

## Product Datasheet

# 16-port 10G Uplink Managed PoE Switch

(ONV-POE56168PFM)



## OVERVIEW

The ONV-POE56168PFM is a 10G uplink managed PoE switch independently developed by ONV. It has 8\*10/100/1000Base-T adaptive RJ45 ports and 4\*100/1000Base-X uplink SFP fiber ports and 4\*1/10G uplink SFP+ fiber ports. Port 1-8 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, 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 small and medium-sized enterprises to build economical, efficient, stable, and reliable communication networks.

The ONV-POE56168PFM has L2+ network management functions, supports IPV4/ IPV6 management, static routing forwarding, complete security protection mechanism, perfect ACL/QoS strategy, and rich VLAN functions for easy management and maintenance. Supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS

(<20ms) to improve link backup and network reliability. When a unidirectional network fails, communication can be quickly restored to ensure uninterrupted communication of important applications. Port management, routing address management, port flow control, VLAN division, IGMP, security policy, and other application business configurations can be performed through Web, CLI, SNMP, Telnet, and other methods according to application needs.

## FEATURE

### ■ Gigabit access, uplink 1/10G 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 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

- ◇ Comply with IEEE 802.3 af/at PoE standard, automatically identify PoE devices for power supply, and not damage non-PoE devices.
- ◇ 8\*10/100/1000Base-T RJ45 ports support PoE power to meet security monitoring, conference call systems, wireless coverage, and other scenarios.
- ◇ PoE ports support priority. When the remaining power is insufficient, the power supply of high-priority ports is prioritized to avoid overloading of equipment.
- ◇ Support PoE network management function, through the network management configuration, you can realize PoE port on/off, port power status checking, time scheduling, etc.

### ■ Security

- ◇ Support port isolation and port broadcast storm suppression.
- ◇ Support port+ MAC binding and IP+ MAC+ port binding functions.
- ◇ Support 802.1X authentication, provide authentication function for LAN computers, and control 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 housing, 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

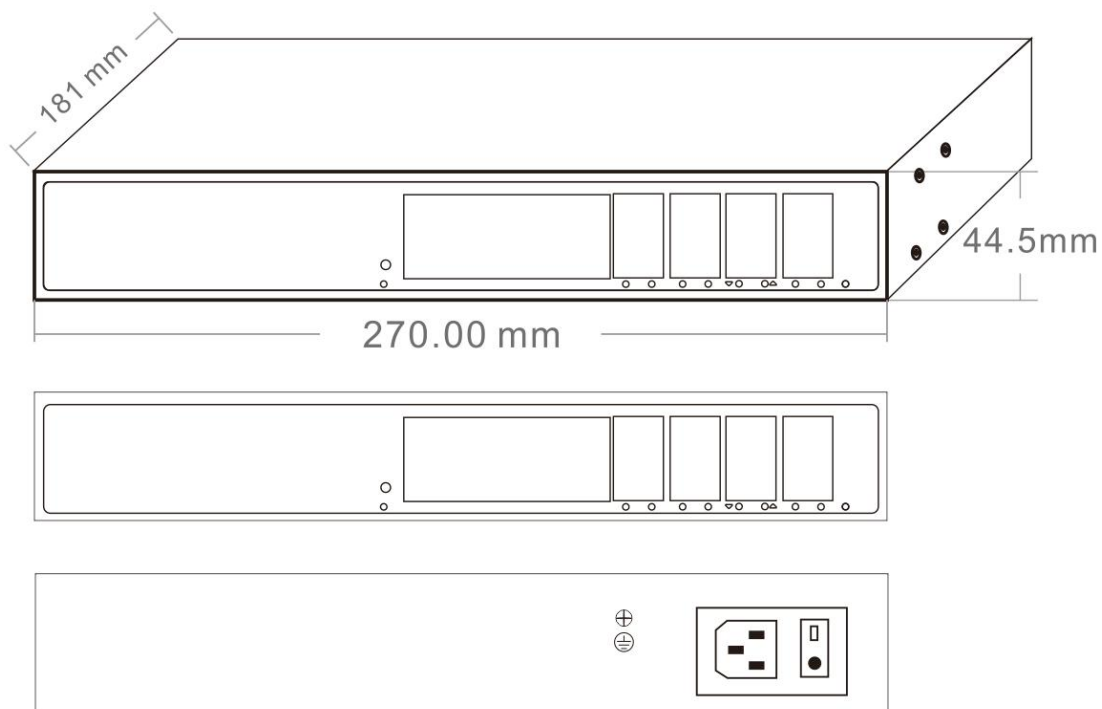
Model	ONV-POE56168PFM
<b>Interface Characteristics</b>	
Fixed Port	1*Console port (115200,N,8,1) 4*1/10G uplink SFP+ fiber ports (Data) 4*100/1000Base-X uplink SFP fiber ports (Data) 8*10/100/1000Base-T PoE ports (Data /Power)
Ethernet Port	Port 1-8 can support 10/100/1000Base-T(X) auto-sensing, full/ 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 (1G), 850nm/ 0-300m (10G), 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 802.3ae 10GBase-SR/LR, IEEE 802.3x
Forwarding Mode	Store and forward (Full wire speed)
Switching Capacity	128Gbps (non-blocking)

Forwarding Rate@64byte	77.38Mpps
CPU(Hz)	800M
DRAM	1G
FLASH	128M
MAC	16K
Buffer Memory	12M
Jumbo Frame	12K
LED Indicator	System: SYS ( Green), Network: Link (Yellow), Fiber port: L/A (Green), PoE: PoE (Green)
Reset Switch	Yes, press and hold the switch for 10 seconds and release it to restore the factory settings
<b>PoE&amp; Power Supply</b>	
PoE Port	Port 1-8
PoE Management	Port PoE real-time load power display, Port PoE output on/off, PoE work and time scheduling
Power Supply Pin	1/2(+) 3/6 (-)
Max Power Per Port	30W, IEEE 802.3 af/at
Power Consumption	Standby<13W, full load<160W
Total PWR/ Input Voltage	160W/ (AC100-240V)
Power Supply	Built-in power supply, AC100~240V 50-60Hz, 3.0A
<b>Physical Parameter</b>	
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)	270*181*44.5mm
Net /Gross Weight	1.6kg/ 2.2kg
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, RoHS

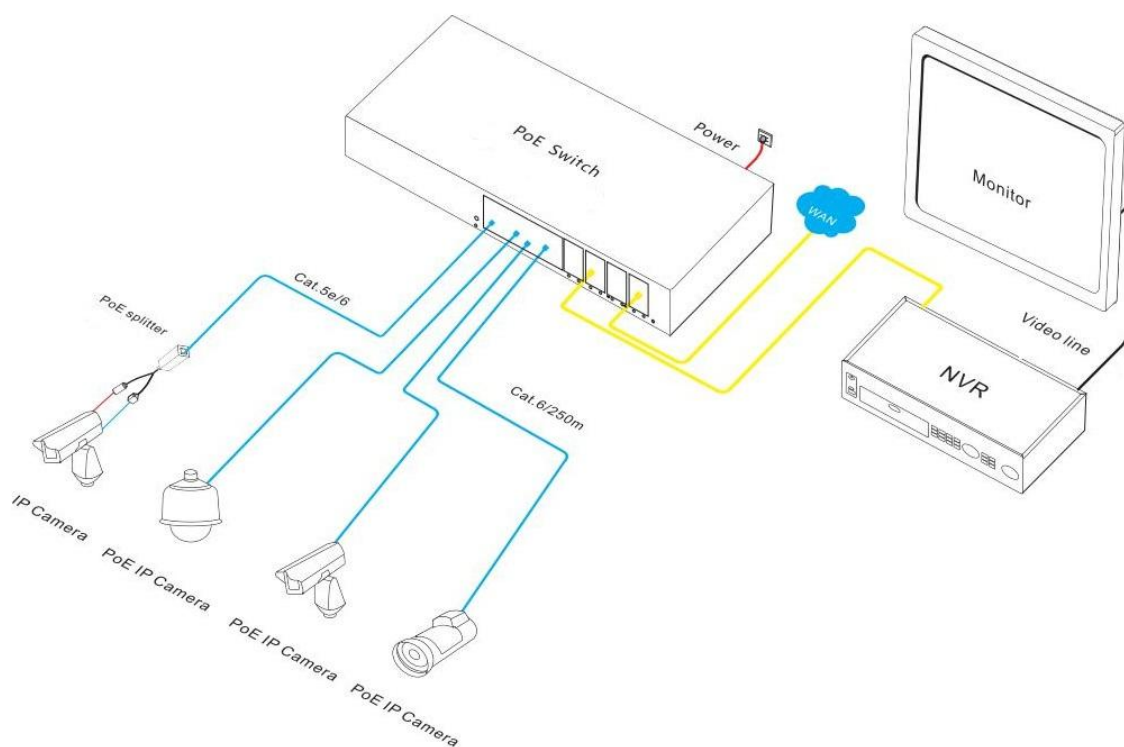
Warranty	3 years, lifelong maintenance
<b>Network Management Feature</b>	
Interface	<p>Port real-time flow management (Flow Interval)</p> <p>Broadcast storm suppression based on port rate</p> <p>Optical port SFP module DDMI real-time digital diagnosis</p> <p>Port IEEE Green Ethernet Energy-Saving configuration and status view</p> <p>IEEE 802.3x flow control (Full duplex), Port exception protection mechanism</p> <p>Limit the speed of the message traffic at the inbound and outbound ports mini granularity is 16Kbps and max is 1Gbps.</p>
L3 Feature	<p>ARP protocol max 1024 entries, RIPv1/v2, OSPFv1/v2</p> <p>L2+ network management function, IPv4/IPv6 static route max 64 entries, Dual-stack management</p>
VLAN	<p>VLAN based on MAC, VLAN based on the protocol</p> <p>Port configuration of Access, Trunk, Hybrid. GVRP VLAN protocol</p> <p>(4K) VLAN based on port, IEEE802.1q, Voice VLAN, QinQ configuration</p>
Port Aggregation	LACP, static aggregation, Max 8 aggregation groups and 8 ports per group.
Spanning Tree	<p>STP BPDU Guard, BPDU filtering and BPDU forwarding</p> <p>STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)</p>
ERPS Ring Network	Support ERPS, Recovery time is less than 20ms, ITU-T G.8032
Multicast	<p>MLD Snooping, Multicast VLAN</p> <p>User quick log out, MVR (Multicast VLAN Registration)</p> <p>IGMP Snooping v1/v2/v3 and 256 multicast groups at most</p>
Port Mirroring	<p>Bidirectional traffic mirroring for basic ports</p> <p>one-to-multiple mirroring, supports up to 4 port sessions</p>
QoS	<p>Flow-based Rate Limiting, Flow-based redirection</p> <p>Queue Scheduling Algorithm (SP, WRR, SP+WRR)</p> <p>Flow-based Packet Filtering, 8*Output queues of each port</p> <p>802.1p/ DSCP priority mapping, Diff-Serv QoS, Priority Mark/ Remark</p>
ACL	Deliver ACL based on port and VLAN.

	The L2-L4 packet filtering function can match the first 80 bytes of the message and provide ACL definition 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	<p>Port based IEEE802.1X authentication</p> <p>SSL guarantees data transmission security</p> <p>Quad binding function of IP+MAC+VLAN+ports</p> <p>IP Source Guard function, AAA&amp;RADIUS certification</p> <p>Anti DoS attack, Port broadcast message suppression</p> <p>Hierarchical user management and password protection</p> <p>SSH 2.0 provides a secure encrypted channel for user login</p> <p>Host data backup mechanism, ARP intrusion detection function</p> <p>IP source address protection, ARP message speed limit function</p> <p>Port isolation, MAC address learning limit, MAC address black hole</p>
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	<p>Web network management (https)</p> <p>Link Layer Discovery Protocol (LLDP)</p> <p>Viewing CPU Instant Utilization Status</p> <p>NTP clock, One click restore, SNMP V1/V2/V3</p> <p>FTP, TFTP file upload and download management</p> <p>Cable status check, Ping detection, System work log</p> <p>Console/ Telnet/ SSH/ CLI command line configuration</p> <p>ONV NMS platform cluster management (LLDP+SNMP)</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



## APPLICATION





## ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV-POE56168PFM	L2+ managed PoE switch with 8*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It built-in power supply and 1U/19" cabinet installation.	160W

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

## PACKING LIST

	Content	Qty	Unit
Packing List	16-port 10G uplink managed PoE switch	1	Set
	AC Power Cable	1	PC
	RJ45-DB9 Adapter Cable	1	PC
	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
	2612-T	SFP optical module, 1.25G single-mode single fiber	PC

		TX1310nm/ RX1550nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	
	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
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

## CONTACT US



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