

Product Datasheet

52-port 10G Uplink L2+ Managed PoE Switch (ONV-POE36048PFM)



OVERVIEW

The ONV-POE36048PFM is a 10G uplink managed PoE switch independently developed by ONV. It has 48*10/100/1000Base-T adaptive RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Ports 1-48 support the IEEE 802.3af/at PoE standard, and the maximum PoE power per port 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-POE36048PFM has L2+ network management functions, supports IPV4/ IPV6 management, static routing forwarding, and comprehensive security mechanisms, robust ACL/QoS policies, and rich VLAN functionality, making it easy to manage and maintain. It supports multiple network redundancy protocols, including STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS (<20ms), enhancing link backup and network reliability. In the event of a unidirectional network failure, communication can be quickly restored, ensuring uninterrupted communication for critical applications. Depending on the application

requirements, it supports PoE power supply management, port management, routing address management, port flow control, VLAN segmentation, IGMP, security policies, and other application service configurations via Web, CLI, SNMP, Telnet, and other network management methods.

FEATURE

■ Gigabit wire speed 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 realizes PoE port power allocation, priority setting, port power status viewing, time scheduling, etc.
- ◇ Comply with IEEE802.3af/at PoE standard, automatically identify PoE devices for power supply, and do not damage non-PoE devices.
- ◇ 48*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 high-priority port is given priority to avoid overloading the device.

■ Security

- ◇ Port isolation and storm control.
- ◇ Port+ MAC binding and IP +MAC +port binding functions.
- ◇ 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

- ◇ 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 indicators of PWR, SYS, Link, L/A, and PoE.
- ◇ Low power consumption, with a 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.

- ◇ 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-POE36048PFM
Interface Characteristics	
Fixed Port	1*Console RS232 port (115200, N,8,1) 4*1/10G uplink SFP+ fiber ports (Data) 48*10/100/1000Base-T PoE ports (Data/ Power)
Ethernet Port	Ports 1-48 can support 10/100/1000Base-T 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 does not 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	L2+
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 Rate@64byte	131Mpps
CPU	500M
DRAM	4G
FLASH	256M
MAC	32K
Buffer Memory	32M
Jumbo Frame	9.6K
LED Indicator	Power: PWR (Yellow), System: SYS (Yellow), Network: Link/ Act (Yellow), PoE: PoE (Green), Fiber port: L/A (Green)
Reset Switch	Yes, support one key to restore factory settings
PoE& Power Supply	
PoE Port	Port 1-48
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, IEEE802.3af/at
Total PWR/ Input Voltage	600W/(AC100-240V)
Power Consumption	Standby<35W, full load<600W
Power Supply	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	4.8kg / 5.7kg
Installation	Desktop, 1U/19" cabinet

Certification& Warranty

Lightning Protection	Port lightning protection: 6KV 8/20us, Protection level: IP30
Certification	CE mark, commercial, CE/LVD EN62368-1, FCC Part 15, RoHS
Warranty	3 years, lifelong maintenance.

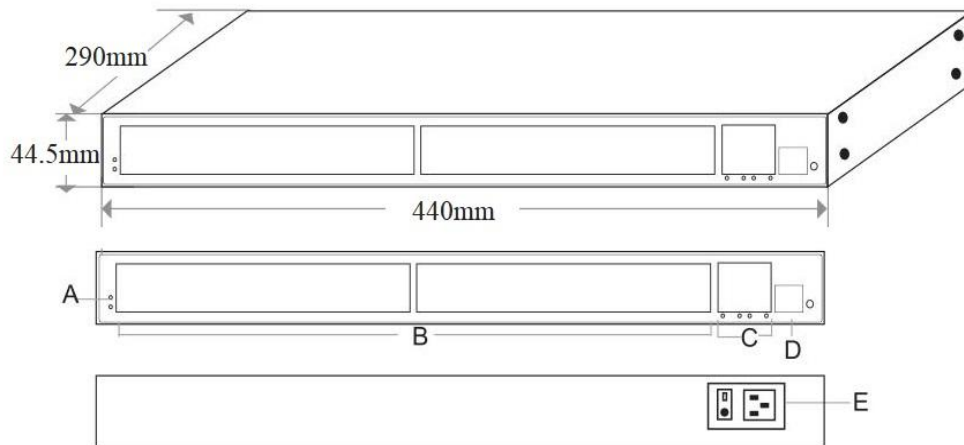
Network Management Feature

Interface	Port temperature protection setting IEEE802.3x flow control (Full duplex) Port green Ethernet Energy-saving setting Broadcast storm control based on port speed Limit the speed of the message traffic at the inbound and outbound ports mini granularity is 64Kbps
L3 Feature	ARP protocol, max 1024 entries Static route /default route max 128 entries L2+ network management function, IPV4/IPV6 management L3 software routing wire-speed forwarding, support communication between different network segments and different VLAN
VLAN	Access, Trunk, and Hybrid port configurations Port-based VLAN (4K), IEEE802.1q, Protocol-based VLAN MAC address-based VLAN, Voice VLAN, QinQ configuration
Port Aggregation	LACP dynamic aggregation, static aggregation Max 26 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
ERPS Ring Network Protocol	G.8032 (ERPS), recovery time less than 20ms 255 Ring at most, Max 254 devices per ring.
Multicast	IGMP Snooping v1/v2/v3, Max 1024 multicast groups MLD Snooping, Multicast VLAN, User quick exit mechanism
Port Mirroring	Bidirectional data mirroring based on port
QoS	Flow-based packet filtering, Priority Mark/ Remark Flow-based redirection, Flow-based rate limiting

	8*Output queues of each port, 802.1p/ DSCP priority mapping Diff-Serv QoS, Queue Scheduling Algorithm (SP, WRR, SP+WRR)
ACL	ACL distribution based on port and VLAN L2-L4 packet filtering function, matching the first 80 bytes message, and provides ACL definitions based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, 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 User hierarchical management and password protection SSH 2.0 provides a secure encrypted channel for user login IEEE802.1X authentication/ centralized MAC address authentication
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	Dual system backup, Mobile APP maintenance System work log, Link Layer Discovery Protocol Ping detection, Web network management (HTTPS) NTP clock, Cable length detection, SNMP V1/V2C/V3 ONV-NMS platform clustered management (PC + cloud) One-click recovery, View CPU real-time utilization status FTP, TFTP, Xmodem, SFTP file upload and download management Console/AUX Modem/Telnet/ SSH2.0 CLI command line configuration
System	Web browser: Mozilla Firefox 2.5 or later, Google Chrome 42 or later,

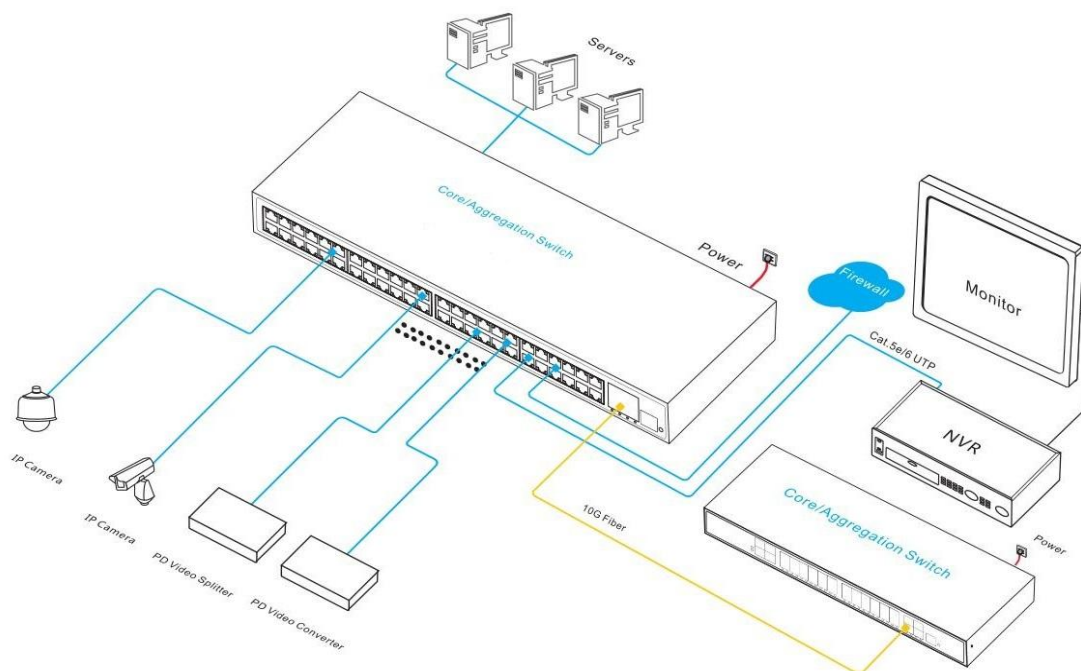
Microsoft Internet Explorer 10 or later; Category 5 or higher Ethernet cable
TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in the network.

DIMENSION



- A. Working indicator
- B. 48*10/100/1000M PoE 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-POE36048PFM	L2+ managed PoE switch with 48*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Ports 1-48 support the IEEE 802.3 af/at PoE standard. It has a built-in power supply and 1U/19" cabinet installation.	600W
Note: The optical module is not included and needs to be purchased.		

PACKING LIST

	Content	Qty	Unit
Packing List	52-port 10G uplink L2+ managed PoE switch	1	PC
	AC Power Cable	1	PC
	RJ45-DB9 Adapter Cable	1	PC
	Mounting Kit (Hanging Ear)	1	Pair
	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	PC

		function and hot plugging.	
	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
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-POE36028PFM	L2+ managed PoE switch with 24*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Ports 1-24 support the IEEE 802.3 af/at PoE standard. It has a built-in 400W power supply and 1U/19" cabinet installation.
ONV-POE36036PFM	L2+ managed PoE switch with 24*10/100/1000M RJ45 ports and 8*100/1000M SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. Ports 1-24 support the IEEE 802.3 af/at PoE standard. It has a built-in 400W power supply and 1U/19" cabinet installation.

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