Product Datasheet

14-port Gigabit Managed Ethernet Switch
(ONV33012FM)

OVERVIEW

The ONV33012FM is a Gigabit managed Ethernet fiber switch independently developed by ONV. It has 2*10/100/1000Base-T adaptive RJ45 ports and 12*100/1000Base-X SFP fiber ports. Each port can support wire-speed forwarding.

The ONV33012FM 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 multiple 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. According to application needs, port management, routing address management, port flow control, VLAN division, IGMP,

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security policy, and other application configurations can be performed through Web, CLI, SNMP, Telnet, and other methods. 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 economical, efficient, and reliable communication networks.

FEATURE

■ **Gigabit multi-fiber port access, line-speed forwarding**

◇ Support non-blocking wire-speed forwarding.

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

◇ Support Gigabit RJ45 port and SFP fiber port uplink combination to facilitate users' flexible networking 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 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 protocol, IGMP Snooping meets multi-terminal high-definition video surveillance and video conference access requirements.

■ **Security**

◇ Support port isolation and port broadcast storm suppression.

◇ Support IP+MAC+port+VLAN quadruple flexible combination binding function.

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◇ 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, Link, and L/A.

◇ Using self-developed power supply with high redundancy design provides long-term and stable power output.

◇ Low power consumption, with fan, 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.

◇ Supports LLDP, making it easier for the network management system to query and determine the communication status of the link.

◇ Support Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), and other diversified management and maintenance.

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TECHNICAL SPECIFICATION
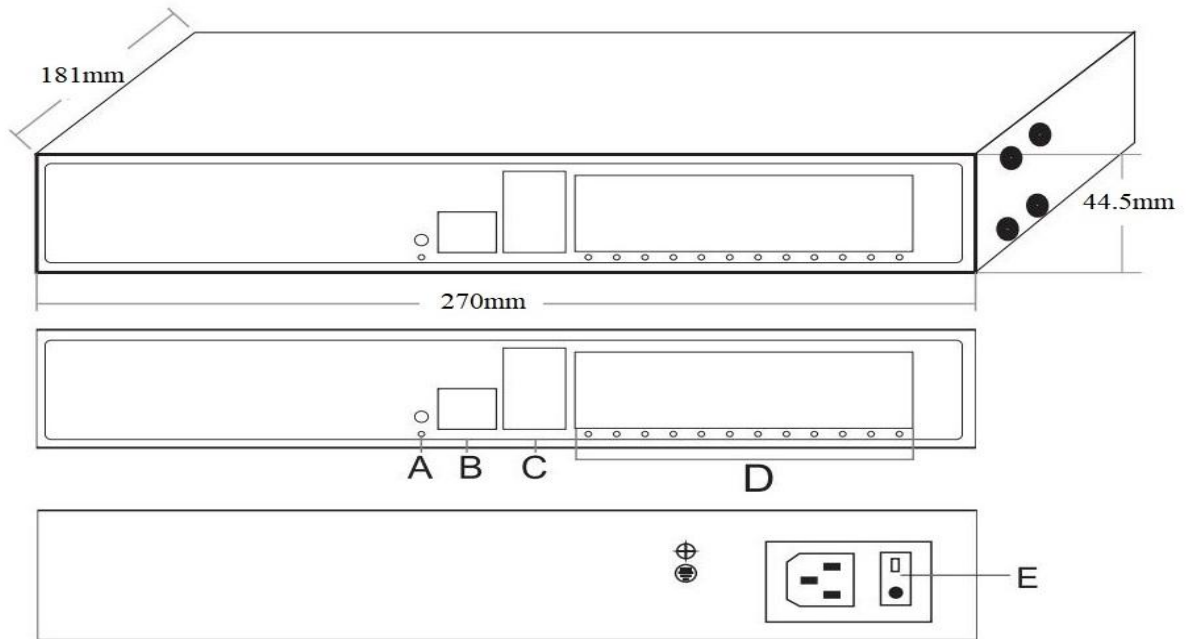
Model	ONV33012FM
Interface Characteristics	
Fixed Port	1*Console RS232 port (115200,N,8,1) 2*10/100/1000Base-T RJ45 ports (Data) 12*100/1000Base-X SFP fiber ports (Data)
Ethernet Port	Port 1-2 can support 10/100/1000Base-T(X) auto-sensing, Full/ half duplex MDI/ MDI-X self-adaption
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP (≤100 meters) 100BASE-TX: Cat5 or later UTP (≤100 meters) 1000BASE-T: Cat5e or later UTP (≤100 meters)
Optical Fiber Port	Gigabit optical fiber interface, 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, Single-mode: 1310nm /0-40km, 1550nm /0-120km.
Chip Parameter	
Network Management Type	L2+
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3u 100Base-FX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	52Gbps (non-blocking)
Forwarding Rate @64byte	20.83Mpps
CPU(Hz)	416M

DRAM	1G
Flash	128M
MAC	8K
Buffer Memory	6M
Jumbo Frame	9.6K
LED Indicator	Power: PWR (Yellow), System: SYS(Yellow), Network: Link (Yellow), Fiber port: L/A (Green)
Reset Switch	Yes, support one key to restore factory settings
Power Supply	
Total PWR / Input Voltage	30W/ (AC100-240V)
Power Consumption	Standby<10W, Full Load<18W
Power Supply	Built-in power supply, AC 100~240V 50-60Hz, 0.56A
Physical Parameter	
Operation Temp/ Humidity	-20~+55°C, 5%~90% RH Non condensing
Storage Temp/ Humidity	-40~+80°C, 5%~95% RH Non condensing
Dimension (L*W*H)	270*181*44.5mm
Net /Gross Weight	1.25kg/ 1.75kg
Installation	Desktop, wall mount, 1U/19" cabinet
Certification & Warranty	
Lightning Protection	Lightning protection: 4KV 8/20us, Protection level: IP30
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
Warranty	3 years, lifelong maintenance.
Network Management Feature	
Interface	Port temperature protection setting IEEE 802.3x flow control (Full duplex)

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6	Port green Ethernet Energy-saving setting Broadcast storm suppression based on port rate Limit the speed of the message traffic at the inbound and outbound ports mini granularity is 64Kbps
L3 Feature	ARP protocol, max 1024 entries Static route/default route, max 128 entries Support L2+ network management function, support IPV4/IPV6 management Support L3 routing forwarding and communication between different network segments and different VLAN
VLAN	Port configuration of Access, Trunk, Hybrid VLAN based on MAC, VLAN based on the protocol Voice VLAN, QinQ configuration, 4K VLAN based on port, IEEE802.1q
Port Aggregation	LACP dynamic aggregation, Static aggregation, Max 7 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Ring Network Protocol	G.8032 (ERPS), Recovery time less than 20ms, 250 Ring at most, Max 254 devices per ring.
Multicast	MLD Snooping,Multicast VLAN, IGMP Snooping v1/v2/v3, Max 1024 multicast groups, Fast log out
Port Mirroring	Bidirectional data mirroring based on port
QoS	Flow-based rate limiting, Flow-based redirection 802.1p/DSCP priority mapping, Priority mark/ remark Flow-based packet filtering, 8*Output queues of each port Diff-Serv QoS, Queue scheduling algorithm (SP, WRR, SP+WRR)
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.

7 **Security**	IP source address protection
	ARP intrusion detection function
	ARP message rate limiting function
	Port broadcast message suppression
	SSL ensures data transmission security
	AAA & RADIUS & TACACS+ certification
	Anti-DoS attack, MAC address black hole
	Port isolation, Host data backup mechanism
	Limit on the number of MAC addresses learned
	Quadruple binding function of IP+MAC+VLAN+port
	User hierarchical management and password protection
	SSH 2.0 provides a secure encrypted channel for user login
	IEEE802.1X authentication/ centralized MAC address authentication
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	NTP clock, CPU real-time utilization status check
	SNMP V1/V2/V3, Ping detection, System work log
	One-click restore, Link layer discovery protocol LLDP
	ONV-NMS platform cluster management (LLDP+SNMP)
	Cable length status detection, Web network management (https)
	FTP, TFTP, Xmodem, SFTP file upload and download management
	Console/AUX Modem/Telnet/SSH2.0 CLI command line configuration
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

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DIMENSION

A. Working indicator   B. Console port

C. 2*10/100/1000M RJ45 ports   D. 12*100/1000M SFP fiber ports

E. Power input port AC100-240V, 50/60Hz

APPLICATION

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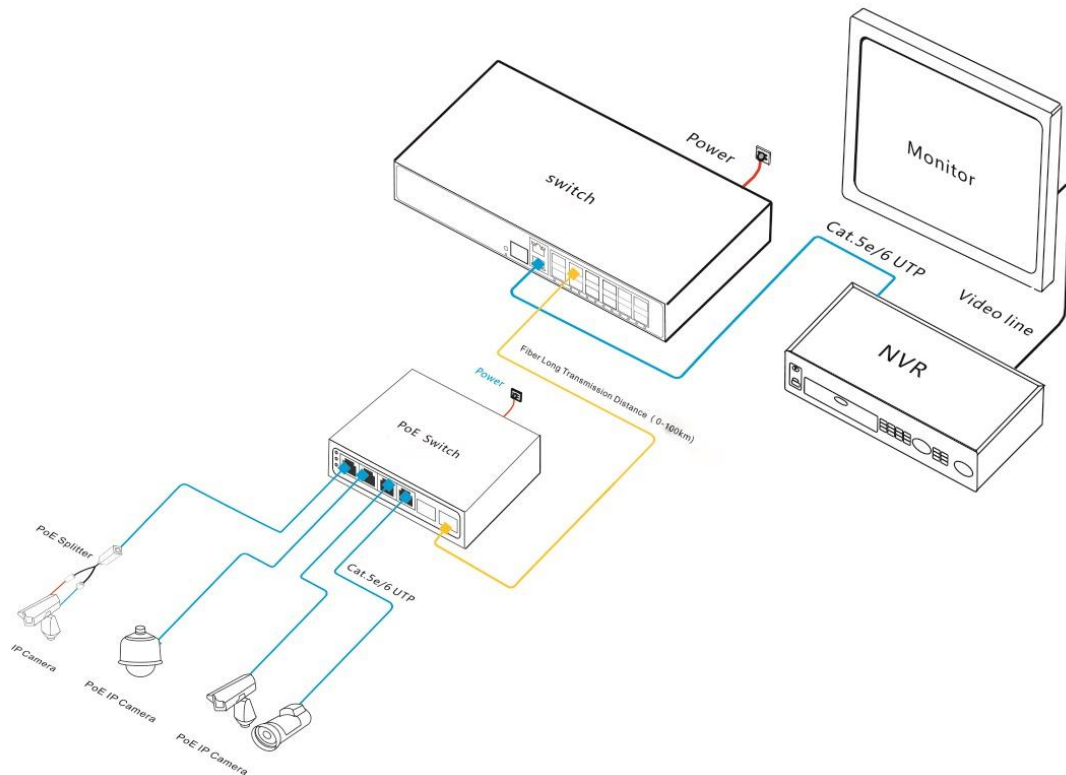
ORDERING INFORMATION

Model	Description
ONV33012FM	L2+ managed Ethernet fiber switch with 2*10/100/1000M RJ45 ports and 12*100/1000M SFP fiber ports. It has a built-in 30W power supply and supports 1U/19" rack installation.
Note: The optical module is not included and needs to be purchased.	

PACKING LIST

	Content	Qty	Unit
Packing List	14-port Gigabit managed Ethernet switch	1	SET
	AC Power Cable	1	PC
	RJ45-DB9 Adapter Cable	1	PC
	Mounting Kit (Hanging Ear)	1	SET
	User Guide	1	PC
	Warranty Card and Certificate of Conformity	1	PC

OPTICAL MODULE

Product	Model	Description	Unit
155M Optical Module	5315-114	SFP optical module, 155M single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	1313-20	SFP optical module, 155M, single-mode single fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	1315-20	SFP optical module, 155M single-mode single fiber, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC

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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/ RX1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	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
Power Module	2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	PC

CONTACT US

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