

## Product Datasheet

# 28-port 10G Uplink Managed PoE Switch (ONV-POE56028PFM)



## OVERVIEW

The ONV-POE56028PFM 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 IEEE 802.3 af/at PoE standard, and the 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, 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 POE56028PFM has L2+ network management function, supports IPV4/ IPV6 management, static route 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 (<20ms) 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 uplink 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.
- ◇ 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 support PoE power to meet the needs of security monitoring, teleconferencing system, 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

- ◇ 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.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, Link, and PoE.
- ◇ Self-developed power supply, high redundancy, providing a long-term and stable PoE power output.
- ◇ 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-POE56028PFM                                                                                                                                                   | ONV-POE56028PFM-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<br>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<br>single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)               |                    |
| Optical Fiber Port<br>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,<br>1550nm/ 0-120km                                                                           |                    |
| Chip Parameter                  |                                                                                                                                                                   |                    |
| Network Management<br>Type      | L2+                                                                                                                                                               |                    |
| Network Protocol                | IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX,<br>IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3ae<br>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                    | 800M                                                                                                                 |
| DRAM                   | 1G                                                                                                                   |
| FLASH                  | 128M                                                                                                                 |
| MAC                    | 16K                                                                                                                  |
| Buffer Memory          | 12M                                                                                                                  |
| Jumbo Frame            | 12000byte                                                                                                            |
| LED Indicator          | Power: PWR (Yellow), System: SYS (Yellow), Network: Link/ Act (Yellow),<br>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<br>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 adapter, AC100~240V<br>50-60Hz, 5.0A                   | Built-in power adapter, AC100~240V<br>50-60Hz, 6.6A |

#### 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        | 4.0kg /4.8kg                          | 4.3kg /5.2kg |
| Installation             | Desktop, 1U/19" cabinet               |              |

#### Certification& Warranty

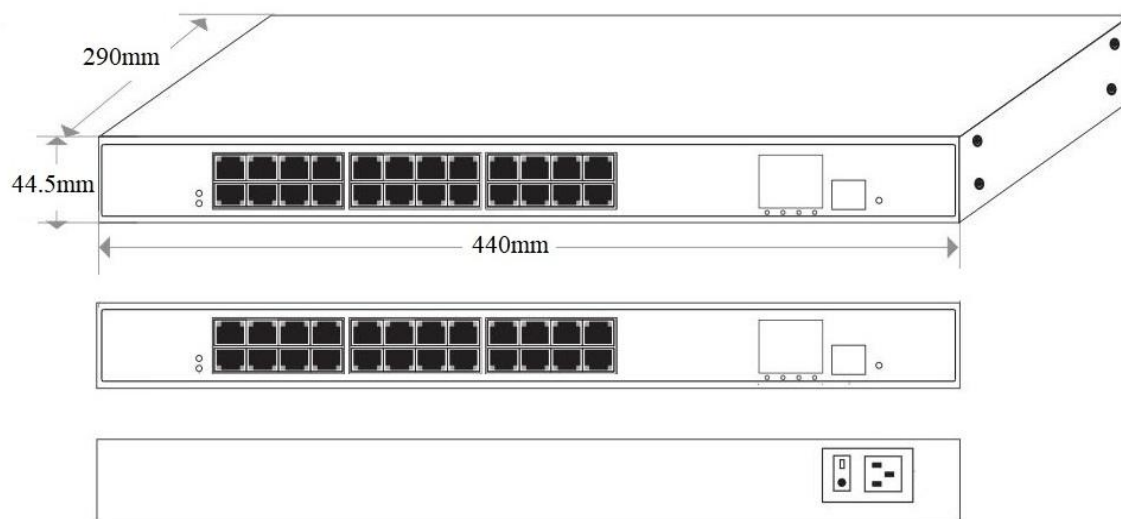
|                      |                                                          |
|----------------------|----------------------------------------------------------|
| Lightning Protection | Lightning protection: 4KV 8/20us, Protection level: IP30 |
|----------------------|----------------------------------------------------------|

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certification                     | CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15, RoHS                                                                                                                                                                                                                                                                                                                                                                                               |
| Warranty                          | 3 years, lifelong maintenance.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Network Management Feature</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Interface                         | <p>IEEE802.3x flow control (full duplex)</p> <p>Port exception protection mechanism</p> <p>Port real-time flow management (Flow Interval)</p> <p>Broadcast storm suppression based on port rate</p> <p>Optical port SFP module DDML real-time digital diagnosis</p> <p>Port EEE Green Ethernet Energy-Saving configuration and status view</p> <p>Limit the rate of incoming and outgoing packet traffic, with mini granularity is 16Kbps and max 1Gbps</p> |
| L3 Feature                        | <p>RIPv1/v2, RIPv6, OSPFv1/v2, OSPFv3</p> <p>IPv4 /IPv6 static routing, max 128 entries, dual-stack management</p> <p>L2+ network management function, ARP protocol, max 1024 entries</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 dynamic aggregation, static aggregation, Max 14 aggregation groups and max 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 ring network, 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 1024 multicast groups at most</p>                                                                                                                                                                                                                                                                                            |
| Mirroring                         | <p>Bidirectional traffic mirroring for basic ports</p> <p>Supports 1-to-multiple mirroring, supports up to 4 port sessions</p>                                                                                                                                                                                                                                                                                                                              |
| QoS                               | <p>Queue scheduling algorithm (SP, WRR, SP+WRR)</p> <p>Flow-based rate limiting, Flow-based packet filtering</p>                                                                                                                                                                                                                                                                                                                                            |

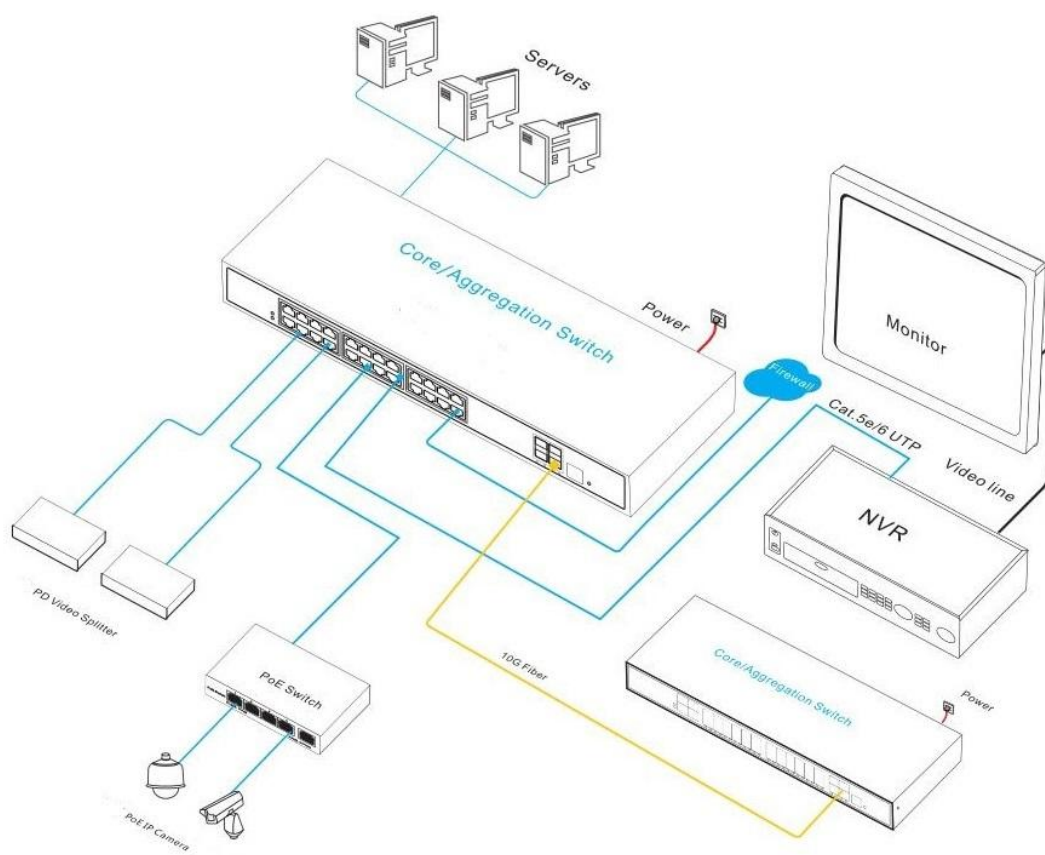
|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | <p>Flow-based based redirection, 8*Output queues of each port</p> <p>802.1p/ DSCP priority mapping, Diff-Serv QoS, Priority Mark/ Remark</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ACL        | <p>ACL distribution based on port and VLAN</p> <p>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.</p>                                                                                                                                                                                                                                                                                                  |
| 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>NTP clock, Link Layer Discovery Protocol (LLDP)</p> <p>System work log, Web network management (https)</p> <p>SNMP V1/V2/V3, View CPU real-time utilization status</p> <p>One click recovery, Ping detection, Cable status check</p> <p>ONV NMS platform cluster management (LLDP+SNMP)</p> <p>Console/ AUX Modem/ Telnet/ CLI command line configuration</p> <p>FTP, TFTP, Xmodem, SFTP file upload and download management</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</p>                                                                                                                                                                                                                                                                                                                                                    |

and above Ethernet cable

## DIMENSION



## APPLICATION





## ORDERING INFORMATION

| Model                                                               | Description                                                                                                                                                                                                | Built-in Power Supply |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| ONV-POE56028PFM                                                     | L2+ managed PoE switch with 24*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber 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-POE56028PFM-at                                                  |                                                                                                                                                                                                            | 600W                  |
| Note: The optical module is not included and needs to be purchased. |                                                                                                                                                                                                            |                       |

## PACKING LIST

| Packing List | Content                                     | Qty | Unit |
|--------------|---------------------------------------------|-----|------|
|              | 28-port 10G uplink managed PoE switch       | 1   | Set  |
|              | AC Power Cable                              | 1   | PC   |
|              | RJ45-DB9 Adapter Cable                      | 1   | PC   |
|              | Mounting Kits (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/                                                                               | PC   |

|                    |           |                                                                                                                                                         |    |
|--------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----|
|                    |           | RX1550nm, transmission distance: 20km, LC interface. support DDM function and hot plugging.                                                             |    |
|                    | 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/RX1310nm, transmission distance: 20km, SC interface. support 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. 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-POE56052PFM | L2+ 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. |

## CONTACT US



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