

Product Datasheet

24-port Gigabit Managed Industrial PoE Switch

(ONV-IPS33024PFM-8F)



OVERVIEW

The ONV-IPS33024PFM-8F is a Gigabit managed industrial PoE fiber switch independently developed by ONV. It has 16*10/100/1000Base-T adaptive RJ45 ports and 8*100/1000Base-X SFP fiber ports. Port 1-16 can support IEEE 802.3 af/at PoE standard and the single-port PoE power up to 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 cameras, VoIP phones, and industrial sensors through a network cable, and meet the network environment that needs a high-density PoE power supply. It is suitable for intelligent transportation, rail transit, electric power, mining, metallurgy, and green energy, industrial scenes such as construction setting up a cost-effective and stable communication network.

The ONV-IPS33024PFM-8F has L2+ network management function to support IPV4/

IPV6 management, static route forwarding, complete security protection mechanism, complete ACL/QoS policy, 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. Communication can be quickly restored when a one-way network fails. Ensure uninterrupted communication for important applications. According to application needs, PoE power supply management can be performed through Web, CLI, SNMP, Telnet, etc., and application configurations such as port management, routing address management, port flow control, VLAN division, IGMP, and security policies can be performed.

FEATURE

■ Gigabit access

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
- ◇ Supports Gigabit RJ45 port and SFP 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.
- ◇ 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.
- ◇ 16*10/100/1000Base-T RJ45 ports support PoE power, meeting the PoE power requirements of security monitoring, industrial automation systems, wireless coverage and other scenarios.

■ Strong business processing ability

- ◇ 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.

■ Security

- ◇ Port isolation and storm control.
- ◇ IP+MAC+port+VLAN quadruple flexible combination binding function.
- ◇ 802.1X authentication provides authentication functions for LAN computers and controls the authorization status of controlled ports according to the authentication results.

■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ The user-friendly pane can show the device status through the LED indicator of PWR, SYS, Link, L/A, and PoE.
- ◇ Low power consumption, aluminum alloy 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-IPS33024PFM-8F
Interface Characteristics	
Fixed Port	Power-off alarm switch (FAULT) 1*RS232 console port(115200,N,8,1) 8*100/1000Base-X uplink SFP ports (Data) 16*10/100/1000Base-T PoE ports (Data/ Power) 2 set V+, V- redundant DC power ports (6P industrial Phoenix terminal)
Ethernet Port	Port 1-16 can 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 meters) 100BASE-TX: Cat5 or later UTP (≤100 meters) 1000BASE-T: Cat5e or later UTP (≤100 meters)
Optical Fiber Port	Gigabit optical fiber interface, 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 and ring
Optical Cable/ Distance	Multi mode: 850nm/ 0-550m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km

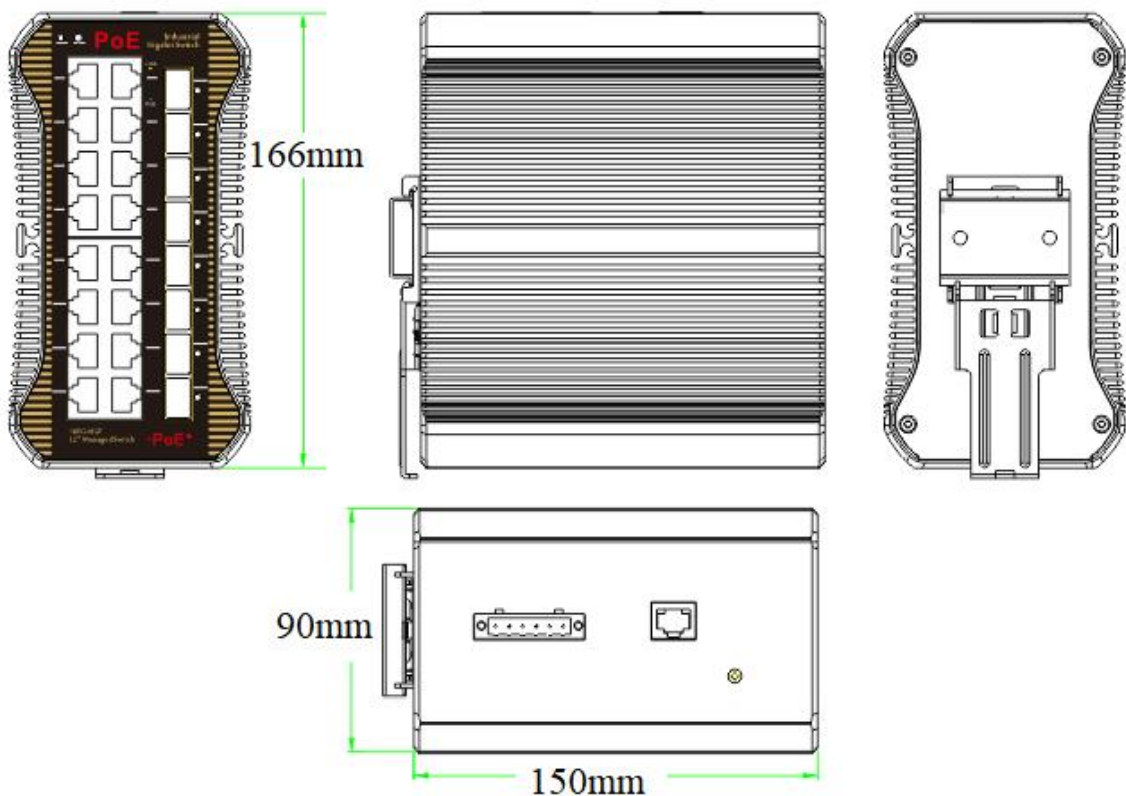
Chip Parameter	
Network Management Type	L2+
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	52Gbps (non-blocking)
Forwarding Rate@64byte	35.71Mpps
MAC	8K
Buffer Memory	4M
Jumbo Frame	9.6K
LED Indicator	Power: PWR (Green), System: SYS (Green), Network: Link (Yellow), Fiber Port: L/A (Green), PoE: PoE (Green)
Reset Switch	Yes. press and hold for 10 seconds and then release to restore factory settings
PoE& Power Supply	
PoE Port	Port 1-16
PoE Management	PoE power supply total power limit configuration Power delay start, Port PoE output priority configuration PoE work and time scheduling, Port PoE working status display Port PoE output power distribution, PoE on/off, af/at power distribution
Power Supply Pin	1/2(+) 3/6 (-)
Max Power Per Port	30W, IEEE 802.3 af/at
Power Consumption	Standby<15W, Full load af<240W, at<480W
Input Voltage/ Interface	DC48-57V, 6P industrial Phoenix terminal, support anti-reverse protection
Power Supply	No, optional 48V/240W or 48V/480W industrial power supply
Physical Parameter	
Operation Temp/ Humidity	-40°C~+80°C, 5%~90% RH Non condensing
Storage Temp/ Humidity	-40°C~+85°C, 5%~95% RH Non condensing

Dimension (L*W*H)	166*150*90mm
Net /Gross Weight	2.1kg/ 2.3kg
Installation	Desktop, 35mm DIN Rail
Certification& Warranty	
Lightning Protection	<p>IEC61000-4-3 (RS): 10V/m (80~1000MHz)</p> <p>FCC Part 15/CISPR22 (EN55022): Class A</p> <p>IEC61000-6-2 (Common Industrial Standard)</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>Protection level: IP40, Lightning protection: 6KV 8/20us</p> <p>IEC61000-4-4(EFT): Power cable: ±4kV, Data cable: ±2kV</p> <p>IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s</p> <p>IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge</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-3s</p> <p>IEC61000-4-5 (Surge): Power cable: CM±4kV/ DM±2kV, Data cable: ±4kV</p>
Mechanical Properties	IEC60068-2-6 (Anti Vibration), IEC60068-2-32 (Free Fall), IEC60068-2-27 (Anti Shock)
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class A, RoHS
Warranty	5 years, lifelong maintenance.
Network Management Feature	
Interface	<p>Port green Ethernet Energy-saving setting</p> <p>Broadcast storm control based on port speed</p> <p>IEEE802.3X (Full-duplex), Port temperature protection setting</p> <p>The speed limit of the message flow in the access port, mini particle size is 64Kbps.</p>
L3 Feature	ARP protocol max 1024 entries

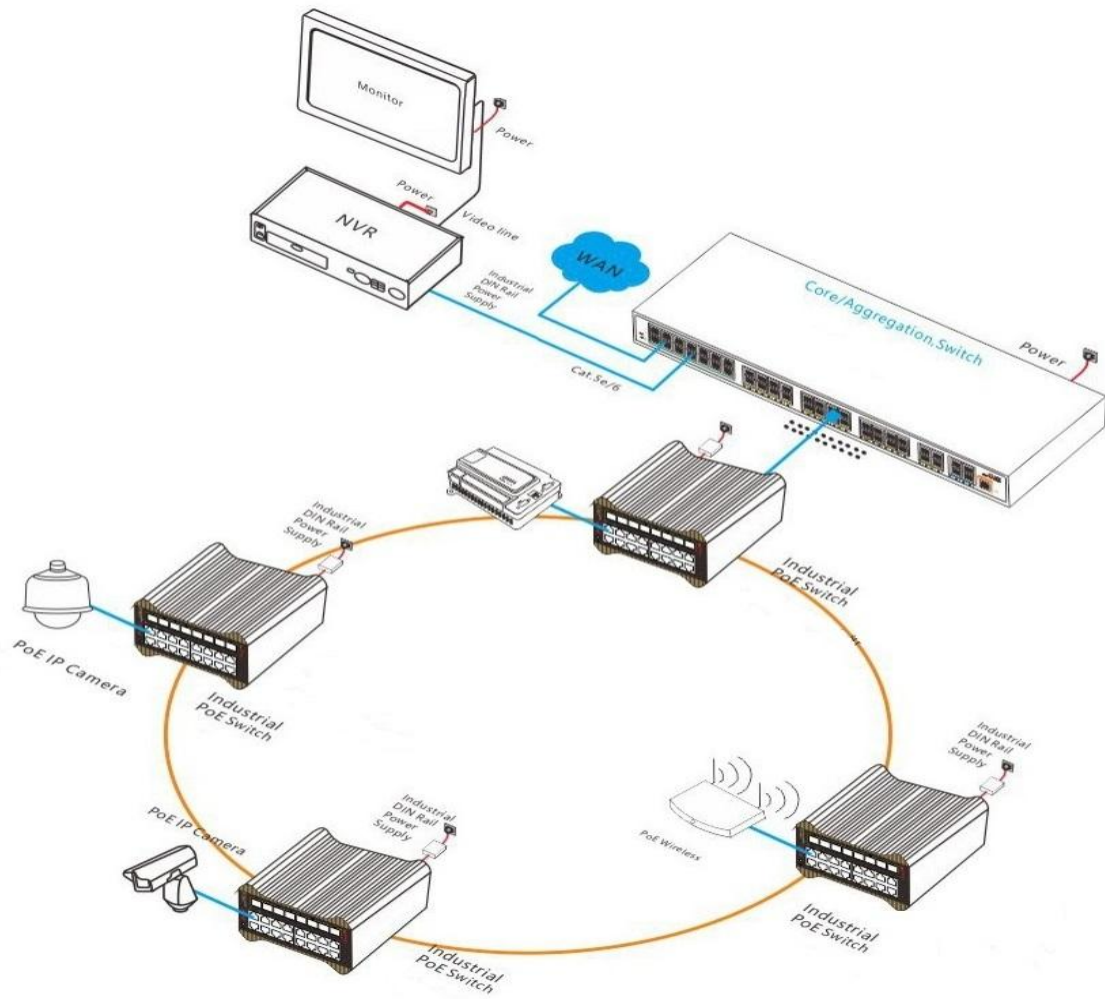
	<p>Static routing/ default routing max 128 entries</p> <p>L2+ network management, IPV4/IPV6 management</p> <p>L3 routing and forwarding, support communication between different network segments and different VLAN</p>
VLAN	<p>Port configuration of Access, Trunk, Hybrid</p> <p>VLAN based on MAC, Voice VLAN, QinQ configuration</p> <p>4K VLAN based on port, IEEE802.1q, VLAN based on the protocol</p>
Port Aggregation	LACP, Static aggregation, Max 12 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Ring Network Protocol	G.8032 (ERPS), 255 Ring at most, Max 1024 devices per ring. Recovery time less than 20ms
Multicast	MLD Snooping , Multicast VLAN, IGMP Snooping v1/v2, Max 1024 multicast groups, Fast log out
Port Mirroring	Bidirectional data mirroring based on port
QoS	<p>Flow-based redirection, Flow-based rate limiting</p> <p>Flow-based packet filtering, Priority Mark/Remark</p> <p>8*Output queues of each port, 802.1p/ DSCP priority mapping</p> <p>Queue Scheduling Algorithm (SP, WRR, SP+WRR), Diff-Serv QoS</p>
ACL	<p>Port-based Issuing ACL, ACL based on port and VLAN</p> <p>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.</p>
Security	<p>SSH 2.0, SSL, Port isolation, ARP message speed limit</p> <p>User hierarchical management and password protection</p> <p>AAA & RADIUS & TACACS+ certification, MAC learning limit</p> <p>IEEE802.1X & MAC address authentication, ARP inspection</p> <p>IP-MAC-VLAN-Port binding, Anti-DoS attack, IP source protection</p> <p>Broadcast storm control, Backup for host datum, Mac black holes</p>

DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	<p>CPU real-time utilization status view, SNMP V1/V2/V3</p> <p>ONV-NMS platform cluster management (LLDP+SNMP)</p> <p>Console/ AUX Modem/ Telnet/ SSH2.0, CLI configuration</p> <p>Cable length status detection, NTP clock, One-key recovery, LLDP</p> <p>FTP, TFTP, Xmodem, SFTP file upload and download management</p> <p>Ping detection, System work log, Web network management (HTTPS)</p>
System	<p>Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher,</p> <p>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</p> <p>Cat5 and above Ethernet cable</p>

DIMENSION



APPLICATION



ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS33024PFM-8F	L2+ managed industrial PoE fiber switch with 16*10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber ports. Port 1-16 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.	240W/480W

Note: The optical module and power supply are not included and need to be purchased.

PACKING LIST

	Content	Qty	Unit
Packing List	24-port Gigabit managed industrial PoE switch	1	Set
	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-G	Industrial SFP optical module, 1.25G multi-mode dual fiber 850nm, transmission distance: 550m, LC interface, supports DDM function and hot plugging.	PC
	2632-G	Industrial SFP optical module, 1.25G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	PC
	2612-T-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	PC
	2613-R-G	Industrial 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-G-SC	Industrial 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-G-SC	Industrial 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
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POWER SUPPLY

Product	Model	Description	Unit
240W DIN Rail Industrial Power Supply	GWS-DP240-48	DIN Rail 240W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 3.0A Output Voltage: DC48V, 5.0A Operation Temperature: -40°C to +70°C	PC
480W DIN Rail Industrial Power Supply	GWS-DP480-48	DIN Rail 480W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 5.0A Output Voltage: DC48V, 10A Operation Temperature: -40°C to +70°C	PC

RELATED PRODUCT

Model	Description
ONV-IPS33084PFM	L2+ managed industrial PoE fiber switch with 4*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. Port 1-4 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
ONV-IPS33108PFM	L2+ managed industrial PoE fiber switch with 8*10/100/1000M RJ45 ports and 2*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
ONV-IPS33148PFM	L2+ managed industrial PoE fiber switch with 10*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.

ONV-IPS33168PFM	L2+ managed industrial PoE fiber switch with 8*10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
ONV-IPS33168PFM-4GF	L2+ managed industrial PoE fiber switch with 12*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.

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