

Product Datasheet

28-port 10G Uplink L3 Managed PoE Fiber Switch (ONV-POE38028PFM)



OVERVIEW

The ONV-POE38028PFM is a 10G uplink L3 managed PoE fiber switch independently developed by ONV. It has 24*10/100/1000Base-T adaptive RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Port 1-24 can support IEEE 802.3 af/at PoE standard and single-port PoE power reaches 30W. As a PoE power supply device, it can automatically detect and recognize the power-receiving equipment that meets the standard and supply power through the network cable. It can supply power to PoE terminal equipment such as wireless AP, IP camera, VoIP phone, and building visual access control intercom through a network cable to meet the network environment that needs a high-density PoE power supply. It is suitable for hotels, campuses, parks, supermarkets, scenic spots, factory dormitories, and SMB small and medium-sized enterprises to establish cost-effective networks.

The ONV-POE38028PFM has L3 network management function, supports IPV4/IPV6 management, dynamic routing, and forwarding, complete security protection mechanism, complete ACL/QoS policy, and rich VLAN functions, and is easy to manage and maintain. Supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS to improve link backup and network reliability. When a one-way network fails, communication can be quickly restored to ensure important Uninterrupted communication for applications. According to the actual application requirements, you can

configure multiple application services such as PoE power management, port traffic control, VLAN division, and SNMP through the Web network management mode.

FEATURE

■ Gigabit access, uplink 1/10G SFP+ fiber port

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
- ◇ Supports Gigabit RJ45 port and 1/10G uplink SFP+ fiber port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ Smart PoE power supply

- ◇ PoE network management, realize PoE port power allocation, priority setting, port power status viewing, time scheduling, etc.
- ◇ Comply with IEEE 802.3 af/at PoE standard, automatically identify PoE devices for power supply, and not damage non-PoE devices.
- ◇ 24*10/100/1000Base-T RJ45 ports support PoE power supply to meet security monitoring, conference call systems, wireless coverage, and other scenarios.
- ◇ The PoE port supports the priority mechanism. When the remaining power is insufficient, the power of the high-priority port is given priority to avoid overloading of the device.

■ 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 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.

■ **Stable and reliable**

- ◇ CCC, CE, FCC, RoHS.
- ◇ Self-developed power supply, high redundancy, providing a long-term and stable PoE power output.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, Link, L/A, and PoE.
- ◇ Low power consumption, with fan, galvanized steel metal shell, 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.
- ◇ 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	ONV-POE38028PFM	ONV-POE38028PFM-at
Interface Characteristics		
Fixed Port	1*Console RS232 port (115200,N,8,1) 4*1/10G uplink SFP+ fiber ports (Data) 24*10/100/1000Base-T PoE ports (Data/Power)	
Ethernet Port	Port 1-24 can support 10/100/1000BaseT 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	1/10G SFP+ optical fiber port, 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/ 0-500m, 850nm/ 0-300m(10G) Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km	
Chip Parameter		
Network Management Type	L3	
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T, IEEE802.3z 1000Base-X, IEEE802.3ae 10GBase-SR/LR, IEEE802.3x	
Forwarding Mode	Store and Forward (Full Wire Speed)	
Switching Capacity	176Gbps (non-blocking)	
Forwarding	95.23Mpps	

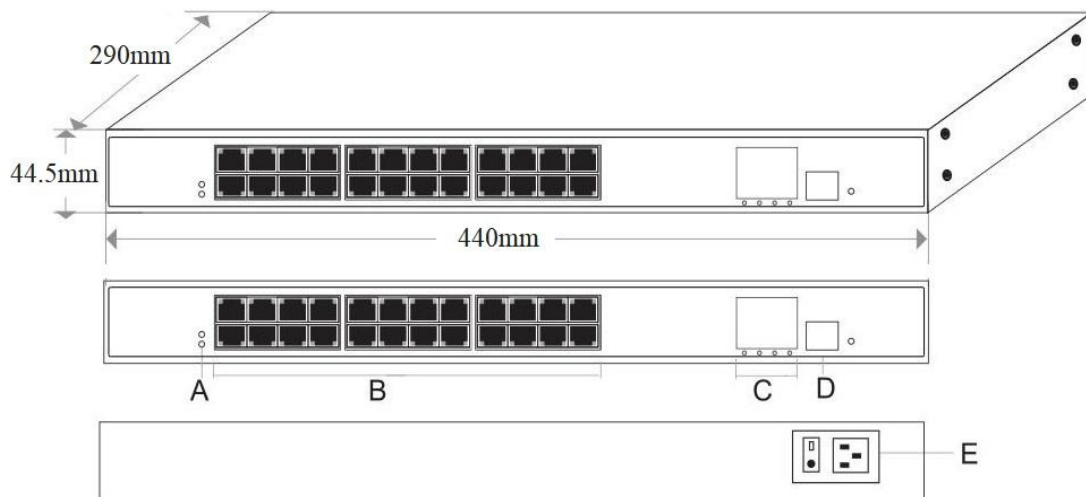
Rate@64byte		
CPU	500MHz	
DRAM	2G	
FLASH	128M	
MAC	32K	
Buffer Memory	32M	
Jumbo Frame	9.6K	
LED Indicator	System: SYS(Green), Network: Link (Yellow), PoE: PoE (Green), Fiber port: L/A (Green)	
Reset Switch	Yes, press and hold the switch for 10 seconds and release it to restore the factory settings	
PoE & Power Supply		
PoE Port	Port 1-24	
PoE Management	PoE power supply total power limit configuration Power delay start, PoE work and time scheduling Port PoE working status display, Port PoE output priority configuration 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	400W/ (AC100-240V)	600W/ (AC100-240V)
Power Consumption	Standby<25W, Full Load<400W	Standby<30W, Full Load<600W
Power Supply	Built-in power supply, AC100~240V 50-60Hz, 5.0A	Built-in power supply, AC100~240V 50-60Hz, 6.6A
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)	440*290*44.5mm	
Net /Gross Weight	4.0kg / 4.8kg	4.3kg / 5.2kg
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	<p>IEEE802.3x flow control (Full-duplex)</p> <p>Port temperature protection setting</p> <p>No connection port automatic sleep</p> <p>Port green Ethernet Energy-saving setting</p> <p>Broadcast storm control based on port speed</p> <p>SFP+ optical port DDMI real-time digital diagnosis</p> <p>The speed limit of the message flow in the access port, mini particle size is 64Kbps.</p>	
L3 Routing	<p>IPV4 Equal Cost Routing</p> <p>NG protocol max 1000 entries</p> <p>ARP protocol max 1000 entries</p> <p>IPV4/IPV6 VRRP max group is 255</p> <p>Pingv6, Telnetv6, TFTPv6, DNSv6, ICMPv6</p> <p>IPV4/IPV6 VLANIF interface supports up to 128</p> <p>IPV4/IPV6 static route/ default route supports up to 128 entries</p> <p>L3 network management function, IPV4/IPV6 dual-stack management</p> <p>IPV4 dynamic routing, RIPv1/v2, OSPFv2, BGP4+, 4000 routing entries</p> <p>IPV6 dynamic routing OSPFv3, BGP+, RIPv6, IPV6 management, 1000 routing entries</p> <p>L3 routing and forwarding, support communication between different</p>	

	network segments and different VLAN
VLAN	Voice VLAN, QinQ configuration, IEEE802.1q VLAN based on MAC, VLAN based on the protocol 4K VLAN based on port, Port configuration of Access, Trunk, Hybrid.
Port Aggregation	LACP dynamic aggregation, static aggregation Max 14 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Ring Network	250 Ring at most, Max 250 devices per ring.
Protocol	G.8032 (ERPS), Recovery time less than 20ms
Multicast	MLD Snooping, Multicast VLAN, Fast log out IGMP Snooping v1/v2, Max 1024 multicast groups
Port Mirroring	Bidirectional data mirroring based on port
QoS	Diff-Serv QoS, Priority Mark/Remark Queue Scheduling Algorithm (SP, WRR, SP+WRR) Flow-based Rate Limiting, Flow-based Packet Filtering 8*Output queues of each port, 802.1p/ DSCP priority mapping
ACL	Port-based Issuing ACL, ACL based on port and VLAN L2 to L4 packet filtering, matching first 80 bytes message. Provide ACL based on MAC, Destination MAC address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range, and VLAN, etc.
Security	ARP message rate limiting function Port broadcast message suppression SSL ensures data transmission security AAA& RADIUS& TACACS+ certification Limit the number of MAC addresses learned Port isolation, Host data backup mechanism Anti-DoS attack, ARP intrusion detection function Quadruple binding function of IP+MAC+VLAN+port IP source address protection, MAC address black hole

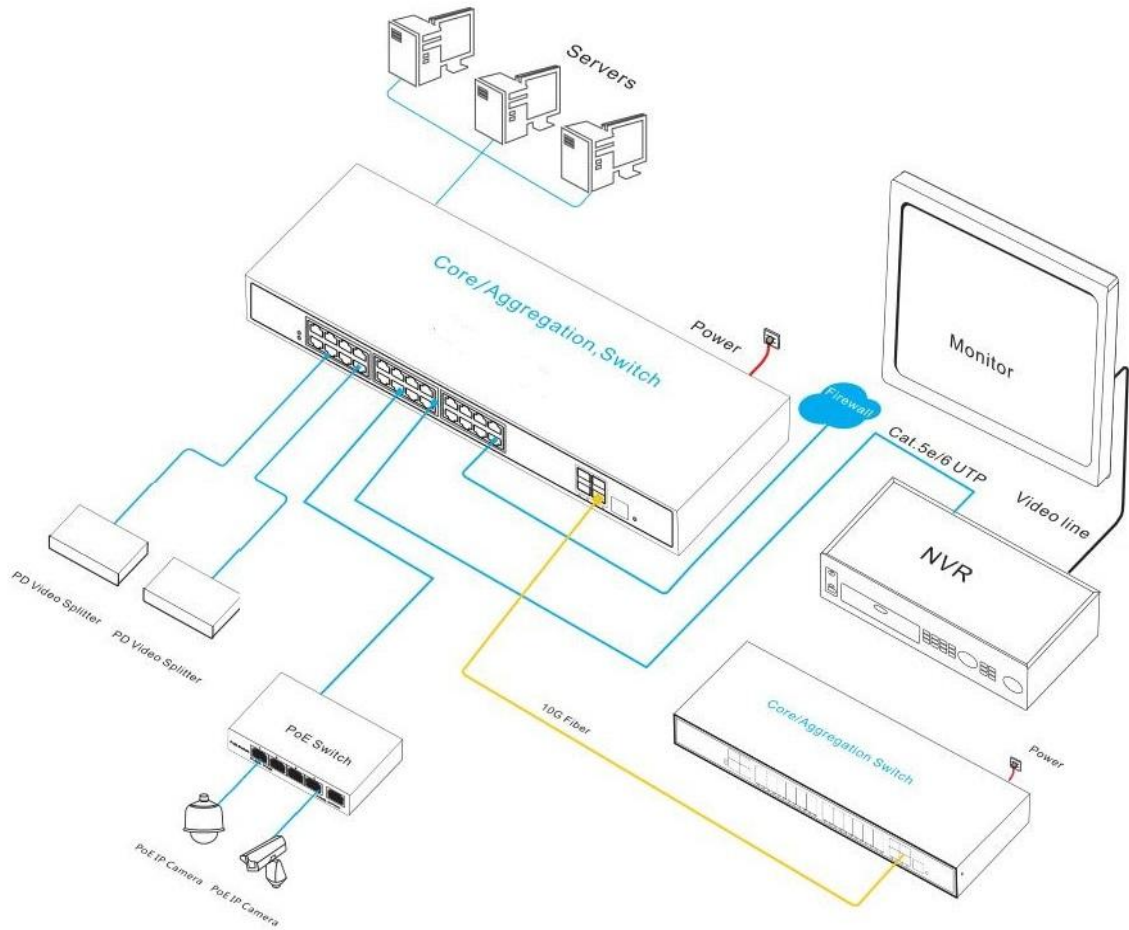
	<p>User hierarchical management and password protection</p> <p>SSH 2.0 provides a secure encrypted channel for user login</p> <p>IEEE802.1X authentication/ centralized MAC address authentication</p>
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	<p>System work log, Link Layer Discovery Protocol</p> <p>NTP clock, Cable length detection, SNMP V1/V2/V3</p> <p>Ping detection, Web network management (HTTPS)</p> <p>ONV-NMS platform cluster management (LLDP+SNMP)</p> <p>One click recovery, View CPU real-time utilization status</p> <p>FTP, TFTP, Xmodem, SFTP file upload and download management</p> <p>Console/ AUX Modem/ Telnet/ SSH2.0 CLI command line configuration</p>
System	<p>Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, 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. Working indicator
- B. 24*10/100/1000M RJ45 ports
- C. 4*1/10G 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-POE38028PFM	L3 managed PoE fiber switch with 4*1/10G uplink SFP+ fiber ports and 24*10/100/1000M RJ45 ports. Port 1-24 can support IEEE 802.3af/at PoE standard. It built-in power supply and 1U/19" cabinet installation.	400W
ONV-POE38028PFM-at		600W

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

PACKING LIST

	Content	Qty	Unit
Packing List	28-port 10G uplink L3 managed PoE switch	1	SET
	AC Power Cable	1	PC
	RJ45-DB9 Line	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	PC

		TX1550nm/ RX1310nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	
Power Module	2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	PC
10G Optical Module	6630	SFP+ optical module, 10G multi-mode dual fiber 850nm, transmission distance: 300m, LC interface. supports DDM function and hot plugging.	PC
	7832	SFP+ optical module, 10G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	7832-33	SFP+ optical module, 10G single-mode single fiber TX1330nm/ RX1270nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	7832-27	SFP+ optical module, 10G single-mode single fiber TX1270nm/ RX1330nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC

RELATED PRODUCT

Model	Description
ONV-POE38036PFM	L3 managed PoE fiber switch with 24*10/100/1000M RJ45 ports and 8*100/1000M 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-POE38048PFM	L3 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.

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