Product Datasheet

10-port Full Gigabit Managed Industrial PoE Switch

(ONV-IPS33108PFM)

OVERVIEW

The ONV-IPS33108PFM is a Gigabit L2+ managed industrial PoE switch independently developed by ONV. It has 2*100/1000Base-X SFP ports and 8*10/100/1000Base-T adaptive RJ45 ports. Port 1-8 can support IEEE 802.3 af/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, IP camera, VoIP, and industrial sensors through the network cable, and meet the network environment that needs a high-density PoE power supply. It is suitable for intelligent transportation, rail transit, power industry, mining, petroleum, and industrial scenes such as shipping, metallurgy, and green energy construction forming a cost-effective, stable, and reliable communication network.

The ONV-IPS33108PFM can support a variety of network redundancy protocols STP/ RSTP/MSTP(<50ms). When a one-way network fails, communication can be quickly restored to ensure important uninterrupted communication for applications. aluminum alloy shell. IP40 protection level, which ensures the stable operation of the equipment in

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harsh environments. According to actual application needs, PoE power management, port flow control, VLAN division, STP, RSTP, and other application service configurations can be performed through Web, CLI, and SNMP network management methods.

FEATURE

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

■ **Intelligent 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.

◇ 8*10/100/1000Base-T RJ45 ports, meeting the needs of security monitoring, teleconferencing system, wireless coverage, and other scenarios.

◇ 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.

■ **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.

◇ 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 pane can show the device status through the LED indicator of PWR, PoE, Link/ Act.

◇ Low power consumption, no fan, aluminum shell, and excellent heat dissipation ensure the stable operation of the switch.

■ **Easy O&M management**

◇ CPU monitoring, memory monitoring, Ping detection, cable length detection.

◇ HTTPS, SSLV3, SSHV1/V2, and other encryption methods, making management more secure.

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

◇ LLDP to facilitate the network management system to query and judge the communication status of the link.

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

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TECHNICAL SPECIFICATION

Model	ONV-IPS33108PFM
Interface Characteristics	
Fixed Port	1*RS232 Console port 2*100/1000Base-X uplink SFP ports (Data) 8*10/100/1000Base-T PoE ports (Data/Power) 2 set of V+, V- redundant DC power interface (5 Pin Phoenix terminal)
Ethernet Port	Port 1-8 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)
SFP Slot Port	Gigabit 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 Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
Chip Parameter	
Network Management Type	L2+
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-TX, IEEE802.3z 1000Base-X, IEEE802.3x
Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	20Gbps
Forwarding Rate@64byte	14.88Mpps
CPU	416MHz
DRAM	1G
FLASH	128M

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MAC	8K
Buffer Memory	4M
Jumbo Frame	9.6K
LED Indicator	Fiber port: L/A (Green), PoE: PoE (Green) Power/ System: SYS (Green), Network: Link (Yellow)
Reset Switch	Yes, Press and hold the reset switch for 10s and release it to restore the factory settings
PoE & Power Supply	
PoE Port	Port 1 to 8 IEEE 802.3 af/at
PoE Management	Port PoE working status display Port PoE output priority configuration PoE power supply total power limit configuration Power delay start, PoE work and time scheduling 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<10W, Full load af<120W, at<240W
Input Voltage/ Interface	DC48-57V, 5 Pin 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°C~+80°C, 5%~90% RH Non condensing
Storage TEMP / Humidity	-40°C~+85°C, 5%~95% RH Non condensing
Dimension(L*W*H)	165*148*54mm
Net /Gross Weight	<0.8kg / <1.2kg
Installation	Desktop, 35mm DIN rail

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Certification & Warranty

Lightning Protection	Protection level: IP40
	Lightning protection: 6KV 8/20us
	IEC61000-4-3 (RS):10V/m (80~1000MHz)
	FCC Part 15/CISPR22 (EN55022): Class B
	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): CM 2.5kV, DM 1kV
	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	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
Warranty	5 years, lifelong maintenance.

Network Management Features

Interface	IEEE802.3X (Full-duplex)
	Port temperature protection setting
	Port green Ethernet Energy-saving setting
	Broadcast storm control based on port speed
	The speed limit of the message flow in the access port, mini particle size is 64Kbps.
Layer 3 Features	ARP protocol max 1024 entries
	Static routing/ default routing max 128 entries

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	Support L2+ network management, IPV4/ IPV6 dual stack management
	Support L3 routing and forwarding, and support communication between different network segments and different VLAN
VLAN	Port configuration of Access, Trunk, Hybrid
	VLAN based on MAC, Voice VLAN, QinQ configuration
	VLAN based on the protocol, 4K VLAN based on port, IEEE802.1q
Port Aggregation	LACP, Static aggregation
	Max 5 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Industrial Ring Network Protocol	Recovery time less than 20ms
	G.8032 (ERPS), 250 Ring at most, Max 250 devices per ring.
Multicast	MLD Snooping v1/v2, 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 redirection, Flow-based rate limiting
	Flow-based packet filtering, Priority Mark/Remark
	8*Output queues of each port, 802.1p/ DSCP priority mapping
	Queue Scheduling Algorithm (SP, WRR, SP+WRR), Diff-Serv QoS
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	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	ONV-NMS platform cluster management (LLDP+SNMP) CPU real-time utilization status view, SNMP V1/V2/V3 Console/ AUX Modem/ Telnet/ SSH2.0, CLI configuration Cable length status detection, NTP clock, One-key recovery, LLDP FTP, TFTP, Xmodem, SFTP file upload and download management Ping detection, System work log, Web network management (HTTPS)
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
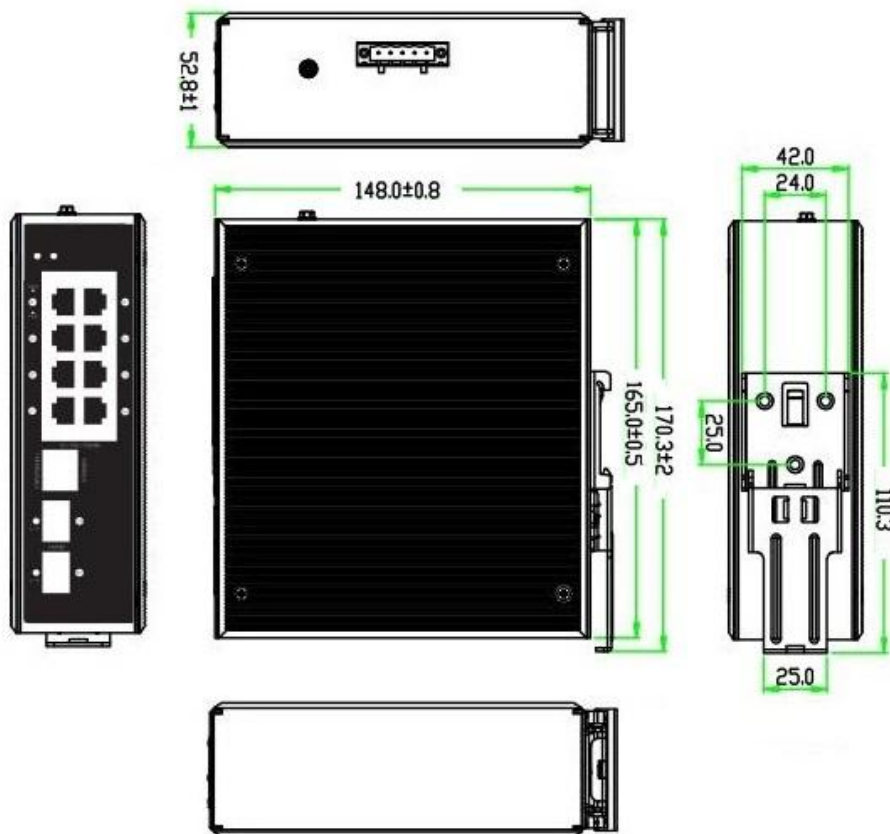
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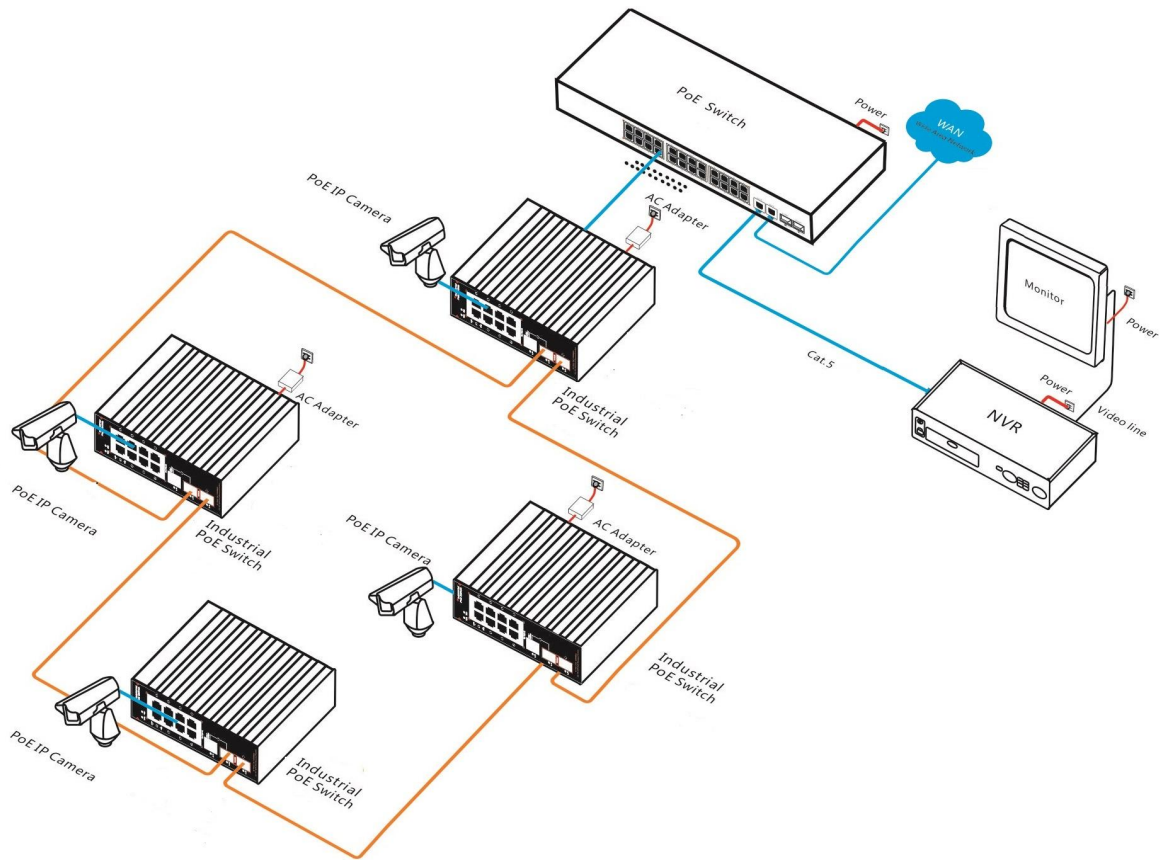
ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS33108PFM	L2+ managed industrial PoE fiber switch with 8*10/100/1000M RJ45 ports and 2*100/1000M SFP ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC power input and DIN rail mounting.	120W/240W

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

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PACKING LIST

	Content	Qty	Unit
Packing List	10-port full gigabit managed industrial PoE switch	1	SET
	RJ45-DB9 Line	1	PC
	User Guide	1	PC
	Warranty Card	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

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

POWER SUPPLY

Product	Model	Description	Unit
130W Desktop Power Aadapter	GWS-AP130-52	Desktop 130W single set of output power adapter Input Voltage: AC100V~240V 50-60Hz, 2.3A Output Voltage: DC52V, 2.5A Operation Temperature: -20℃ to +65℃	PC
250W Desktop Power Aadapter	GWS-AP250-52	Desktop 250W single set of output power adapter Input Voltage: AC100V~240V 50-60Hz, 4.1A Output Voltage: DC52V, 4.8A Operation Temperature: -20℃ to +65℃	PC
120W DIN Rail Industrial Power Supply	GWS-DP120-48	Din Rail 120W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 1.5A 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 fiber switch with 4*10/100/1000M RJ45 ports and 2*100/1000M SFP ports. Port 1-4 can support IEEE 802.3 af/at PoE standard. It can support dual DC power input and DIN rail mounting.

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

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