Product Datasheet

24-port Gigabit Managed Industrial PoE Switch

(ONV-IPS33248PFM-4GF)

OVERVIEW

The ONV-IPS33248PFM-4GF is a Gigabit managed industrial PoE fiber switch independently developed by ONV. It has 20*10/100/1000Base-T adaptive RJ45 ports and 4*100/1000Base-X SFP fiber ports. Port 1-8 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-IPS33248PFM 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 IEEE 802.3x 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

◇ 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.

◇ 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.

◇ 8*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

- ◇ Support port isolation and port broadcast storm suppression.
- ◇ 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, 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-IPS33248PFM-4GF
Interface Characteristics	
Fixed Port	Power off alarm switch port (FAULT) 1*Console RS232 port (115200,N,8,1) 8*10/100/1000Base-T PoE ports (Data/ Power) 12*10/100/1000Base-T uplink RJ45 ports (Data) 4*100/1000Base-X uplink SFP fiber ports (Data) 2 set V+, V- redundant DC power port (6P industrial Phoenix terminal)
Ethernet Port	Port 1-20 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 port, default no include optical module (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
Optical Fiber Port Expansion	Support Turbo overclocking 2.5G optical module expansion and ring network
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
Chip Parameter	

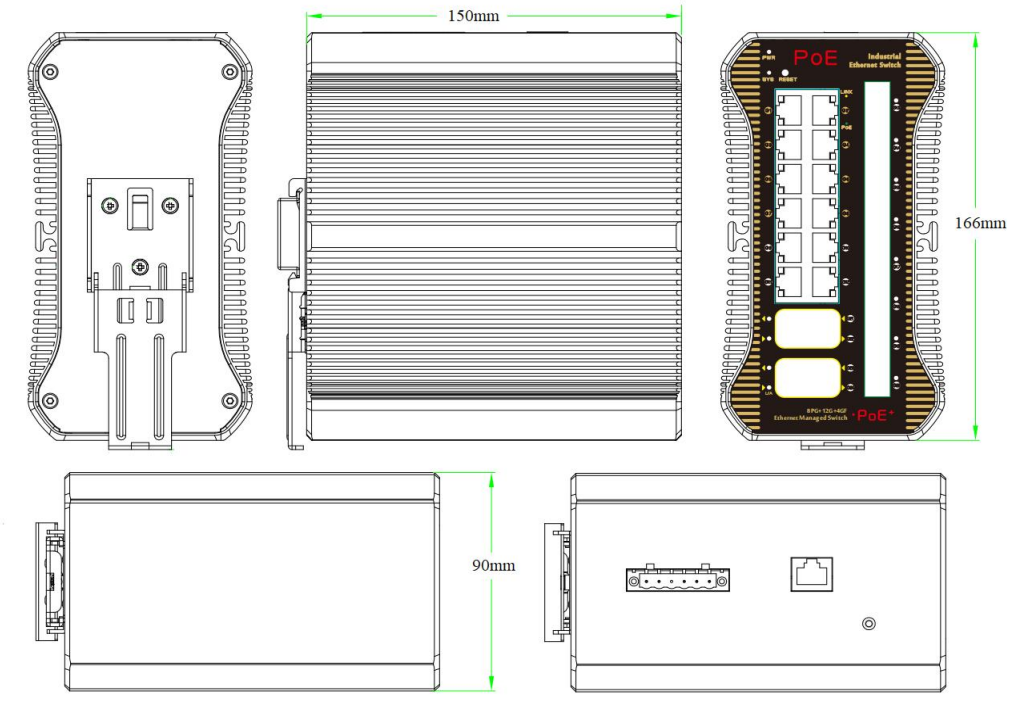
Network Management Type	L2+
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	52Gbps (non-blocking)
Forwarding Rate@64byte	35.71Mpps
CPU(Hz)	416M
DRAM	1G
FLASH	128M
MAC	8K
Buffer Memory	8M
Jumbo Frame	9.6K
LED Indicator	Power/ System: SYS (Green), PoE: PoE (Green), Network: Link (Yellow), Rate: 100/1000 (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 1-8
PoE Management	PoE power supply total power limit configuration Power delay start, PoE work and time scheduling Port PoE working status display, Port PoE output priority configuration 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<120W, at<240W
Input Voltage/ Interface	DC48-57V, 6P industrial Phoenix terminal, support anti-reverse protection.
Power Supply	No, optional 48V/120W or 48V/240W industrial power supply
Physical Parameter	

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)	166*150*90mm
Net /Gross Weight	2.1kg/ 2.3kg
Installation	Desktop, 35mm DIN Rail
Certification& Warranty	
Lightning Protection	IEC61000-4-3 (RS):10V/m (80-1000MHz) FCC Part 15/CISPR22 (EN55022): Class A IEC61000-6-2 (Common Industrial Standard) IEC61000-4-9 (Pulsed magnet field): 1000A/m IEC61000-4-10 (Damped oscillation): 30A/m 1MHz IEC61000-4-12/18 (Shockwave): CM2.5kV, DM1kV Protection level: IP40, Lightning protection: 6KV 8/20us IEC61000-4-4(EFT): Power cable: ±4kV, data cable: ±2kV IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz) IEC61000-4-8 (Power frequency magnetic field): 100A/m, 1000A/m, 1s-3s IEC61000-4-5 (Surge): Power cable: CM±4kV/ DM±2kV, data cable: ±4kV
Mechanical Properties	IEC60068-2-6 (Anti Vibration), IEC60068-2-27 (Anti Shock), IEC60068-2-32 (Free Fall)
Certification	CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class A, RoHS
Warranty	5 years, lifelong maintenance.
Network Management Feature	
Interface	Port green Ethernet Energy-saving setting Broadcast storm control based on port speed Port temperature protection setting, IEEE 802.3x flow control (Full duplex) The speed limit of the message flow in the access port, mini particle size is 64Kbps.

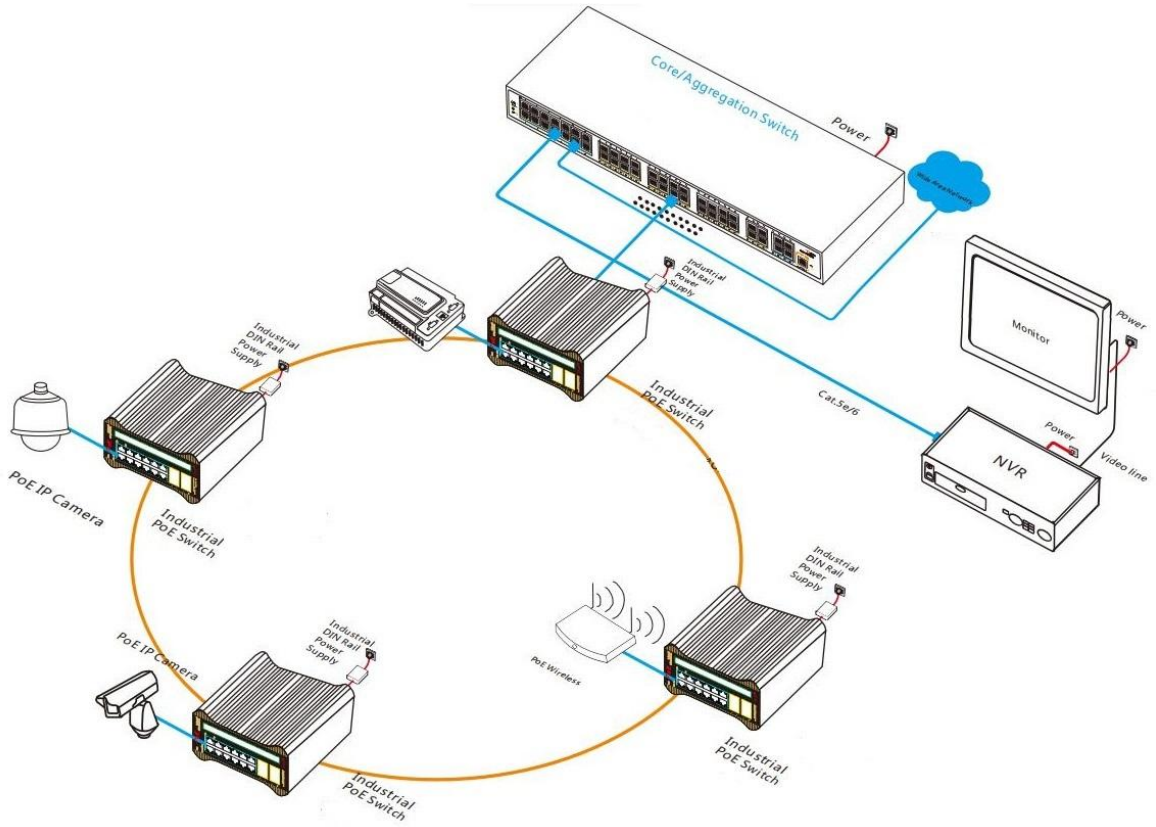
L3 Feature	ARP protocol max 1024 entries Static routing/ default routing max 128 entries L2+ network management, IPV4/IPV6 dual stack management L3 routing and forwarding, and communication between different network segments and different VLAN
VLAN	Access, Trunk, and Hybrid port configurations Port-based VLAN (4K), IEEE802.1q, QinQ configuration Voice VLAN, Protocol-based VLAN, MAC address-based VLAN
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), Recovery time less than 20ms. 255 Ring at most, Max 1024 devices per ring.
Multicast	MLD Snooping, Multicast VLAN, IGMP Snooping v1/v2/v3, Max 1024 multicast groups, Fast log out
Port Mirroring	Bidirectional data mirroring based on port
QoS	Flow-based Rate Limiting, Flow-based redirection Queue Scheduling Algorithm (SP, WRR, SP+WRR) Flow-based Packet Filtering, 8*Output queues of each port 802.1p/ DSCP priority mapping, Diff-Serv QoS, Priority Mark/ Remark
ACL	ACL distribution based on port and VLAN 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.
Security	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

	Anti-DoS attack, AAA & RADIUS & TACACS+ certification IP-MAC-VLAN-Port binding, ARP inspection, MAC learning limit
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	NTP clock, One click restore, SNMP V1/V2/V3 System work log, Web network management (https) Ping detection, Link Layer Discovery Protocol (LLDP) ONV-NMS platform cluster management (LLDP+SNMP) Cable status check, Viewing CPU Instant Utilization Status Console/ AUX Modem/ Telnet/ CLI command line configuration FTP, TFTP, Xmodem, SFTP file upload and download 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	Recommended Power Supply
ONV-IPS33248PFM-4GF	L2+ managed industrial PoE switch with 20*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 (Phoenix terminal connection) and DIN rail mounting.	120W/240W
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-SC-G	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-SC-G	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 SUPPLY

Product	Model	Description	Unit
120W DIN Rail Industrial Power Supply	GWS-DP120-48	DIN Rail 120W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 2.3A Output Voltage: DC48V, 2.5A Operation Temperature: -40℃ to +70℃	PC
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℃ to +70℃	PC

RELATED PRODUCT

Model	Description
ONV-IPS33064PFM	L2+ managed industrial PoE switch with 4*10/100/1000M RJ45 ports and 2*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 (Phoenix terminal connection) and DIN rail mounting.
ONV-IPS33084PFM	L2+ managed industrial PoE 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 (Phoenix terminal connection) and DIN rail mounting.
ONV-IPS33108PFM	L2+ managed industrial PoE switch with 8*10/100/1000M RJ45 ports and 2*100/1000M SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input (Phoenix terminal connection) and DIN rail mounting.
ONV-IPS33148PFM	L2+ managed industrial PoE 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 (Phoenix terminal connection) and DIN rail mounting.
ONV-IPS33168PFM	L2+ managed industrial PoE 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 (Phoenix terminal connection) and DIN rail mounting.
ONV-IPS33168PFM-4GF	L2+ managed industrial PoE 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 (Phoenix terminal connection) and DIN rail mounting.

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