

Product Datasheet

52-port 10G Uplink L3 Managed Industrial PoE Switch

(ONV-IPS38048PFM)



OVERVIEW

The ONV-IPS38048PFM is a 10G uplink L3 managed industrial PoE switch independently developed by ONV. It has 48*10/100/1000Base-T RJ45 ports and 4*1/10G SFP+ fiber slot ports. Port 1-48 can support IEEE802.3af/at PoE standard. Single-port PoE power up to 30W. As a PoE power supply device, it can automatically detect and recognize power-compliant devices that meet the standard and supply power through the network cable. It can supply power to POE terminal equipment such as wireless AP, webcam, VoIP, industrial sensor through the network cable, and meet the network environment that needs high-density PoE power supply. It is suitable for intelligent transportation, rail transit, power industry, mining, petroleum, Industrial scenes such as shipping, metallurgy, and green energy construction form a cost-effective, stable and reliable communication network.

The ONV-IPS38048PFM has L3 network management function, supports IPV4/IPV6 management, dynamic routing full line-speed forwarding, complete security protection mechanism, perfect ACL/QoS policy, and rich VLAN functions, easy to manage and maintain. With industry-leading ring network technology. It supports a variety of industrial-grade redundant ring network protocols, and each port can form a ring network,

supporting chain ring network, starring network, double starring network, ring network, tangent network ring network, intersecting ring network, coupled ring network, self-healing within 20ms of the ring network. The switches series has high reliability, high security, and high manageability, ensures reliable transmission of key data, supports remote management, and cooperates with the ONV-NMS network management platform for cluster management to achieve no blind spot network management throughout the process. The Industrial grade series products completely follow the industrial product design and materials. The shell is made of metal material to enhance heat dissipation. It has excellent adaptability to the industrial site environment (including mechanical stability, climate environment adaptability, electromagnetic environment adaptability, etc.). Protection level reaches IP30 and support AC+DC dual redundant power supply, and the mean time between failures of MTBF can up to 35 years, 5 years warranty.

FEATURE

■ Gigabit line-speed access, 10G SFP+ uplink

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
- ◇ Support Gigabit Ethernet port and 10G SFP+ uplink port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ Intelligent PoE power supply

- ◇ IEEE802.3af/at PoE standard, without damaging non-PoE devices.
- ◇ PoE network management, realize PoE port power allocation, priority setting, port power status viewing, time scheduling, etc.
- ◇ Priority system for PoE port, it will supply power to the high priority level port first when the power budget is insufficient and avoid overwork of the device.
- ◇ 48*10/100/1000Base-T RJ45 ports can support POE power supply to meet the needs of security monitoring, teleconferencing system, wireless coverage, and other scenarios.

■ Security

- ◇ 802.1X authentication.
- ◇ Port isolation, Storm control.
- ◇ IP-MAC-VLAN-Port binding.

■ Strong business processing capability

- ◇ ERPS/STP/RSTP/MSTP.
- ◇ Static and dynamic aggregation.
- ◇ IGMP V1/V2 and IGMP Snooping.
- ◇ IEEE802.1Q VLAN, flexible VLAN division, Voice VLAN and QinQ configuration.
- ◇ QoS, Priority mode based on 802.1P, Port & DSCP, queue scheduling algorithm including Equ, SP, WRR & SP+WRR.
- ◇ ALC, filter data packet through configuring matching rules, processing operation & time permission, and provide flexible and safe access control.

■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ Low power consumption, galvanized steel casing. The fan active cooling.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, Link, PoE.
- ◇ Self-developed power supply, high redundancy design, providing a long term and stable PoE power output.

■ Easy operation and maintenance management

- ◇ HTTPS, SSLV3, and SSHV1/V2.
- ◇ RMON, system log, LLDP, and port traffic statistics.
- ◇ CPU monitoring, memory monitoring, Ping test, and cable diagnose.
- ◇ Web management, CLI command line (Console, Telnet), SNMP (V1/V2/V3).

TECHNICAL SPECIFICATION

| Model | ONV-IPS38048PFM |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Interface Characteristics | |
| Fixed Port | 2*AC100-240V input ports Alarm switch port (FAULT) 1*Console port (115200, N, 8,1) 4*1/10G uplink SFP+ ports (Data) 48*10/100/1000Base-T PoE ports (Data/Power) 1 group of DC48-57V input ports (Support reverse polarity protection function) |
| Ethernet Port | Port 1-48 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 meter) 100BASE-TX: Cat5 or later UTP(≤100 meter) 1000BASE-T: Cat5e or later UTP(≤100 meter) |
| Optical Fiber Port | 1/10G SFP+ optical fiber port, default no include optical modules (optional order single-mode / multi-mode, single fiber / dual fiber optical module. LC) |
| Optical Cable/ Distance | Multi-mode: 850nm / 0~500M, 0~300M(10G), Single-mode: 1310nm / 0~ 40KM, 1550nm / 0~120KM. |
| Chip Parameter | |
| Network Management Type | L3 |
| 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 | 598Gbps |

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| Forwarding Rate@64byte | 131Mpps |
| CPU | 500MHz |
| DRAM | 4G |
| FLASH | 256M |
| MAC | 32K |
| Buffer Memory | 32M |
| Jumbo Frame | 9.6K |
| LED Indicator | Power: PWR(Yellow), System: SYS(Green), Network:Link/Act (Yellow), PoE: PoE (Green), Fiber port: L/A (Green) |
| Reset Switch | Yes, press and hold the switch for 10 seconds and release it to restore the factory settings |
| PoE & Power Supply | |
| PoE Port | Port 1 to 48 |
| PoE Management | PoE working status Delay start of power supply PoE output priority configuration Scheduling of PoE operation and time Total power limit of PoE power supply PoE output power allocation, on/off & af/at |
| Power Supply Pin | Default:1/2 (+) 3/6 (-) |
| Max Power Per Port | 30W, IEEE802.3af/at |
| Power Consumption | Standby:<35W, Full load:<600W |
| Power Supply | Built-in power supply, AC100~240V 50-60Hz 6.6A |
| Power Input Port | 1 group of DC48-57V input port, Alarm switch port, 2 group of AC power input ports Dual input power port design: AC power supply priority, support anti-reverse protection, power-off automatic switching DC connection. |

| Physical Parameter | |
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| Operation TEMP / Humidity | -40~+80°C, 5%~90% RH Non condensing |
| Storage TEMP / Humidity | -40~+85°C, 5%~95% RH Non condensing |
| Dimension (L*W*H) | 440*378*44.5mm |
| Net /Gross Weight | <5.5kg / <6.0kg |
| Installation | Desktop, 19 inch 1U cabinet installation |
| Certification & Warranty | |
| Lightning Protection | <p>Lightning protection: 6KV 8/20us, Protection level: IP30</p> <p>IEC61000-4-2(ESD):±8kV contact discharge,±15kV air discharge</p> <p>IEC61000-4-3(RS):10V/m(80~1000MHz)</p> <p>IEC61000-4-4(EFT): power cable:±4kV; data cable:±2kV</p> <p>IEC61000-4-5(Surge):power cable:CM±4kV/DM±2kV; data cable:±4kV</p> <p>IEC61000-4-6(radio frequency transmission):10V(150kHz~80MHz)</p> <p>IEC61000-4-8(power frequency magnetic field):100A/m;1000A/m ,1s to 3s</p> <p>IEC61000-4-9(pulsed magnet field):1000A/m</p> <p>IEC61000-4-10(damped oscillation):30A/m 1MHz</p> <p>IEC61000-4-12/18(shockwave):CM 2.5kV,DM 1kV</p> <p>IEC61000-4-16(common-mode transmission):30V; 300V,1s</p> <p>FCC Part 15/CISPR22(EN55022):Class B</p> <p>IEC61000-6-2(Common Industrial Standard)</p> |
| Mechanical Properties | <p>IEC60068-2-6 (anti vibration)</p> <p>IEC60068-2-27 (anti shock)</p> <p>IEC60068-2-32 (free fall)</p> |
| Certification | CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS |
| Warranty | 5 years, lifelong maintenance. |

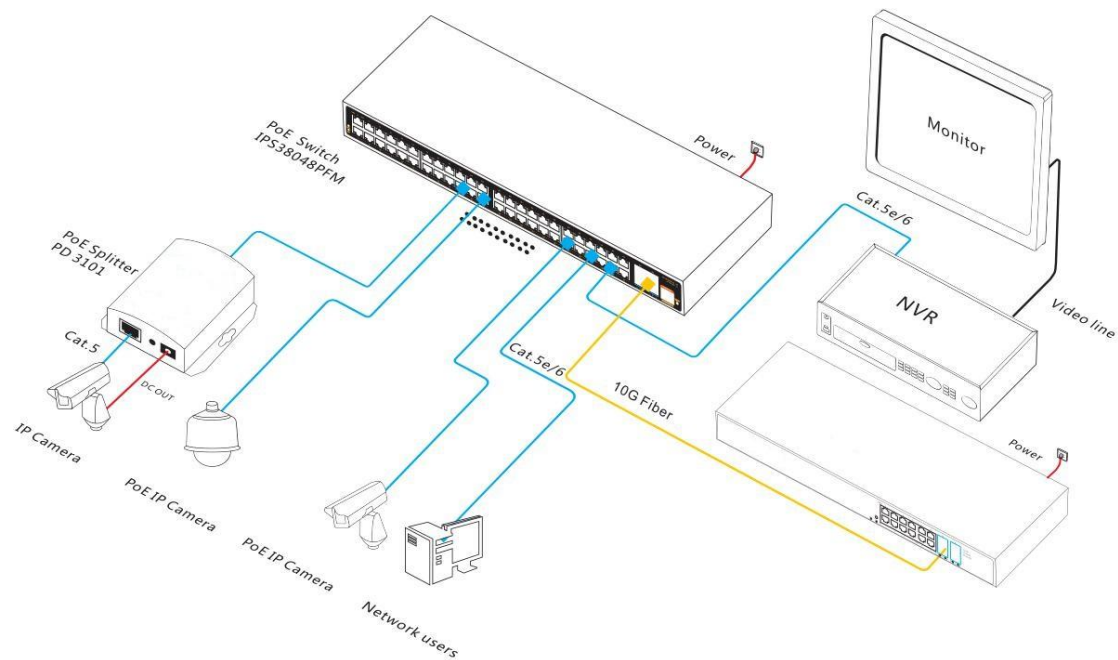
| Network Management Features | |
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| Interface | <p>IEEE802.3X (Full-duplex)</p> <p>Port temperature protection setting</p> <p>No connection port automatic sleep</p> <p>Port green Ethernet Energy-saving setting</p> <p>Broadcast storm control based on port speed</p> <p>SFP+ optical port DDMI real-time digital diagnosis</p> <p>The speed limit of the message flow in the access port, minimum particle size is 64Kbps.</p> |
| Layer 3 Features | <p>IPV4 Equal Cost Routing</p> <p>NG protocol, maximum 1000 entries</p> <p>ARP protocol, maximum 1000 entries</p> <p>Pingv6, Telnetv6, TFTPv6, DNSv6, ICMPv6</p> <p>IPV4/IPV6 VRRP, the maximum group is 255</p> <p>IPV4/IPV6 VLANIF interface supports up to 128</p> <p>IPV4/IPV6 static route/default route supports up to 128 entries</p> <p>IPV4 dynamic routing, RIPv1/v2, OSPFv2, BGP4+, 4000 routing entries</p> <p>IPV6 dynamic routing OSPFv3, BGP+, RIPng, IPV6 management, 1000 routing entries</p> <p>L3 network management function, IPV4/IPV6 dual-stack management</p> <p>Layer 3 routing and forwarding, support communication between different network segments and different VLANs</p> |
| VLAN | <p>Voice VLAN, QinQ configuration</p> <p>4K VLAN based on port, IEEE802.1q</p> <p>Port configuration of Access, Trunk, Hybrid.</p> <p>VLAN based on MAC, VLAN based on the protocol</p> |
| Port Aggregation | <p>LACP, Static aggregation</p> <p>Max 26 aggregation groups and 8 ports per group.</p> |
| Spanning Tree | <p>STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)</p> |

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| Industrial Ring | G.8032 (ERPS), Recovery time less than 20ms |
| Network Protocol | 250 Ring at most, Max 250 devices per ring. |
| Multicast | MLD Snooping v1/v2, Multicast VLAN IGMP Snooping v1/v2, Max 1024 multicast groups, Fast log out |
| Port Mirroring | Bidirectional data mirroring based on port |
| QoS | Flow-based Rate Limiting Flow-based Packet Filtering 8*Output queues of each port 802.1p/DSCP priority mapping Diff-Serv QoS, Priority Mark/Remark Queue Scheduling Algorithm (SP, WRR, SP+WRR) |
| ACL | Port-based Issuing ACL, ACL based on port and VLAN L2 to L4 packet filtering, matching first 80 bytes message. Provide ACL based on MAC, Destination MAC address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range, and VLAN, etc. |
| Security | IP-MAC-VLAN-Port binding ARP inspection, Anti-DoS attack AAA & RADIUS, MAC learning limit Mac black holes, IP source protection IEEE802.1X & MAC address authentication Broadcast storm control, Backup for host datum SSH 2.0, SSL, Port isolation, ARP message speed limit User hierarchical management and password protection |
| DHCP | DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay |
| Management | CPU instant utilization status view One-key recovery, Cable Diagnose, LLDP Console /AUX Modem /Telnet /SSH2.0 CLI Web Management (HTTPS), NTP, System work log, Ping Test Download & Management on FTP, TFTP, Xmodem, SFTP, SNMP |

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| | V1/V2C/V3 ONV NMS-Smart Network Management System Platform (LLDP+SNMP) |
| System | Category 5 Ethernet network cable Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 or later. TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in a network |

DIMENSION

APPLICATION



ORDERING INFORMATION

| Model | Description | Configure Power Supply |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| ONV-IPS38048PFM | L3 managed industrial PoE fiber switch with 48*10/100/1000M RJ45 ports and 4*1/10G SFP+ ports. Port 1-48 support IEEE802.3af/at PoE standard. Built-in redundant dual power supply. support 2AC+DC power terminal input and 1U/19-inch cabinet installation. | 2*600W |

Note: The SFP optical module is not included by default and needs to be purchased separately.

PACKING LIST

| PACKING LIST | CONTENT | QTY | UNIT |
|--------------|-----------------------------------------------------|-----|------|
| | 52-port 10G uplink L3 managed industrial PoE switch | 1 | SET |
| | AC Power Cable | 1 | PC |
| | RJ45-DB9 Line | 1 | PC |
| | Mounting Kits | 1 | SET |
| | User Guide | 1 | PC |
| | Warranty Card | 1 | PC |

OPTICAL MODULE INFORMATION

| Product | Model | Description | Unit |
|----------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 1.25G Optical Module | 2630-G | Industrial SFP optical module, 1.25G, multi-mode dual fiber 850nm, transmission distance: 550m, LC interface, support DDM function, support hot plug and pull. | PC |
| | 2632-G | Industrial SFP optical module, 1.25G, single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull. | PC |
| | 2612-T-G | Industrial SFP optical module, 1.25G, single-mode single fiber TX1310nm/RX1550nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull. | PC |
| | 2613-R-G | Industrial SFP optical module, 1.25G, single-mode single fiber TX1550nm/RX1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull. | PC |

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|--------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| | 2612-T-G-SC | Industrial SFP optical module, 1.25G, single-mode single fiber TX1310nm/RX1550nm, transmission distance: 20km, SC interface, support DDM function, support hot plug and pull. | PC |
| | 2613-R-G-SC | Industrial SFP optical module, 1.25G, single-mode single fiber TX1550nm/RX1310nm, transmission distance: 20km, SC interface, support DDM function, support hot plug and pull. | PC |
| 10G Optical Module | 6630-G | Industrial SFP+ optical module, 10G, Multi-mode dual fiber 850nm, transmission distance: 300m, LC interface, support DDM function, support hot plug and pull. | PC |
| | 7832-G | Industrial SFP+ optical module, 10G, Single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull. | PC |
| | 7832-33-G | Industrial SFP+ optical module, 10G, Single-mode single fiber TX1330nm/RX1270nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull. | PC |
| | 7832-27-G | Industrial SFP+ optical module, 10G, Single-mode single fiber TX1270nm/RX13300nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull. | PC |

RELATED PRODUCT

| Model | Description |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ONV-IPS38168PFM | L3 managed industrial PoE fiber switch with 12*10/100/1000M RJ45 ports and 4*1/10G SFP+ ports. Port 1-8 support IEEE802.3af/at PoE standard. Built-in redundant dual power supply. support 1U/19-inch cabinet installation and 2AC+DC power terminal input (Phoenix terminal connection). |
| ONV-IPS38036FM | L3 managed industrial PoE fiber switch with 24*10/100/1000M RJ45 ports and 8*100/1000M SFP ports and 4*1/10G SFP+ ports. Port 1-24 support IEEE802.3af/at PoE standard. Built-in redundant dual power supply. support 1U/19-inch cabinet installation and 2AC+DC power terminal input (Phoenix terminal connection). |
| ONV-IPS38028FM | L3 managed industrial PoE fiber switch with 24*10/100/1000M RJ45 ports and 4*1/10G SFP+ ports. Port 1-24 support IEEE802.3af/at PoE standard. Built-in redundant dual power supply. support 1U/19-inch cabinet installation and 2AC+DC power terminal input (Phoenix terminal connection). |

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