFP module)
RPD1302-48D4805	DC-48v Power card, for spare parts ordering
RPA1302-220D4805	110V/220V AC power module, for spare parts ordering.
ISCOM6820-FANS380	Intelligent fan (only for ISCOM6820), for spare parts ordering
GSFP-CLBDM-R	GPON OLT SFP module , CLASS B+ standard
GSFP-CLCDM-R	GPON OLT SFP module , CLASS C+ standard
GSFP-CLDDM-R	GPON OLT SFP module , CLASS C++ standard

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