

## Product Datasheet

# 16-port Gigabit Easy Managed PoE Switch

(ONV-H53168PFMA)



## OVERVIEW

The ONV-H53168PFMA is a Gigabit Easy managed PoE fiber switch independently developed by ONV. It has 8\*10/100/1000Base-T adaptive RJ45 ports and 8\*100/1000Base-X uplink SFP fiber ports. Ports 1-8 can support the IEEE 802.3af/at PoE standard, and single-port 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 the network cable, to meet the network environment that needs a high-density PoE power supply. It suits hotels, campuses, factory dormitories, and small and medium-sized enterprises to form cost-effective networks.

The ONV-H53168PFMA can support Web management, ONV-NMS cloud management platform, and cloud APP management. Supports the ring network protocol RSTP (<50ms) to enhance link redundancy and network reliability, reduce the number of fiber splicing

operations and network nodes, and improve construction efficiency. When a unidirectional network fails, communication can be quickly restored to ensure uninterrupted communication of important transmissions. It can manage security network topology, VLAN settings, port management, PoE management, remote operation and maintenance, and other functions. It has high reliability, easy installation and maintenance, fast switching function, and multiple access ports, suitable for access to LAN devices of various sizes.

## FEATURE

### ■ Gigabit access, uplink 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 SFP fiber port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

### ■ Smart PoE power supply

- ◇ Comply with IEEE802.3af/at PoE standard, automatically identify PoE devices for power supply, and not damage non-PoE devices.
- ◇ Support remote PoE management, enabling remote on/off of each PoE port, viewing of port power status, and PoE port fault query.
- ◇ 8\*10/100/1000Base-T RJ45 ports can support PoE power to meet the needs of security monitoring, teleconferencing systems, wireless coverage, and other scenarios.

### ■ Minimalist application

- ◇ Support real-time fault alarms and fault location.
- ◇ Support remote upgrades, remote reboots, and factory resets.
- ◇ Web-based network management functions: QoS, link aggregation, ring network management, port mirroring, port control, and bandwidth management.
- ◇ Cloud platform and mobile APP operation and maintenance management: visualized

PoE power supply control, network topology management, and VLAN segmentation.

- ◇ It abandons complex network management configurations, retaining only practical network management functions, enabling rapid network deployment and centralized operation and maintenance through the operation and maintenance platform.

#### ■ Stable and reliable

- ◇ CE, FCC, RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicators of PWR, SYS, Link, and PoE.
- ◇ Low power consumption, galvanized steel housing, and excellent heat dissipation to ensure the stable operation of the switch.

#### ■ Rich port combination

- ◇ The chip integrates 8 Gigabit RJ45 ports PHY, and a single chip can support 8\*10/100/1000M RJ45 ports and 8\*1000M SFP fiber ports. It can be expanded to flexibly support port forms with different optical and electrical combinations.

#### ■ Flexible shared cache

- ◇ For video access scenarios, the chip provides a built-in flexible shared cache to meet the requirements of sudden business traffic surges.

## TECHNICAL SPECIFICATION

| Model                            | ONV-H53168PFMA                                                                                         |
|----------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Interface Characteristics</b> |                                                                                                        |
| Fixed Port                       | 8*10/100/1000Base-T PoE ports (Power/ Data)<br>8*100/1000Base-X uplink SFP fiber ports (Data)          |
| Ethernet Port                    | Ports 1-8 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)<br>1000BASE-T: Cat5e or later UTP (≤100 meters)                                           |
| Optical Fiber Port           | No optical module included (optional single/multi-mode, single/dual fiber modules, LC)                                                |
| Optical Cable/ Distance      | Multi-mode: 850nm/ 0-550m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.                                                              |
| <b>Chip Parameter</b>        |                                                                                                                                       |
| 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, IEEE802.3x             |
| Forwarding Mode              | Store and forward (Full wire speed)                                                                                                   |
| Switching Capacity           | 56Gbps (non-blocking)                                                                                                                 |
| Forwarding Rate@64byte       | 23.81Mpps                                                                                                                             |
| MAC                          | 8K                                                                                                                                    |
| Buffer Memory                | 3M                                                                                                                                    |
| Jumbo Frame                  | 9.6K                                                                                                                                  |
| LED Indicator                | Power: PWR (Green), System: SYS (Green), Network: Link (Yellow), PoE: PoE (Green), Fiber port: L/A(Green)                             |
| Reset Switch                 | Press and hold for 6 seconds and release to restore factory settings; short-press twice (1 second apart) to switch to unmanaged mode. |
| <b>PoE&amp; Power Supply</b> |                                                                                                                                       |
| PoE Port                     | Port 1-8                                                                                                                              |
| PoE Management               | Port PoE output on/off, Port PoE working status display                                                                               |
| Power Supply Pin             | 1/2(+) 3/6(-)                                                                                                                         |
| Max Power Per Port           | 30W, IEEE802.3af/at                                                                                                                   |
| Total PWR/ Input Voltage     | 130W/ (AC100-240V)                                                                                                                    |
| Power Consumption            | Standby<5W, full load<130W                                                                                                            |
| Power Supply                 | Built-in power supply, AC100~240V 50-60Hz, 2.3A                                                                                       |

| Physical Parameter         |                                                                                                                                                                                                                                     |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operation Temp/ Humidity   | -20°C~+55°C, 5%~90% RH non-condensing                                                                                                                                                                                               |
| Storage Temp/ Humidity     | -40°C~+80°C, 5%~95% RH non-condensing                                                                                                                                                                                               |
| Dimension (L*W*H)          | 270*181*44.5mm                                                                                                                                                                                                                      |
| Net /Gross Weight          | 1.6kg/ 2.2kg                                                                                                                                                                                                                        |
| Installation               | Desktop, wall mount, 1U/19" cabinet                                                                                                                                                                                                 |
| Certification& Warranty    |                                                                                                                                                                                                                                     |
| Lightning Protection       | Lightning protection: 4KV 8/20us, Protection level: IP30                                                                                                                                                                            |
| Certification              | CE mark, commercial, CE/LVD EN62368-1, FCC Part 15, RoHS                                                                                                                                                                            |
| Warranty                   | 1 year, lifelong maintenance                                                                                                                                                                                                        |
| Network Management Feature |                                                                                                                                                                                                                                     |
| Interface                  | Port status display, Port traffic statistics<br>Port duplex/negotiation rate configuration<br>IEEE802.3x flow control configuration (Full-duplex)                                                                                   |
| VLAN                       | Port-based IEEE802.1Q VLAN configuration (4K)                                                                                                                                                                                       |
| Port Aggregation           | Static aggregation, LACP                                                                                                                                                                                                            |
| Spanning Tree              | STP/RSTP                                                                                                                                                                                                                            |
| Multicast                  | IGMP Snooping v1/v2, Max 256 multicast groups                                                                                                                                                                                       |
| Mirroring                  | Bidirectional data mirroring based on port                                                                                                                                                                                          |
| QoS                        | Congestion avoidance, Flow classification based on CoS/DSCP<br>Shaping based on port and queue, ACL based on L2/L3/L4/UDF<br>8* Output queues per port, support SP/WDRR/SP+WDRR scheduling                                          |
| Security                   | Black hole MAC, 48*CPU queue protection<br>Port speed limit, Port-based broadcast storm suppression<br>Port isolation, VLAN-based isolation between physical ports<br>Broadcast storm control, Port-based MAC learning number limit |
| Management                 | Mobile APP operation and maintenance management<br>ONV cloud platform management, One-key recovery, Web 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

## APPLICATION

## ORDERING INFORMATION

| Model          | Description                                                                                                                                                                                               | Built-in Power Supply |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| ONV-H53168PFMA | Easy managed PoE switch with 8*10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber ports. Ports 1-8 can support the IEEE 802.3af/at PoE standard. It built-in power supply and 1U/19" cabinet mount. | 130W                  |

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

## PACKING LIST

|              | Content                                     | Qty | Unit |
|--------------|---------------------------------------------|-----|------|
| Packing List | 16-port Gigabit Easy managed PoE switch     | 1   | PC   |
|              | AC Power Cable                              | 1   | PC   |
|              | Mounting Kit (Mounting Ears)                | 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. 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 |

## CONTACT US



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