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 RSTP (<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.

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FEATURE

■ Gigabit access, uplink SFP fiber port

◇ 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.

■ Smart PoE power supply

◇ Support PoE network management function, port power status viewing, etc. through network management configuration.

◇ Comply with IEEE 802.3 af/at PoE power supply standard, automatically identify PoE equipment for power supply.

◇ 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.

■ Strong business processing capability

◇ Support IEEE 802.1Q VLAN.

◇ Ring network RSTP spanning tree protocol eliminates layer 2 loops and realizes link backup.

◇ Support IGMP Snooping V1/V2 to meet the needs of multi-terminal high-definition video surveillance and video conferencing access.

◇ Support QoS, three priority modes based on port, 802.1P-based and DSCP-based, and four queue scheduling algorithms: SP, WRR, and WFQ.

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

◇ Support ACL to filter data packets by configuring matching rules, processing operations, and time permissions to provide flexible security access control strategies.

■ Security

◇ Port isolation and storm control.

◇ 802.1X authentication provides authentication functions for LAN computers and controls the

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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 housing, 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	ONV-POE33020PFM	ONV-POE33020PFM-at
Interface Characteristics		
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)	

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	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.
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
LED Indicator	Power: PWR(Yellow), System: SYS(Yellow), Network: Link/Act(Yellow), PoE: PoE (Green), Fiber port: L/A(Green)
PoE & Power Supply	
PoE Port	Port 1-16
PoE Management	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)

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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

Physical Parameter

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	

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	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
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	RSTP (IEEE 802.1w)
ERPS	ERPSv2

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Multicast	Multicast VLAN, User quick exit mechanism, IGMP Snooping v1/v2
Port Mirroring	Bidirectional data mirroring based on port
QoS	802.1p/ DSCP priority mapping, Diff-Serv QoS Queue scheduling algorithm (SP, WRR, WFQ) Flow-based rate limiting, Flow-based packet filtering Flow-based based redirection, 8*Output queues of each port
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 to define the ACL.
Security	Port isolation, Port broadcast message suppression Port-based and Mac-based IEEE802.1X certification User hierarchical management and password protection AAA&RADIUS certification, IP source address protection
DHCP	DHCP Client, DHCP Snooping
Management	Web network management (https), Ping detection ONV-NMS platform cluster management (LLDP+SNMP) One click recovery, View CPU real-time utilization status Link Layer Discovery Protocol (LLDP), System work log Console/ Telnet and CLI configuration, SNMP V1/V2/V3 NTP clock, HTTP 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

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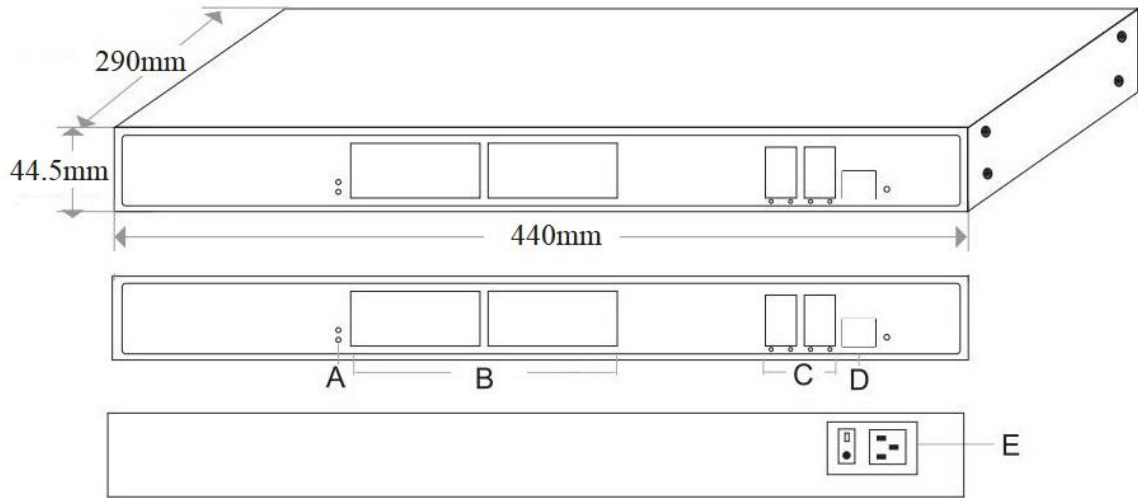
A. Work indicator   B. 16*10/100/1000M PoE ports
C. 4*100/1000M uplink SFP fiber ports   D. Console port
E. Power input port AC100-240V, 50/60Hz

APPLICATION
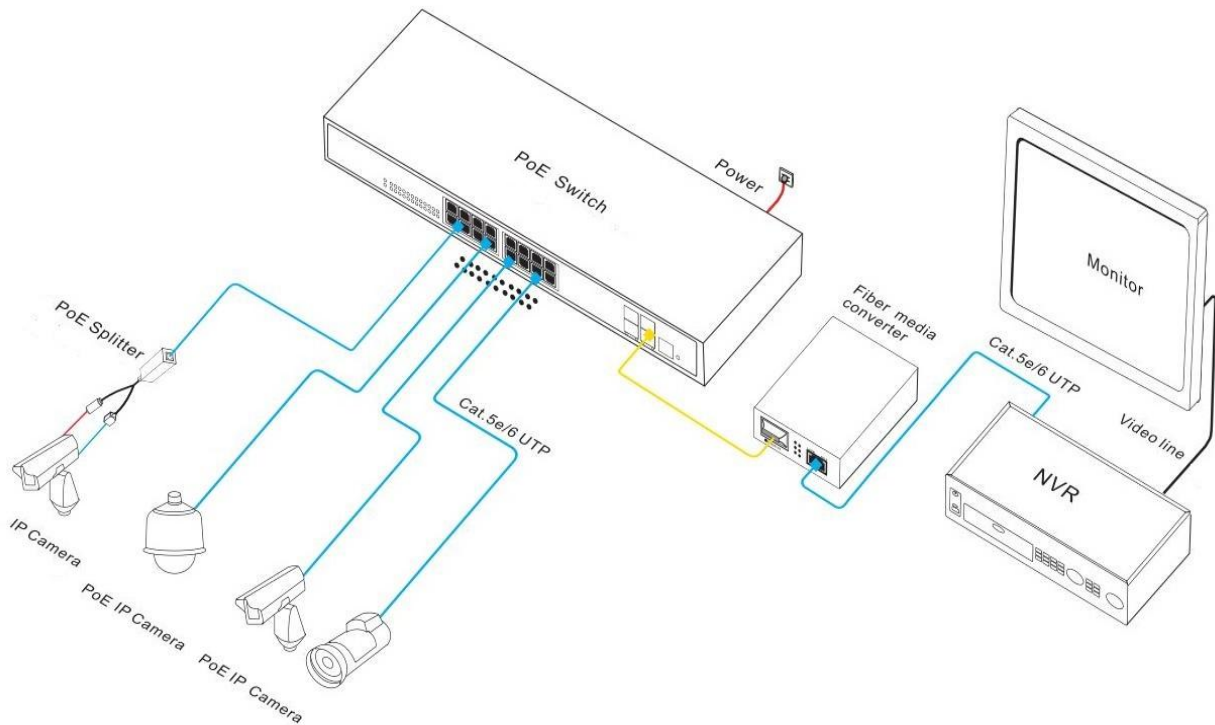
ORDERING INFORMATION

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 Adapter Cable	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. 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

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9	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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