Product Datasheet

28-port 10G Uplink Managed PoE Switch

(ONV-POE58028PFM)

OVERVIEW

The ONV-POE58028PFM is a 10G uplink 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 the IEEE 802.3 af/at PoE standard, and the single-port max PoE power is 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, building visual access control intercom, etc., through a network cable to meet the network environment that needs a high-density PoE power supply. It is suitable for hotels, campuses, factory dormitories, and small and medium-sized enterprises.

The ONV-POE58052PFM has L3 network management function, supports IPV4/ IPV6 management, dynamic route forwarding, complete security protection mechanism,

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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.

◇ Support Gigabit RJ45 port and 1/10G 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.

◇ PoE ports support priority. When the remaining power is insufficient, priority is given to high-priority ports to avoid equipment overload.

◇ 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.

■ **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.

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◇ 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.

■ **Security**

◇ Support port isolation and port broadcast storm suppression.

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

◇ Support 802.1X authentication to provide authentication functions for LAN computers, and control 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, Link, and PoE.

◇ Using self-developed power supply with high redundancy provides long-term and stable PoE power output.

◇ Low power consumption, with fan, Galvanized steel metal housing, and excellent heat dissipation to ensure 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.

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

TECHNICAL SPECIFICATION

| Model	ONV-POE58028PFM	ONV-POE58028PFM-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 10/100/1000Base-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	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/ 0-550m, 0-300m (10G), Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km	
Chip Parameter		
Network Management Type	L3	
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX,	

5	IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3ae 10GBase-LR/SR, IEEE 802.3x	
Forwarding Mode	Store and forward (Full wire speed)	
Switching Capacity	128Gbps (non-blocking)	
Forwarding Rate@64byte	95.23Mpps	
CPU(Hz)	800M	
DRAM	1G	
FLASH	128M	
MAC	16K	
Buffer Memory	12M	
Jumbo Frame	12K	
LED Indicator	System: SYS(Yellow), Network: Link/ Act (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 working status display, Port 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<20W, full load<380W	Standby<22W, 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~+75°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, RoHS
Warranty	3 years, lifelong maintenance.
Network Management Feature	
Interface	Port real-time flow management (Flow Interval) Broadcast storm suppression based on port rate SFP optical module DDMI real-time digital diagnosis Port EEE Green Ethernet Energy-Saving configuration and status view IEEE802.3x flow control (Full duplex), Port exception protection mechanism Limit the rate of packet traffic on incoming and outgoing ports, the mini granularity is 16Kbps and max 1Gbps
L3 Feature	ARP protocol, max 1024 entries IPV4/IPV6 VRRP, max group is 255 Pingv6, Telnetv6, TFTPv6, DNSv6, ICMPv6 IPV4/IPV6 VLANIF interface supports up to 64 IPV4 Equal Cost Routing, NG protocol, max 1024 entries IPV4/IPV6 static route/ default route, support up to 64 entries IPV4 dynamic routing, RIPv1/v2, OSPFv2, routing 500 entries L3 network management function, IPV4/ IPV6 dual-stack management L3 routing and forwarding, support communication between different network segments and different VLAN
VLAN	VLAN based on MAC, VLAN based on the protocol Port configuration of Access, Trunk, Hybrid, GVRP VLAN protocol (4K) VLAN based on port, IEEE802.1q, Voice VLAN, QinQ configuration
Port Aggregation	LACP dynamic aggregation, static aggregation, Max 14 aggregation groups and 8 ports per group.
Spanning Tree	STP BPDU Guard, BPDU filtering and BPDU forwarding

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7	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
ERPS Ring Network	ERPS ring network, Recovery time less than 20ms, ITU-T G.8032
Multicast	MLD Snooping, Multicast VLAN User quick log out, MVR (Multicast VLAN Registration) IGMP Snooping v1/v2/v3 and 1024 multicast groups at most
Mirroring	Bidirectional traffic mirroring for basic ports Supports 1-to-multiple mirroring, supports up to 4 port sessions
QoS	Flow-based Rate Limiting, Flow-based redirection Queue Scheduling Algorithm (SP, WRR, SP+WRR) Flow-based Packet Filtering, 8*Output queues of each port 802.1p/DSCP priority mapping, Diff-Serv QoS, Priority Mark/Remark
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	Port based IEEE802.1X authentication SSL guarantees data transmission security Quad binding function of IP+MAC+VLAN+ports IP Source Guard function, AAA&RADIUS certification Anti DoS attack, Port broadcast message suppression Hierarchical user management and password protection SSH 2.0 provides a secure encrypted channel for user login Host data backup mechanism, ARP intrusion detection function IP source address protection, ARP message speed limit function Port isolation, MAC address learning limit, MAC address black hole
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)

| 8	ONV-NMS platform cluster management (LLDP+SNMP)
	One click recovery, View CPU real-time utilization status
	Console/ AUX Modem/ Telnet/ CLI command line configuration
	FTP, TFTP, Xmodem, SFTP 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

DIMENSION
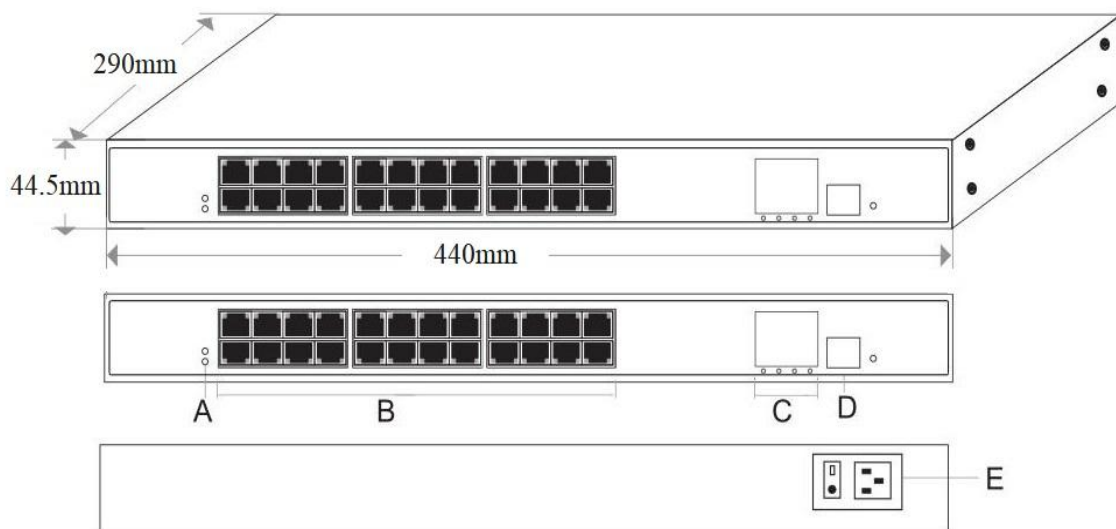
A. Working indicator   B. 24*10/100/1000M PoE ports
C. 4*1/10G uplink SFP+ fiber ports   D. Console port
E. Power input port AC100- 240V, 50/60Hz

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APPLICATION
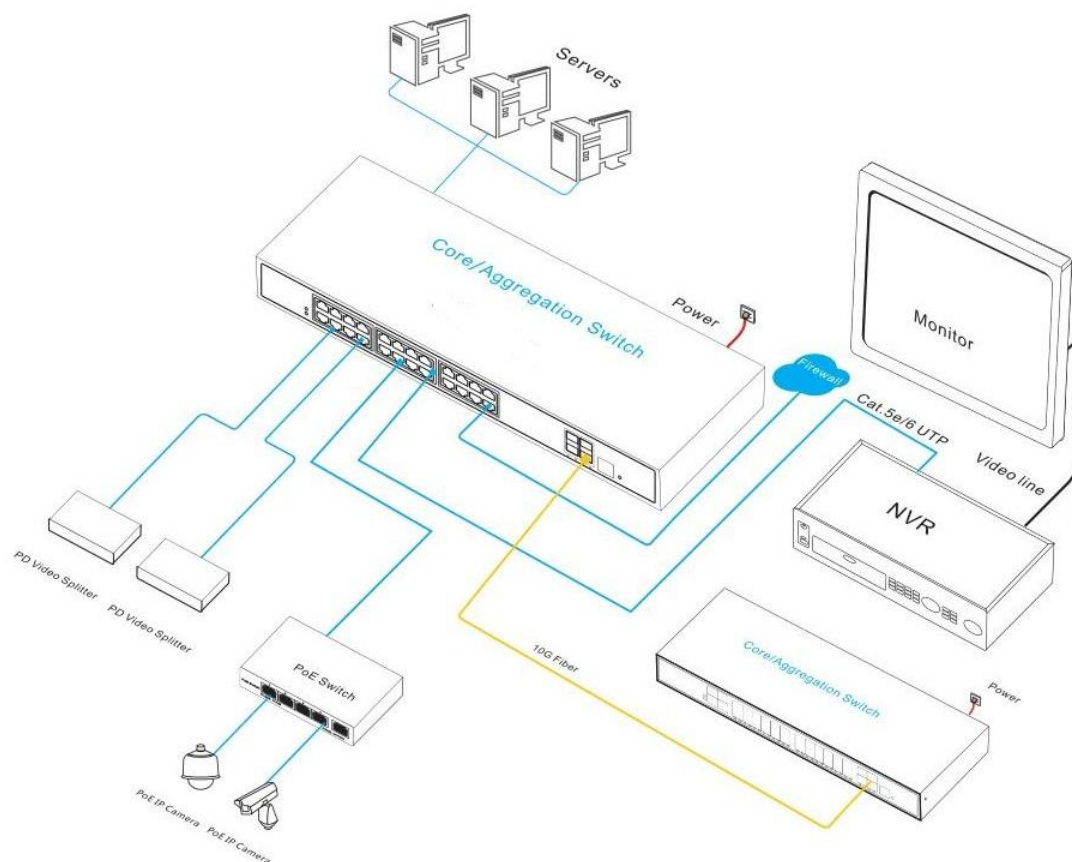
ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV-POE58028PFM	L3 managed PoE switch with 4*1/10G uplink SFP+ fiber ports and 24*10/100/1000M RJ45 ports. Port 1-24 can support IEEE 802.3 af/at PoE standard. It built-in power supply and 1U/19" cabinet installation.	400W
ONV-POE58028PFM-at		600W
Note: The optical module is not included and needs to be purchased.		

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PACKING LIST

	Content	Qty	Unit
Packing List	28-port 10G uplink 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. 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/	PC

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		RX1310nm, transmission distance: 20km, SC interface. support 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. support DDM function and hot plugging.	PC
	7832	SFP+ optical module,10G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. support DDM function and hot plugging.	PC
	7832-33	SFP+ optical module,10G single-mode single fiber TX1330nm/ RX1270nm, transmission distance: 20km, LC interface. support DDM function and hot plugging.	PC
	7832-27	SFP+ optical module,10G single-mode single fiber TX1270nm/ RX1330nm, transmission distance: 20km, LC interface. support DDM function and hot plugging.	PC

RELATED PRODUCT

Model	Description
ONV-POE58036PFM	L3 managed PoE switch with 24*10/100/1000M RJ45 ports and 8*100/1000Base-X SFP fiber combo 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-POE58052PFM	L3 managed PoE 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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