Product Datasheet

20-port Full Gigabit L2+ Managed Ethernet Fiber Switch
(ONV33020FM)

OVERVIEW

The ONV33020FM is a full gigabit L2+ managed Ethernet fiber switch independently developed by ONV. It has 16*10/100/1000Base-T adaptive RJ45 ports and 4*100/1000Base-X uplink SFP fiber ports. Each port can support wire-speed forwarding.

The ONV33020FM has L2+ network management functions, supports IPV4 management and static routing forwarding, and has complete security protection mechanisms, perfect ACL/QoS strategies, and rich VLAN functions for easy management and maintenance. Supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) to improve link backup and network reliability. When a unidirectional network fails, communication can be quickly restored to ensure uninterrupted communication of important transmissions. ONV33020FM supports flexible operation and maintenance management, through Web, CLI, SNMP, Telnet and other network management methods, port flow control, VLAN division, QoS, and other functions for multiple application business configurations. It can meet the needs of multi-channel video surveillance and wireless coverage network application environments and is suitable for hotels, campuses, parks, supermarkets, scenic spots, factory dormitories, and SMB small and medium-sized enterprises to build economical and efficient networks.

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FEATURE

■ **Gigabit access, uplink gigabit SFP fiber port**

◇ Support non-blocking wire-speed forwarding.

◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.

◇ Support Gigabit Ethernet port and Gigabit SFP port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ **Security**

◇ Port isolation and storm control.

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

◇ 802.1X authentication provides authentication functions for LAN computers and controls the authorization status of controlled ports according to the authentication results.

■ **Strong business processing ability**

◇ Support ERPS ring network and STP/ RSTP/ MSTP to eliminate layer 2 loops and realize link backup.

◇ Support IEEE 802.1Q VLAN and protocol VLAN, users can flexibly divide VLAN according to 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.

■ **Stable and reliable**

◇ CCC, CE, FCC, RoHS.

◇ Low power consumption, with fan, galvanized steel metal shell, and excellent heat dissipation

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to ensure the stable operation of the switch.

◇ Self-developed power supply, high redundancy, providing a long term and stable power output.

◇ The user-friendly panel can show the device status through the LED indicator of PWR, Link, and L/A.

■ **Easy O&M management**

◇ Support CPU monitoring, memory monitoring, Ping detection, and cable length detection.

◇ HTTPS, SSLV3, SSHV1/V2, and other encryption methods are more secure in management.

◇ RMON, system log, and port traffic statistics are convenient for network optimization and transformation.

◇ LLDP is convenient for the network management system to query and judge the communication status of the link.

◇ Support diverse management and maintenance methods such as Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), Telnet, etc.

TECHNICAL SPECIFICATION

Model	ONV33020FM
Interface Characteristics	
Fixed Port	1*RS232 console port (115200,N,8,1) 16*10/100/1000Base-T RJ45 ports (Data) 4*100/1000Base-X uplink SFP fiber ports (Data)
Ethernet Port	Port 1-16 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 port, default no include optical module (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
Optical Cable/	Multi-mode: 850nm/ 0-500m, Single-mode: 1310nm/ 0-40km, 1550nm/

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Distance	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 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	56Gbps (non-blocking)
Forwarding Rate@64byte	29.76Mpps
CPU(Hz)	500M
DRAM	1G
Flash	256M
MAC	8K
Buffer Memory	4.1M
Jumbo Frame	10K
LED Indicator	Power: PWR (Yellow), System: SYS(Yellow), Network: Link/Act(Yellow), Fiber port: L/A(Green)
Reset Switch	Yes, One-button factory reset
Power Supply	
Total PWR / Input Voltage	60W/ (AC100-240V)
Power Consumption	Standby<16W, Full load<30W
Power Supply	Built-in power supply, AC100~240V 50-60Hz, 1.0A
Physical Parameter	
Operation TEMP/ Humidity	-20~+55°C, 5%~90% RH Non condensing
Storage TEMP/ Humidity	-40~+75°C, 5%~95% RH Non condensing

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| Dimension (L*W*H)	440*290*44.5mm
Net /Gross Weight	3.1kg / 4.1kg
Installation	Desktop, 1U/19'' cabinet, wall-mounted
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	IEEE 802.3x flow control (Full duplex) Broadcast storm control based on port speed Port real-time traffic management (Flow Interval) Limit the speed of the message flow of the inbound and outbound ports, mini granularity is 16Kbps and max 1Gbps
L3 Feature	IPV4 static route /default route max 128 entries L2+ network management function, ARP protocol, max 1024 entries
VLAN	Port configuration of Access, Trunk, Hybrid 4K VLAN based on port, VLAN based on MAC address, IEEE802.1q
Port Aggregation	LACP dynamic aggregation, static aggregation Max 10 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Multicast	Fast log out, Multicast VLAN IGMP Snooping v1/v2/v3, Max 1024 multicast groups
Port Mirroring	Bidirectional data mirroring based on port
QoS	Flow-based packet filtering, Priority Mark/ Remark Flow-based redirection, Flow-based rate limiting 8*Output queues of each port, 802.1p/ DSCP priority mapping 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.
Security	IEEE802.1X & MAC address authentication AAA & RADIUS certification, ARP inspection IP-MAC-VLAN-Port binding, MAC learning limit Broadcast storm control, Backup for host datum Mac black holes, IP source protection, Anti-DoS attack SSH 2.0, SSL, Port isolation, ARP message speed limit User hierarchical management and password protection
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	System work log, Link Layer Discovery Protocol NTP clock, Cable length detection, SNMP V1/V2/V3 Ping detection, Web network management (HTTPS) ONV-NMS platform cluster management (LLDP+SNMP) One click recovery, View CPU real-time utilization status 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
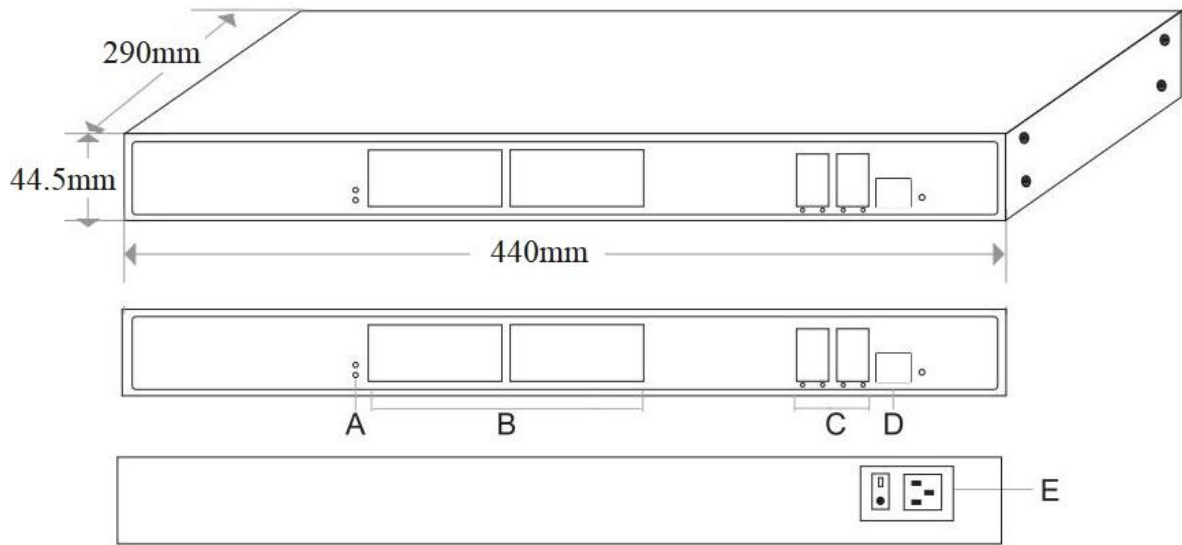
A. Working indicator

B. 16*10/100/1000M RJ45 ports

C. 4*100/1000M uplink SFP fiber ports

D. Console port

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

APPLICATION

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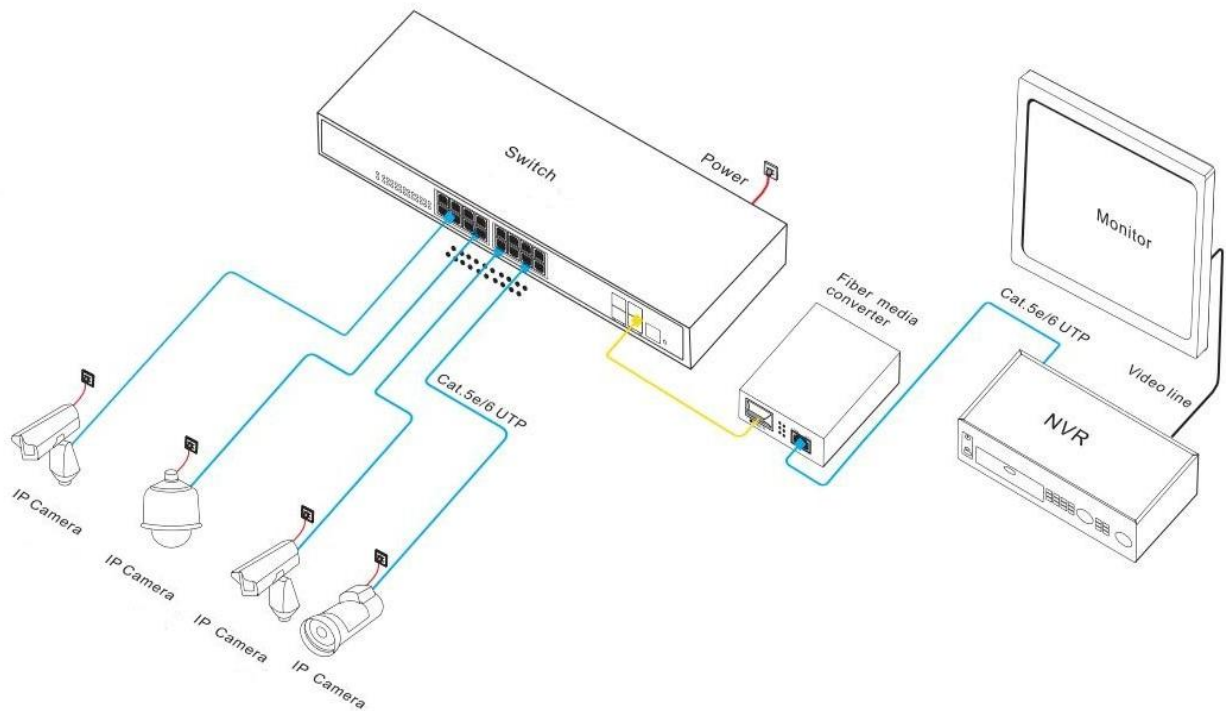
ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV33020FM	L2+ managed Ethernet fiber switch with 16*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. It built-in power supply and 1U/19" cabinet installation.	60W
Note: The optical module is not included and needs to be purchased.		

PACKING LIST

	Content	Qty	Unit
Packing List	20-port full gigabit managed Ethernet switch	1	SET
	RJ45-DB9 Line	1	PC
	AC Power Cable	1	PC
	Mounting Kits (Hanging Ear)	1	SET
	User Guide	1	PC
	Warranty Card	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. support DDM function and hot plugging.	PC
	2632	SFP optical module, 1.25G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. support DDM function and hot plugging.	PC
	2612-T	SFP optical module, 1.25G single-mode single fiber	PC

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9 Power Module		TX1310nm/ RX1550nm, transmission distance: 20km, LC interface. support DDM function and hot plugging.	
	2613-R	SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, LC interface. support 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. support 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. support DDM function and hot plugging.	PC
	2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	PC

RELATED PRODUCT

Model	Description
ONV33012FM	L2+ managed Ethernet fiber switch with 2*10/100/1000M RJ45 ports and 12*100/1000M SFP fiber ports. It built-in power supply and 1U/19" cabinet installation.
ONV33148FM	L2+ managed Ethernet fiber switch with 10*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. It built-in power supply and 1U/19" cabinet installation.
ONV33168FM	L2+ managed Ethernet fiber switch with 8*10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber ports. It built-in power supply and 1U/19" cabinet installation.
ONV33028FM	L2+ managed Ethernet fiber switch with 24*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. It built-in power supply and 1U/19" cabinet installation.

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