

## Product Datasheet

# 20-port Gigabit Managed Ethernet Switch

(ONV33020FM)



## OVERVIEW

The ONV33020FM is a 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 the security protection mechanism, ACL/QoS strategy, and VLAN function are easy to manage and maintain. 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. Supports flexible operation and maintenance management, and can perform port flow control, VLAN division, QoS, and other application business configurations through Web, CLI, SNMP, Telnet, and other network management methods. It can meet the application environment of multi-channel video surveillance and wireless coverage networks and is suitable for hotels, campuses, parks, supermarkets, scenic spots, factory dormitories, and small and medium-sized enterprises to build economical and efficient networks.

## FEATURE

- Gigabit access, uplink SFP fiber port

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- ◇ 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 port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

## ■ Security

- ◇ Port isolation and storm control.
- ◇ 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 capability

- ◇ Support IEEE 802.1Q VLAN , users can flexibly divide VLAN according to needs.
- ◇ Ring network RSTP spanning tree protocol eliminates layer 2 loops and realizes link backup.
- ◇ Static aggregation and dynamic aggregation effectively increase link bandwidth, achieve load balancing, and link backup, and improve link reliability.
- ◇ Support QoS, three priority modes based on port, 802.1P-based and DSCP-based, and four queue scheduling algorithms: Equ, SP, WRR, and SP+WRR.
- ◇ Support ACL to filter data packets by configuring matching rules, processing operations, and time permissions to provide flexible security access control strategies.
- ◇ Support IGMP V1/V2 multicast protocol and IGMP Snooping to meet the needs of multi-terminal high-definition video surveillance and video conferencing access.

## ■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR and Link.
- ◇ Using a self-developed power supply with a high redundancy design provides long-term and stable power output.
- ◇ Low power consumption, with fan, galvanized steel metal casing, and excellent heat dissipation to ensure the stable operation of the switch.

## ■ Easy O&M management

- ◇ CPU monitoring, memory monitoring, and Ping detection.
- ◇ System logs and port traffic statistics facilitate network optimization and transformation.
- ◇ LLDP facilitates the network management system to query and determine the communication status of the link.
- ◇ Web network management, CLI (Console, Telnet), SNMP (V1/V2/V3), Telnet, and other diversified management and maintenance methods.

## TECHNICAL SPECIFICATION

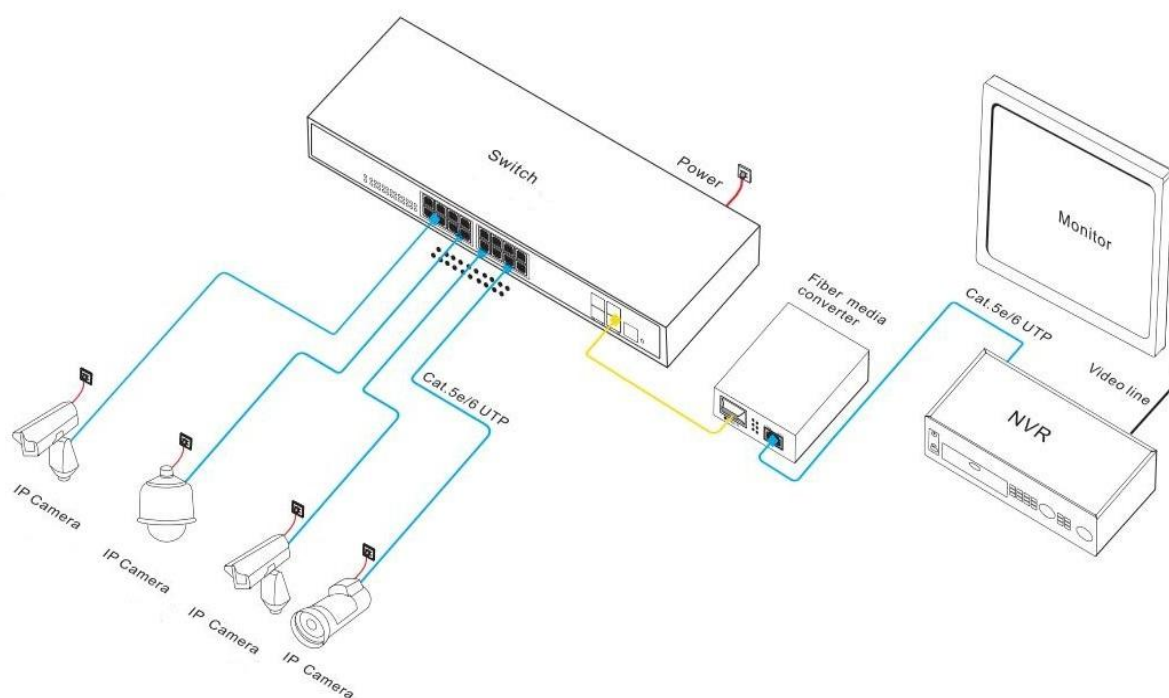
Model	ONV33020FM
<b>Interface Characteristics</b>	
Fixed Port	1*RS232 console port (115200,N,8,1) 16*10/100/1000Base-T RJ45 ports (Data) 4*100/1000Base-X uplink SFP fiber ports (Data)
Ethernet Port	Port 1-16 support 10/100/1000Base-T(X) auto-sensing, full/ half duplex MDI/ MDI-X self-adaption
Twisted 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/ Distance	Multi-mode: 850nm/ 0-500m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km
<b>Chip Parameter</b>	
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
<b>Power Supply</b>	
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
<b>Physical Parameter</b>	
Operation TEMP/ Humidity	-20~+55°C, 5%~90% RH Non condensing
Storage TEMP/ Humidity	-40~+75°C, 5%~95% RH Non condensing
Dimension (L*W*H)	440*290*44.5mm
Net /Gross Weight	3.1kg / 4.1kg
Installation	Desktop, 1U/19" cabinet, Wall mount
<b>Certification &amp; Warranty</b>	
Lightning Protection	Lightning protection: 4KV 8/20us, Protection level: IP30
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B,

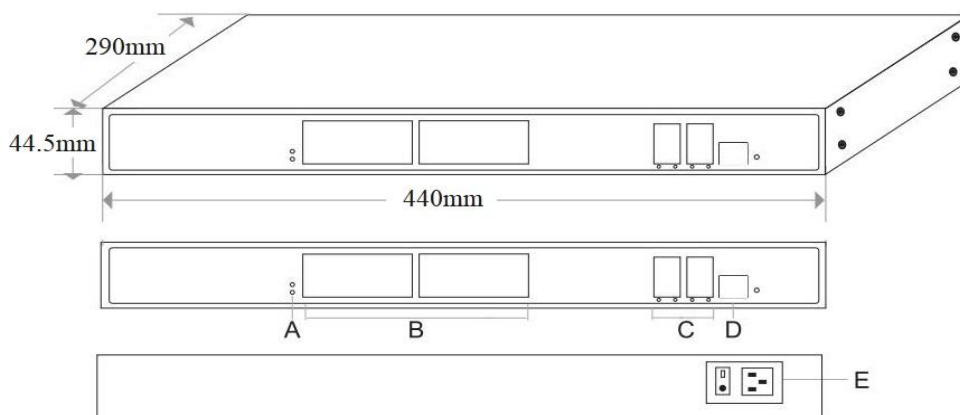
	RoHS
Warranty	3 years, lifelong maintenance.
<b>Network Management Feature</b>	
Interface	<p>IEEE 802.3x flow control (Full duplex)</p> <p>Broadcast storm suppression based on port rate</p> <p>Port real-time traffic management (Flow Interval)</p> <p>Limit the rate of packet traffic on incoming and outgoing ports, mini granularity is 16Kbps and max 1Gbps</p>
L3 Feature	IPV4 static route/ default route, max 64 entries
VLAN	<p>Port-based VLAN (4K), VLAN based on the protocol</p> <p>IEEE802.1q, Port configuration of Access, Trunk, Hybrid</p>
Port Aggregation	<p>LACP dynamic aggregation, Static aggregation</p> <p>Max 10 aggregation groups and 8 ports per group</p>
Spanning Tree	RSTP (IEEE802.1w)
ERPS	ERPSv2
Multicast	<p>Multicast VLAN, User quick exit mechanism</p> <p>IGMP Snooping v1/v2, Max 1024 multicast groups</p>
Port Mirroring	Bidirectional data mirroring based on port
QoS	<p>Queue scheduling algorithm (SP, WRR, SP+WRR)</p> <p>Flow-based rate limiting, Flow-based packet filtering</p> <p>Flow-based based redirection, 8*Output queues of each port</p> <p>802.1p/ DSCP priority mapping, Diff-Serv QoS, Priority Mark/ Remark</p>
ACL	<p>Port-based and VLAN-delivered ACL</p> <p>The L2-L4 packet filtering function can match the first 80 bytes of the packet and provide information based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, and VLAN. Wait to define the ACL.</p>
Security	<p>Port-based IEEE 802.1X certification</p> <p>Port broadcast message suppression</p>

	Port isolation, IP source address protection AAA&RADIUS certification, MAC address black hole User hierarchical management and password protection
DHCP	DHCP Client, DHCP Snooping
Management	Console/ Telnet and CLI configuration HTTP file upload and download management Link Layer Discovery Protocol (LLDP), System work log ONV-NMS platform cluster management (LLDP+SNMP) Web network management, One click recovery, NTP clock View CPU real-time utilization status, Ping detection, SNMP V1/V2/V3
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

## APPLICATION



## 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

## 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
<b>Note:</b> The optical module is not included and needs to be purchased.		

## PACKING LIST

	Content	Qty	Unit
Packing List	20-port gigabit managed Ethernet switch	1	SET
	RJ45-DB9 Line	1	PC
	AC Power 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
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 TX1310nm/ RX1550nm, transmission distance: 20km, LC interface. support DDM function and hot plugging.	PC
	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
Power Module	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.

## CONTACT US



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