

Product Datasheet

12-port 10G Managed Ethernet Fiber Switch

(ONV56012FM)



OVERVIEW

The ONV56012FM is a 10G managed Ethernet fiber switch independently developed by ONV. It has 12*1/10G SFP+ fiber ports. Each port supports wire-speed forwarding.

The ONV56012FM has L3 network management functions, supports IPV4/ IPV6 management, dynamic routing and forwarding, complete security protection mechanism, perfect ACL/QoS strategy, and rich VLAN functions for easy management and maintenance. Supports network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS (<20ms) to improve link backup and network reliability. When a unidirectional network fails, communication can be quickly restored to ensure uninterrupted communication of important applications. Port management, routing address management, port flow control, VLAN division, IGMP, security policy, and other

business configurations can be performed through network management methods such as Web, CLI, SNMP, Telnet, etc., according to application needs. It meets the high-density network application environment and is suitable for hotels, campuses, parks, supermarkets, scenic spots, hospitals, banks, and other small and medium-sized scenarios to build an economical, efficient, and reliable communication network.

FEATURE

■ 10G SFP+ fiber aggregation/access

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
- ◇ 10G SFP+ fiber port suitable for aggregating and core switching large amounts of data, allowing users to network and meet the networking needs of various scenarios flexibly.

■ Strong business processing capability

- ◇ Support ERPS ring network and STP/RSTP/MSTP to eliminate layer 2 loops and realize link backup.
- ◇ Support IEEE802.1Q VLAN, Users can flexibly divide VLAN, Voice VLAN, and QinQ configuration according to their needs.
- ◇ Support static and dynamic aggregation to effectively increase link bandwidth, realize load balancing, link backup, and improve link reliability.
- ◇ Support QoS, port-based, 802.1P-based, and DSCP-based three priority modes and four queue scheduling algorithms: Equ, SP, WRR, and SP+WRR.
- ◇ Support ACL to filter data packets by configuring matching rule processing operations and time permissions, and provide flexible security access control policies.
- ◇ Support IGMP V1/V2/V3 multicast protocols and IGMP Snooping to meet the needs of multi-terminal high-definition video surveillance and video conferencing access.

■ Security

- ◇ Support port isolation and port broadcast storm suppression.
- ◇ Support port+MAC binding and IP+MAC+port binding functions.

- ◇ Support 802.1X authentication to provide authentication functions for LAN computers, and control the authorization status of controlled ports according to the authentication results.

■ Stable and reliable

- ◇ CE, FCC, RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, and Link.
- ◇ Self-developed power supply, high redundancy, providing a long-term and stable power output.
- ◇ Low power consumption, Galvanized steel housing, and excellent heat dissipation to ensure the stable operation of the switch.

■ Easy O&M management

- ◇ Support CPU monitoring, memory monitoring, and Ping detection.
- ◇ Support RMON, system log, and port traffic statistics to facilitate network optimization and transformation.
- ◇ Support HTTPS, SSLV3, SSHV1/V2, and other encryption methods, making management more secure.
- ◇ Support LLDP to facilitate the network management system to query and judge the communication status of the link.
- ◇ Support Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), Telnet, and other diversified management and maintenance.

TECHNICAL SPECIFICATION

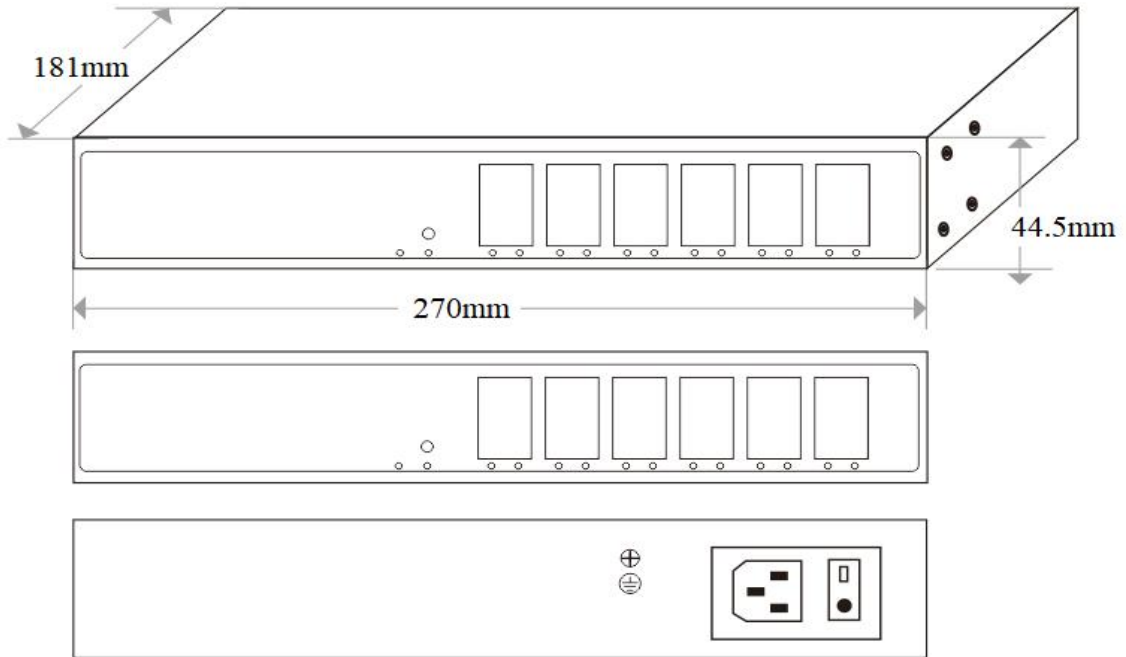
Model	ONV56012FM
Interface Characteristics	
Fixed Port	1*Console port (115200, N, 8,1) 12*1/10G SFP+ fiber ports (Data)
Optical Fiber Port	Default no include optical module (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
Optical Fiber Port Expansion	Turbo overclocking 2.5G optical module expansion and ring network
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m (1G), 0-300m (10G), Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km
Chip Parameter	
Network Management Type	L3
Network Protocol	IEEE802.3z 1000Base-X, IEEE802.3ae 10GBase-SR/LR, IEEE802.3x
Forwarding Mode	Store and forward (Full wire speed)
Switching Capacity	240Gbps (non-blocking)
Forwarding Rate@64byte	178.56Mpps
CPU(Hz)	Dual Core 1G
DRAM	2G
FLASH	256M
MAC	16K
Buffer Memory	16M
Jumbo Frame	12K
LED Indicator	Fiber port: L/A (Green), Network: Link (Yellow), System: SYS (Green)
Reset Switch	Yes, press and hold the switch for 10 seconds and release it to restore the factory settings
Power Supply	

Total Power/ Input Voltage	30W/ (AC100-240V)
Power Consumption	Standby<13W, full load<20W
Power Supply	Built-in power supply, AC100~240V 50-60Hz, 0.65A
Physical Parameter	
Operation Temp/ Humidity	-40~55°C, 5%~90% RH non-condensing
Storage Temp/ Humidity	-40~75°C, 5%~95% RH non-condensing
Dimension (L*W*H)	270*181*44.5mm
Net /Gross Weight	1.25kg/ 1.75kg
Installation	Desktop, 1U/19" cabinet
Certification& Warranty	
Lightning Protection	Lightning protection: 6KV 8/20us, Protection level: IP30
Certification	CE mark, commercial, CE/LVD EN62368-1, FCC Part 15, RoHS
Warranty	3 years, lifelong maintenance.
Network Management Feature	
Interface	<p>IEEE802.3x flow control (Full duplex)</p> <p>Port exception protection mechanism</p> <p>Port real-time flow management (Flow Interval)</p> <p>Broadcast storm suppression based on port rate</p> <p>SFP optical module DDMI real-time digital diagnosis</p> <p>Port EEE Green Ethernet Energy-Saving configuration and status view</p> <p>Limit the rate of packet traffic on incoming and outgoing ports, the mini granularity is 16Kbps and max 1Gbps</p>
L3 Feature	<p>Pingv6, Telnetv6, TFTPv6, DNSv6, ICMPv6</p> <p>VLANIF interfaces for IPV4/IPV6, up to 64 entries</p> <p>IPV4/IPV6 static routing/default routing, up to 64 entries</p> <p>NG protocol max 1000 entries, ARP protocol max 1000 entries</p> <p>IPV4 equal cost routing, VRRP for IPV4/IPV6, up to 255 entries</p> <p>IPV4 dynamic routing, RIPv1/v2, OSPFv2, routing 2000 entries</p> <p>L3 network management function, IPV4/ IPV6 dual-stack management</p>

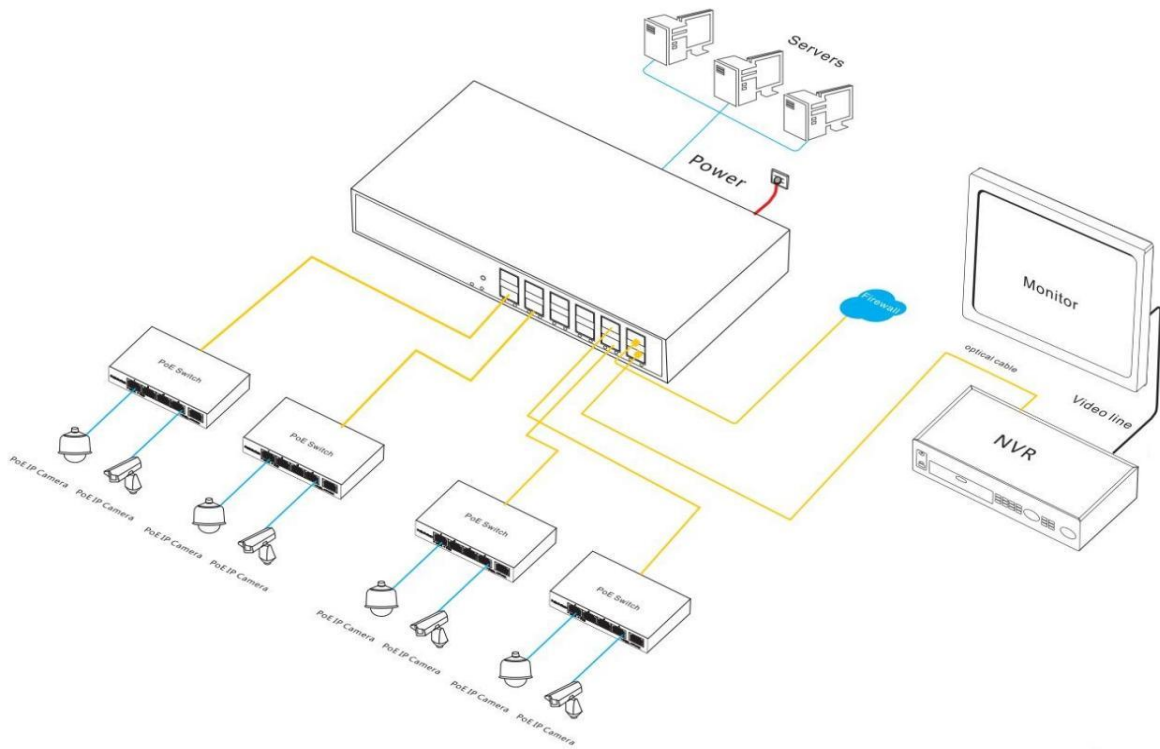
	L3 routing and forwarding, support communication between different network segments and different VLAN
VLAN	Port configuration of Access, Trunk, Hybrid, IEEE 802.1q Voice VLAN, GVRP VLAN protocol, Port-based VLAN (4K) Protocol-based VLAN, MAC address-based VLAN, QinQ configuration
Port Aggregation	LACP dynamic aggregation, Static aggregation, Max 6 aggregation groups and max 8 ports per group.
Spanning Tree	STP BPDU Guard, BPDU filtering and BPDU forwarding STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
ERPS Ring Network	ERPS ring network, Recovery time less than 20ms, ITU-T G.8032
Multicast	Multicast VLAN, User quick log out, MLD Snooping, MVR (Multicast VLAN Registration), IGMP Snooping v1/v2/v3 and 1024 multicast groups at most
Mirroring	Bidirectional traffic mirroring for basic ports one-to-multiple mirroring, supports up to 4 port sessions
QoS	Flow-based Rate Limiting, Flow-based redirection Queue Scheduling Algorithm (SP, WRR, SP+WRR) Flow-based Packet Filtering, 8*Output queues of each port 802.1p/DSCP priority mapping, Diff-Serv QoS, Priority Mark/Remark
ACL	ACL is issued based on port and VLAN L2-L4 packet filtering function can match the first 80 bytes of the message and provide ACL definition based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port range, VLAN, etc.
Security	Port based IEEE802.1X authentication Port isolation, IP Source Guard function SSL guarantees data transmission security Quad binding function of IP+MAC+VLAN+ports MAC address learning limit, MAC address black hole

	<p>Anti DoS attack, Port broadcast message suppression</p> <p>Hierarchical user management and password protection</p> <p>SSH 2.0 provides a secure encrypted channel for user login</p> <p>Host data backup mechanism, ARP intrusion detection function</p> <p>IP source address protection, ARP message speed limit function</p> <p>Support AAA, RADIUS, TACACS+ authentication (only supports authentication, not authorization and accounting)</p>
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	<p>System work log, Link Layer Discovery Protocol</p> <p>NTP clock, Cable length detection, SNMP V1/V2C/V3</p> <p>Ping detection, Web network management (HTTPS)</p> <p>HTTP, TFTP file upload and download management</p> <p>Console/ SSH/ Telnet/ CLI command line configuration</p> <p>ONV-NMS platform cluster management (LLDP+SNMP)</p> <p>One click recovery, View CPU real-time utilization status</p>
System	<p>Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable</p> <p>TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, Mac OS X) installed on each computer in the network Cat5 and above Ethernet cable</p>

DIMENSION



APPLICATION



ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV56012FM	L3 managed Ethernet fiber switch with 12*1/10G SFP+ fiber ports. Built-in power supply.	30W

Note: The optical module is not included and needs to be purchased.

PACKING LIST

	Content	Qty	Unit
Packing List	12-port 10G managed Ethernet fiber switch	1	Set
	RJ45-DB9 Adapter Cable	1	PC
	AC Power Cable	1	PC
	User Guide	1	PC
	Warranty Card and Certificate of Conformity	1	PC

OPTICAL MODULE

Product	Model	Description	Unit
1.25G Optical Module	2630	SFP optical module, 1.25G multi-mode dual fiber 850nm, transmission distance: 550m, LC interface, supports DDM function and hot plugging.	PC
	2632	SFP optical module, 1.25G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	PC
	2612-T	SFP optical module, 1.25G single-mode single fiber TX1310nm/RX1550nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	PC
	2613-R	SFP optical module, 1.25G single-mode single fiber TX1550nm/	PC

		RX1310nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	
	2612-T-SC	SFP optical module, 1.25G single-mode single fiber TX1310nm/RX1550nm, transmission distance: 20km, SC interface, supports DDM function and hot plugging.	PC
	2613-R-SC	SFP optical module, 1.25G single-mode single fiber TX1550nm/RX1310nm, transmission distance: 20km, SC interface, supports DDM function and hot plugging.	PC
10G Optical Module	6630	SFP+ optical module, 10G multi-mode dual fiber 850nm, transmission distance: 300m, LC interface, supports DDM function and hot plugging.	PC
	7832	SFP+ optical module, 10G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	PC
	7832-33	SFP+ optical module, 10G single-mode single fiber TX1330nm/RX1270nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	PC
	7832-27	SFP+ optical module, 10G single-mode single fiber TX1270nm/RX1330nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	PC

CONTACT US



Optical Network Video Technologies (Shenzhen) Co., Ltd.

Tel: 0086-755-33376606

Fax: 0086-755-33376608

WeChat: ONV-PoE-IoT

Email: onv@onv.com.cn

Skype: onv@onv.com.cn

Teams: onv@onv.com.cn



Website: www.onvcom.com

Headquarter Address: Room 1003, Block D, Terra Building, Futian District, Shenzhen

Factory Address: Building B3, Galaxy Artificial Intelligence Industrial Park, No. 333,

Zhongkai 6th Road, Chenjiang Street, Zhongkai High-tech Zone, Huizhou

