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 L2+ network management functions, supports IPV4/IPV6 management, static routing 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 port aggregation access

◇ Support non-blocking wire-speed forwarding.

◇ Support full-duplex based on IEEE 802.3x and half-duplex based on Backpressure.

◇ Support 1/10G SFP+ fiber port suitable for large data aggregation and core switching, convenient for users to flexibly network and meet the networking needs of various scenarios

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 IGMP Snooping V1/V2/V3 multicast protocol to meet the high-definition video surveillance and video conference access requirements.

◇ 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.

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

- ◇ CCC, 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, Ping detection, and cable length 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 uplink SFP+ fiber ports (Data)
Optical Fiber Port	No include optical module (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
Optical Fiber Port Expansion	Support Turbo overclocking 2.5G optical module expansion and ring network

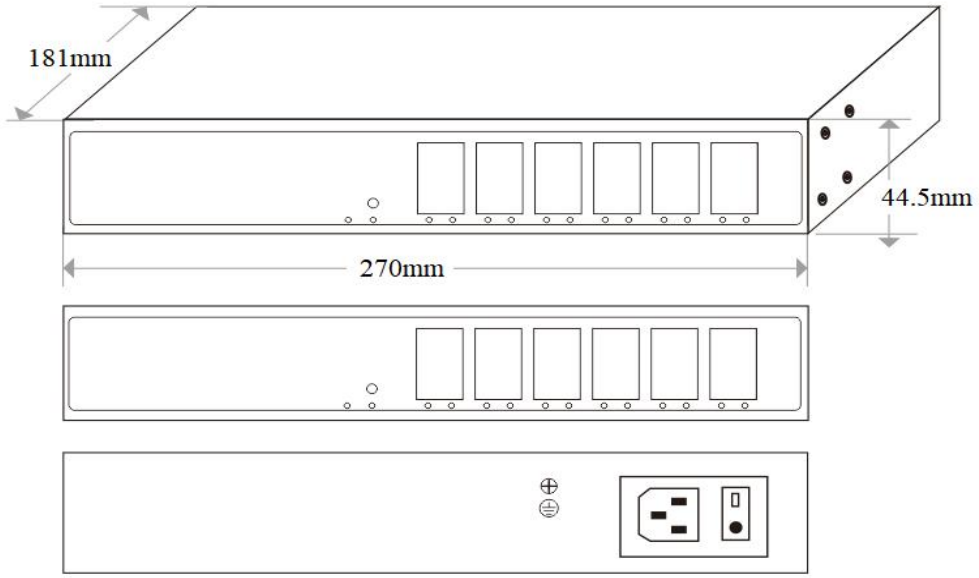
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m (1G), 0-300m (10G), Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
Chip Parameter	
Network Management Type	L2+
Network Protocol	IEEE 802.3z 1000Base-X, IEEE 802.3ae 10GBase-SR/LR, IEEE 802.3x
Forwarding Mode	Store and forward (Full wire speed)
Switching 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: 4KV 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	IEEE802.3x flow control (Full duplex) Port exception protection mechanism Port real-time flow management (Flow Interval) Broadcast storm suppression based on port rate Optical port SFP module DDMI real-time digital diagnosis Port EEE Green Ethernet Energy-Saving configuration and status view Limit the rate of packet traffic on incoming and outgoing ports, mini granularity is 16Kbps and max 1Gbps
L3 Feature	ARP protocol max 1024 entries, RIPv1/v2, RIPng, OSPFv1/v2, OSPFv3 L2+ network management function, IPv4/ IPv6 static routing max 64 entries IPv4 /IPv6 dual-stack management
VLAN	Protocol-based VLAN, MAC address-based VLAN Port configuration of Access, Trunk, Hybrid. GVRP VLAN protocol (4K) VLAN based on port, IEEE802.1q, Voice VLAN, QinQ configuration
Port Aggregation	LACP, Static aggregation, Max 6 aggregation groups and 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, MVR (Multicast VLAN Registration) MLD Snooping, 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	Queue Scheduling Algorithm (SP, WRR, SP+WRR) Flow-based Rate Limiting, Flow-based Packet Filtering

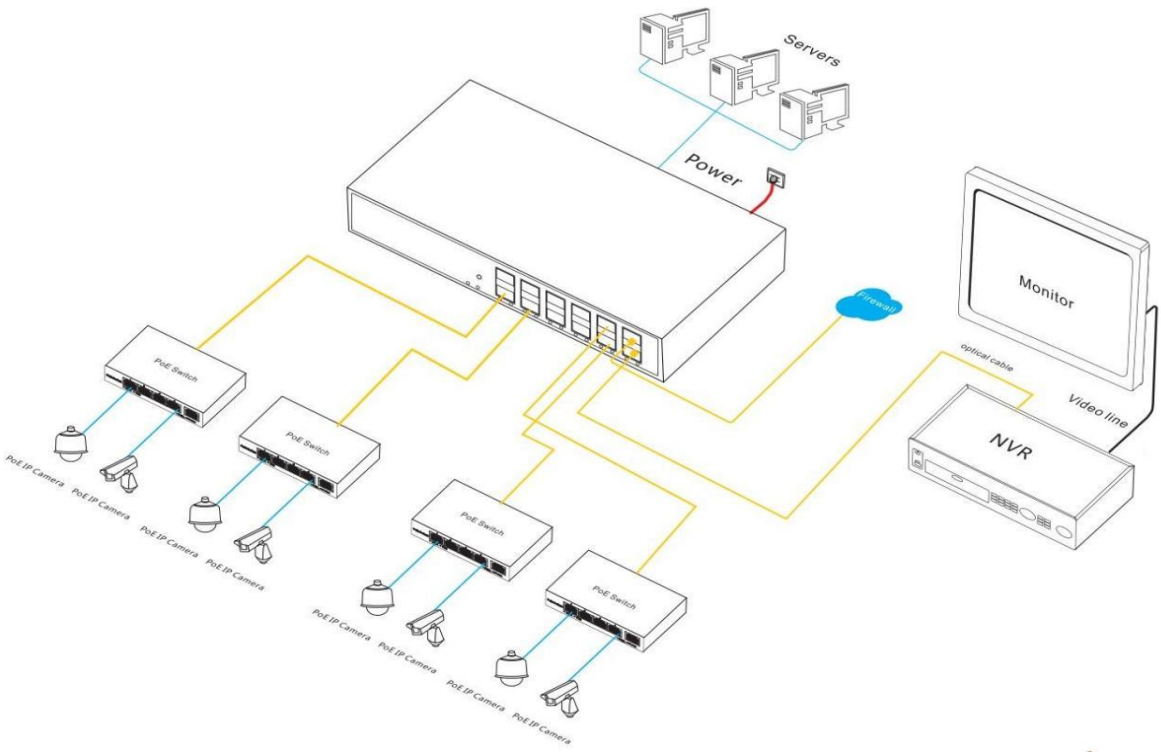
	Flow-based redirection, 8*Output queues of each port 802.1p/DSCP priority mapping, Diff-Serv QoS, Priority Mark/ Remark
ACL	ACL distribution based on port and VLAN L2-L4 packet filtering function, matching the first 80 bytes message, and provides ACL definitions based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN, etc.
Security	Port based IEEE802.1X authentication SSL guarantees data transmission security Quad binding function of IP+MAC+VLAN+ports MAC address learning limit, MAC address black hole IP Source Guard function, AAA&RADIUS certification Hierarchical user management and password protection SSH 2.0 provides a secure encrypted channel for user login Host data backup mechanism, ARP intrusion detection function Port isolation, Anti DoS attack, ARP message speed limit function IP source address protection, Port broadcast message suppression
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	NTP clock, Viewing CPU Instant Utilization Status SNMP V1/V2/V3, Web network management (https) Ping detection, Link Layer Discovery Protocol(LLDP) One-click restore, Cable status check, System work log ONV-NMS platform cluster management (LLDP+SNMP) Console/ AUX Modem/ Telnet/ CLI command line configuration FTP, TFTP, Xmodem, SFTP file upload and download management
System	Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable 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

DIMENSION



APPLICATION



ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV56012FM	L2+ 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