**Product Datasheet**

# 18-port Gigabit Uplink Managed PoE Switch
## (ONV-POE31016PFM)



## OVERVIEW

The ONV-POE31016PFM is Gigabit uplink L2 managed PoE fiber switch independently developed by ONV. It has 16*10/100M RJ45 ports and 2*10/100/1000M RJ45 or 2*1000M SFP uplink combo ports. Ports 1-16 support IEEE 802.3 af/at PoE standard. Single-port max PoE power is 30W, and max PoE output power is 250W (at-400W). Each port supports wire-speed forwarding.

The ONV-POE31016PFM adopts a new generation of high-performance hardware and software platforms to provide flexible and cost-effective 100M access and uplink ports. It supports complete security protection mechanisms, complete ACL/QoS policies, and flexible VLAN functions, and is easy to manage and maintain. PoE power supply devices can automatically detect and identify the power-receiving equipment that meets the standard and supplies power through the network cable. It can supply power to PoE terminal equipment such as wireless AP, IP camera, VoIP, and visual intelligent building intercom through the network cable, and meet the network environment that needs a high-density PoE power supply. It is suitable for hotels, campuses, parks, attractions, supermarkets, factory quarters, and small and medium-sized enterprises to form a cost-effective network.

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# FEATURE

■ **100Mbps access, Gigabit TP/SFP combo port uplink**

◇ Support non-blocking wire-speed forwarding.

◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.

◇ Support 10/100M Ethernet port and Gigabit TP/SFP combo port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ **Intelligent PoE power supply**

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

◇ PoE remote network management. through the network management function, you can check the PoE port power, define the port power, and realize 7*24h automatic port scheduling, etc.

◇ 16*10/100Base-TX RJ45 ports support PoE power supply to meet the PoE power supply needs of security monitoring, conference call systems, wireless coverage, and other scenarios.

◇ IEEE 802.3 af/at PoE standard automatically identifies PoE devices for power supply without damaging non-PoE devices. The max PoE output power is 250W, and the max single-port PoE output power is 30W.

■ **Strong business processing capability**

◇ Support STP/RSTP/MSTP, eliminate layer 2 loops, and realize link backup.

◇ IEEE 802.1Q VLAN, users can divide VLAN according to needs, and support QinQ configuration.

◇ Static aggregation and dynamic aggregation, 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, SP+WRR.

◇ Support ACL to filter data packets by configuring matching rules, processing operations, and

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time permissions, and provide flexible security access control strategies.

◇ Support IGMP V1/V2 multicast protocol, and IGMP Snooping meets the needs of multi-terminal high-definition video surveillance and video conferencing access.

## ■ Security

◇ Support port isolation.

◇ Support 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, PoE, Link.

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

◇ Low power consumption, no fan, galvanized steel metal casing, excellent heat dissipation to ensure the stable operation of the switch.

## ■ Easy O&M management

◇ CPU monitoring, memory monitoring.

◇ HTTPS, SSLV3, SSH V1/V2 and other encryption methods make management more secure.

◇ RMON, system logs, and port traffic statistics facilitate network optimization and transformation.

◇ LLDP facilitates the network management system to query and determine the communication status of the link.

◇ Web network management, SNMP (V1/V2/V3) and other diversified management and maintenance methods.

# TECHNICAL SPECIFICATION

| Model | ONV-POE31016PFM | ONV-POE31016PFM-at |
|---|---|---|
| **Interface Characteristics** | | |
| Fixed Port | 16*10/100Base-TX PoE ports (Data/Power)<br>2*10/100/1000M RJ45 or 2*1000M SFP uplink combo ports(Data) | |
| Ethernet Port | Port 1-16 support 10/100Base-TX and port 17-18 support<br>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)<br>100BASE-TX: Cat5 or later UTP(≤100 meters)<br>1000BASE-T: Cat5e or later UTP(≤100 meters) | |
| SFP Slot Port | Gigabit SFP optical fiber port, default no include optical modules (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC) | |
| Optical Cable/ Distance | Multi-mode: 850nm/ 0-500m<br>Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km. | |
| **Chip Parameter** | | |
| Network Protocol | IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX/FX<br>IEEE802.3ab 1000Base-T, IEEE802.3z 1000Base-X, IEEE802.3x | |
| Forwarding Mode | Store and Forward(Full Wire Speed) | |
| Switching Capacity | 14.8Gbps (Non-blocking) | |
| Forwarding Rate@64byte | 5.36Mpps | |
| MAC | 16K | |
| Buffer Memory | 4M | |
| Jumbo Frame | 10K | |
| LED Indicator | Power: PWR(Green), Data: Link(Yellow)<br>PoE: PoE (Green), Speed: SPD (Green) | |
| **PoE & Power Supply** | | |

| PoE Port | Port 1 to 16 | |
|---|---|---|
| PoE Management | PoE working status, Scheduling of PoE operation and time Delay start of power supply, PoE output priority configuration | |
| Power Supply Pin | 1/2(+) 3/6(-) | |
| Max Power Per Port | 30W, IEEE 802.3 af/at | |
| Total PWR / Input Voltage | 250W (AC100-240V) | 400W (AC100-240V) |
| Power Consumption | Standby<15W, Full load<240W | Standby<20W, Full load<380W |
| Power Supply | Built in power supply, AC100~240V 50-60Hz 4.1A | Built in power supply, AC100~240V 50-60Hz 5.0A |

**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 | <2.8kg /<3.5kg |
| Installation | Desktop, wall mounted,19 inch 1U cabinet |

**Certification & Warranty**

| Lightning Protection | Port 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, lifetime maintenance. |

**Network Management Features**

| Interface | IEEE802.3X (Full-duplex), Broadcast storm control based on port speed rate-limiting of packet traffic on incoming and outgoing ports, with the mini granularity of 64Kbps |
|---|---|
| VLAN | 4K VLAN based on port, IEEE802.1q |

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| | QinQ configuration, VLAN based on protocol |
|---|---|
| Port Aggregation | Support LACP, manual aggregation <br><br> Max 9 aggregation groups, each aggregation group supports up to 8 ports |
| Spanning Tree | STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s) |
| Multicast | MLD Snooping v1/v2, Multicast VLAN <br><br> IGMP Snooping v1/v2/v3, Max 64 multicast groups, Fast log out |
| Mirroring | Bidirectional traffic mirroring basic ports |
| QoS | Diff-Serv QoS, Priority mark/ remark <br><br> Queue scheduling algorithm (SP, WRR, SP+WRR) <br><br> 8*Output queues of each port, 802.1p/ DSCP priority mapping |
| ACL | L2-L4 packet filtering function, matching the first 80 bytes of the packet, 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 Wait to define the ACL. |
| Security | Port isolation, port broadcast storm suppression <br><br> Port+MAC binding, IP+MAC+port binding function |
| DHCP | DHCP Client, DHCP Snooping, DHCP Relay |
| Management | NTP, One-key recovery, SNMP V1/V2/V3 <br><br> System work log, Web Network Management (Https) |

# DIMENSION
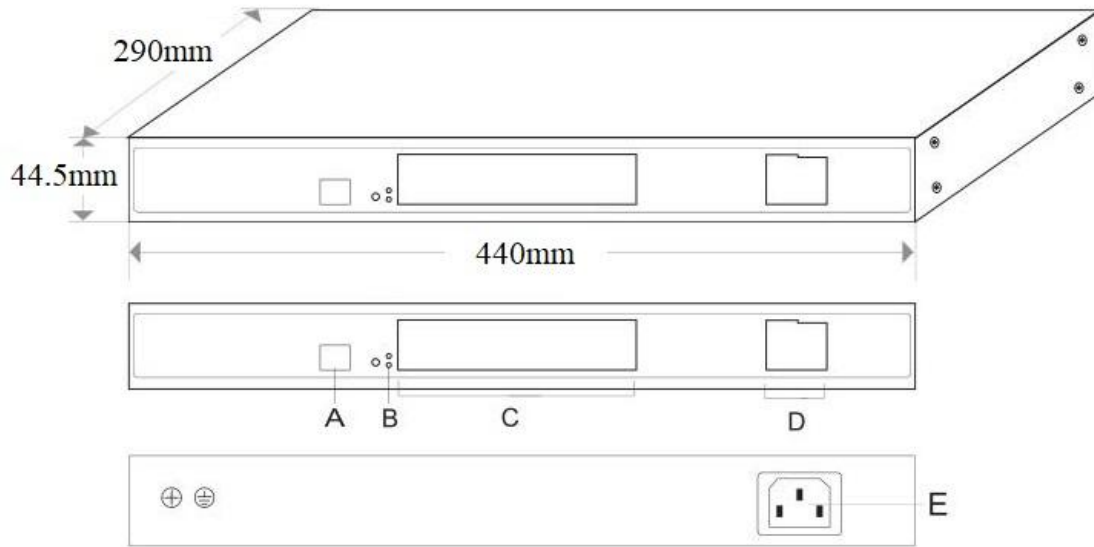


A. Console port          B. Working indicator

C. 16*10/100M PoE ports

D. 2*10/100/1000M RJ45/SFP Combo ports

E. Power input port AC100-240V, 50/60Hz

# APPLICATION

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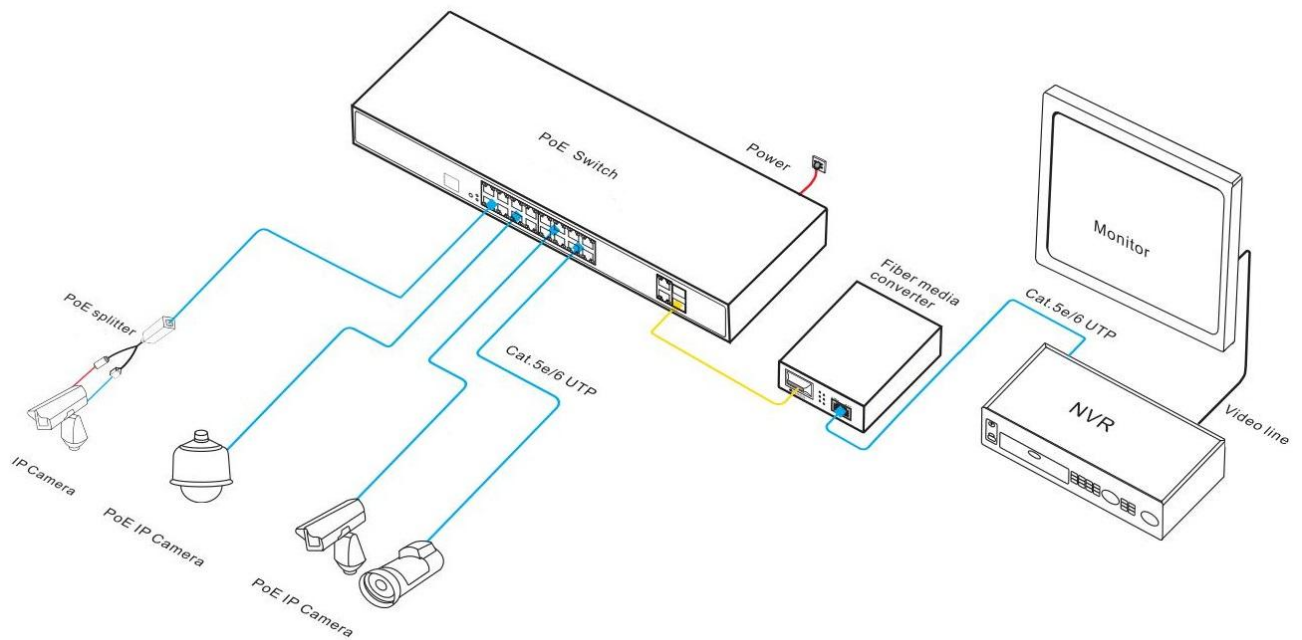
## ORDERING INFORMATION

| Model | Description | Built-in Power Supply |
|---|---|---|
| ONV-POE31016PFM | L2 managed PoE fiber switch with 16*10/100M RJ45 ports and 2*10/100/1000M RJ45 or 2*1000M SFP uplink combo ports. Port 1-16 can support IEEE 802.3 af/at PoE standard. Support 1U/19-inch cabinet rack. | 250W |
| ONV-POE31016PFM-at | | 400W |
| **Note:** The optical module is not included by default and needs to be purchased separately. | | |

## PACKING LIST

| | Content | Qty | Unit |
|---|---|---|---|
| **Packing List** | 18-port gigabit uplink managed PoE switch | 1 | SET |
| | AC Power Cable | 1 | PC |
| | Mounting Kits (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/ | PC |

| | | 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 |
| Power Module | 2633 | 1.25G SFP optical module transfers to 10/100/1000M RJ45 port. | PC |

## CONTACT US

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