

## Product Datasheet

# 20-port Gigabit Managed PoE Switch

(ONV-POE33020PFM)



## OVERVIEW

The ONV-POE33020PFM is a Gigabit L2+ managed PoE 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. Port 1-16 can support IEEE 802.3 af/at PoE standard and single-port PoE power up to 30W. As a PoE power supply device, it can automatically detect and identify powered devices that meet standards and power them through network cables. It can power PoE terminal equipment such as wireless AP, IP camera, IP telephone, and building visual access control intercoms through network cables to meet network environments that require high-density PoE power supply. It is suitable for hotels, campuses, parks, supermarkets, scenic spots, factory dormitories, and small and medium-sized enterprises to establish cost-effective networks.

The ONV-POE33020PFM has L2+ network management functions. It can support IPV4 management and static routing forwarding, complete security protection mechanisms, complete ACL/ QoS policies, and rich VLAN functions, making it easy to manage and maintain. Supports multiple network redundancy protocols STP/ RSTP/ MSTP (<50ms) to improve link backup and network reliability. When a one-way network fails, communication can be quickly restored to ensure uninterrupted communication of important transmissions. According to application needs, PoE power supply management, port flow control, VLAN division, QoS, and other application service configurations can be performed through network management methods such as Web, CLI, SNMP, and Telnet.

## FEATURE

### ■ Gigabit access, uplink SFP fiber port

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
- ◇ Support Gigabit RJ45 port and Gigabit SFP port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

### ■ Smart PoE power supply

- ◇ Comply with IEEE 802.3 af/at PoE power supply standard, automatically identify PoE equipment for power supply.
- ◇ Priority system for PoE port, it will supply power to the high priority level port first when the power budget is insufficient and avoid overwork of the device.
- ◇ 16\*10/100/1000Base-T RJ45 ports support PoE power to meet the power supply needs of security monitoring, conference call systems, wireless coverage, and other scenarios.
- ◇ Support PoE network management function, which can realize power allocation of each PoE port, priority setting, port power status viewing, time scheduling, etc. through network management configuration.

### ■ Strong business processing capability

- ◇ Support IEEE 802.1Q VLAN and protocol VLAN, users can flexibly divide VLAN according to needs.
- ◇ Ring network STP/ RSTP/ MSTP spanning tree protocol eliminates layer 2 loops and realizes link backup.
- ◇ 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.

- ◇ Static aggregation and dynamic aggregation effectively increase link bandwidth, achieve load balancing, and link backup, and improve link reliability.

### ■ 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.

### ■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, PoE, and Link.
- ◇ Using self-developed power supply with high redundancy design provides long-term and stable PoE 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, Ping detection, and cable detection.
- ◇ HTTPS, SSLV3, SSH V1/V2, and other encryption methods make management more secure.
- ◇ RMON, 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

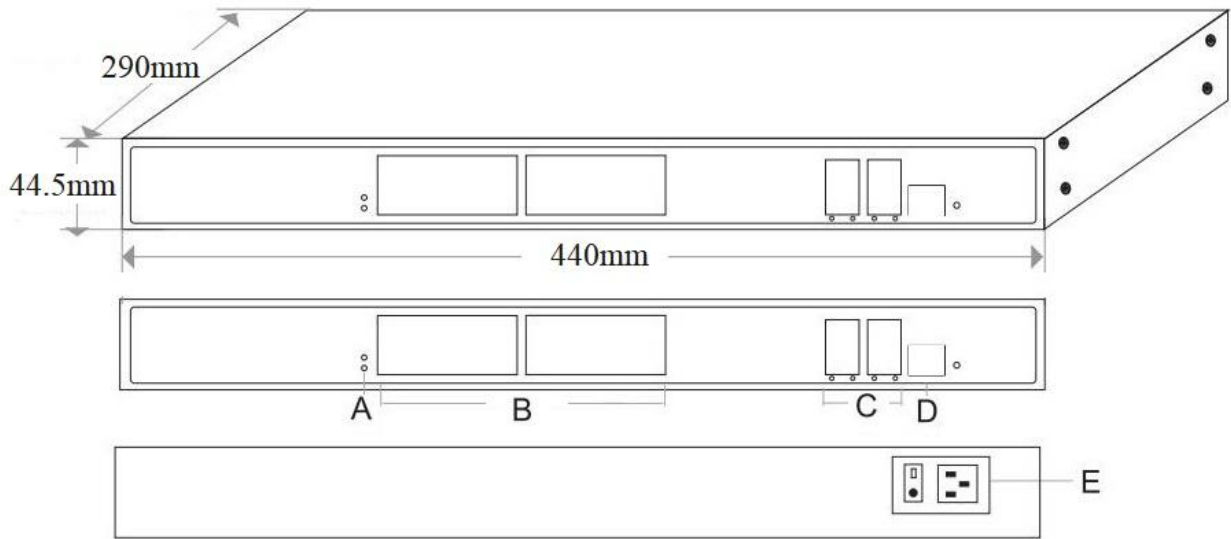
Model	ONV-POE33020PFM	ONV-POE33020PFM-at
<b>Interface Characteristics</b>		
Fixed Port	1*Console RS232 port (115200,N,8,1) 16*10/100/1000Base-T PoE ports (Data /Power) 4*100/1000Base-X uplink SFP fiber ports (Data)	
Ethernet Port	Port 1-16 can support 10/100/1000Base-T(X) auto-sensing, full/ half duplex 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 Cable/ Distance	Multi-mode: 850nm /0-550m, 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 (Yellow), PoE: PoE (Green), Fiber port: L/A (Green)	
Reset Switch	Yes, One-button factory reset	
<b>PoE &amp; Power Supply</b>		
PoE Port	Port 1-16	
PoE Management	Port PoE output priority configuration PoE power supply total power limit configuration PoE work and time scheduling, Port PoE working status display Port PoE output power distribution, PoE on/off, af/at power distribution	
Power Supply Pin	1/2(+) 3/6(-)	
Max Power Per Port	30W, IEEE 802.3 af/at	
Total PWR / Input Voltage	250W/ (AC100-240V)	400W/ (AC100-240V)
Power Consumption	Standby<16W, Full load< 240W	Standby<18W, Full load< 380W
Power Supply	Built-in power supply, AC100~240V 50-60Hz, 4.1A	Built-in power supply, AC100~240V 50-60Hz, 5.0A
<b>Physical Parameter</b>		
Operation TEMP/ Humidity	-20°C~+55°C, 5%~90% RH Non condensing	
Storage TEMP/ Humidity	-40°C~+75°C, 5%~95% RH Non condensing	
Dimension (L*W*H)	440*290*44.5mm	
Net /Gross Weight	3.6kg/ 4.6kg	3.9kg / 4.8kg
Installation	Desktop, 1U/19" cabinet	
<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	IEEE802.3x flow control (Full duplex) Broadcast storm suppression based on port rate Port real-time traffic management (Flow Interval) Limit the rate of packet traffic on incoming and outgoing ports, mini granularity is 16Kbps and max is 1Gbps
L3 Feature	IPV4 static route/ default route, max 128 entries L2+ network management function, ARP protocol, max 1024 entries
VLAN	Port-based VLAN (4K), VLAN based on the protocol IEEE802.1q, Port configuration of Access, Trunk, Hybrid
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	Multicast VLAN, User quick exit mechanism IGMP Snooping v1/v2, Max 1024 multicast groups
Port Mirroring	Bidirectional data mirroring based on port
QoS	Queue scheduling algorithm (SP, WRR, SP+WRR) Flow-based rate limiting, Flow-based packet filtering Flow-based based redirection, 8*Output queues of each port 802.1p/ DSCP priority mapping, Diff-Serv QoS, Priority Mark/ Remark
ACL	Port-based and VLAN-delivered ACL 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.
Security	ARP intrusion detection function ARP message rate limiting function

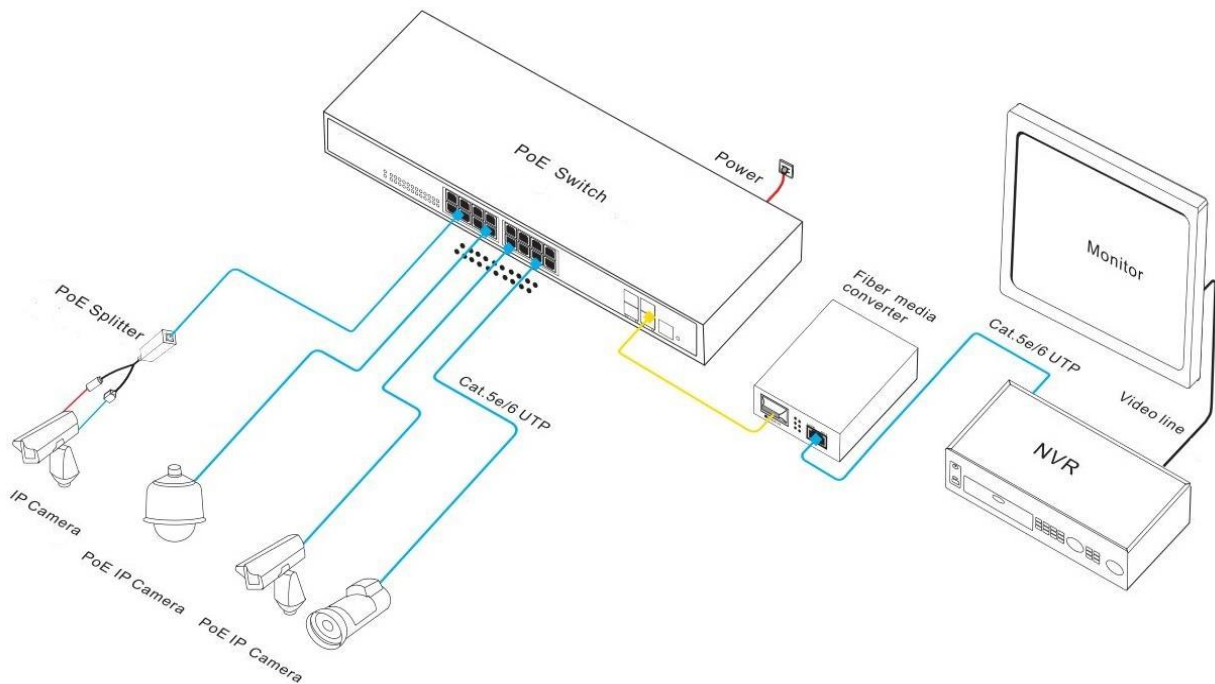
	<p>Port-based IEEE802.1X certification</p> <p>Port broadcast message suppression</p> <p>SSL ensures data transmission security</p> <p>Port isolation, IP source address protection</p> <p>Host data backup mechanism, Anti-DoS attack</p> <p>Limit on the number of MAC addresses learned</p> <p>AAA&amp;RADIUS certification, MAC address black hole</p> <p>User hierarchical management and password protection</p> <p>SSH 2.0 provides a secure encrypted channel for user login</p>
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	<p>Web network management (https)</p> <p>View CPU real-time utilization status</p> <p>Link Layer Discovery Protocol (LLDP)</p> <p>NTP clock, SNMP V1/V2/V3, System work log</p> <p>One click recovery, Ping detection, Cable status check</p> <p>ONV-NMS platform cluster management (LLDP+SNMP)</p> <p>Console/ AUX Modem/ Telnet/ SSH2.0 and CLI configuration</p> <p>FTP, TFTP, Xmodem, SFTP file upload and download management</p>
System	<p>Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher,</p> <p>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



- A. Work indicator
- B. 16\*10/100/1000M PoE ports
- C. 4\*100/1000M uplink SFP fiber ports
- D. Console port
- E. Power input port AC100-240V, 50/60Hz

## APPLICATION





## ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV-POE33020PFM	L2+ managed PoE switch with 16*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports.	250W
ONV-POE33020PFM-at	Port 1-16 can support IEEE 802.3 af/at PoE standard. It built-in power supply and 1U/19" cabinet installation.	400W

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

## PACKING LIST

	Content	Qty	Unit
Packing List	20-port gigabit managed PoE 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	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/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

## RELATED PRODUCT

Model	Description
ONV-POE33010PFM	L2+ managed PoE fiber switch with 8*10/100/1000M RJ45 ports and 2*10/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It built-in 130W power supply and 1U/19" cabinet installation.
ONV-POE33148PFM	L2+ managed PoE fiber switch with 10*10/100/1000M RJ45 ports and 4*10/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It built-in 130W power supply and 1U/19" cabinet installation.
ONV-POE33028PFM	L2+ managed PoE fiber switch with 24*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. Port 1-24 can support IEEE 802.3 af/at PoE standard. It built-in 400W power supply and 1U/19" cabinet

	installation.
ONV-POE36028PFM	L2+ managed PoE fiber switch with 24*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Port 1-24 can support IEEE 802.3 af/at PoE standard. It built-in 400W power supply and 1U/19" cabinet installation.
ONV-POE36036PFM	L2+ managed PoE fiber switch with 24*10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. Port 1-24 can support IEEE 802.3 af/at PoE standard. It built-in 400W power supply and 1U/19" cabinet installation.
ONV-POE36048PFM	L2+ managed PoE fiber switch with 48*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Port 1-48 can support IEEE 802.3 af/at PoE standard. It built-in 600W power supply and 1U/19" cabinet installation.

## CONTACT US

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