Product Datasheet

10-port Gigabit Uplink Managed Industrial PoE Switch
(ONV-IPS31108PFM)

OVERVIEW

The ONV-IPS31108PFM is a gigabit uplink L2 managed industrial PoE fiber switch independently developed by ONV. It has 8*10/100Base-TX adaptive RJ45 ports and 2*100/1000Base-T(X) uplink combo ports. Port 1-8 can support IEEE802.3af/at PoE standard and single-port PoE power reaches 30W. Each port can realize line-speed forwarding.

The ONV-IPS31108PFM adopts a new generation of high-performance hardware and software platforms to provide flexible and cost-effective 100M access and uplink ports. It can support security protection mechanisms, ACL/ QoS policies, and VLAN functions, and is easy to manage and maintain. 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 devices such as wireless AP, IP cameras, 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, petroleum,

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and sea transportation industrial scenes such as metallurgy and green energy construction form a cost-effective, stable, and reliable communication network.

FEATURE

■ **100M line speed access, Gigabit uplink RJ45/SFP (Combo) port**

◇ Support non-blocking wire-speed forwarding.

◇ Support full-duplex based on IEEE802.3x and half-duplex based on backpressure.

◇ Support 10/100M RJ45 port and Gigabit combo 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.

◇ 8*10/100Base-TX RJ45 ports support PoE power, meeting the PoE power requirements of security monitoring, industrial automation systems, wireless coverage and other scenarios.

■ **Strong business processing capability**

◇ Support IEEE 802.1Q VLAN, Users can flexibly VLAN division and QinQ configuration.

◇ Support STP/RSTP/MSTP production tree protocol to eliminate layer 2 loops and realize link backup.

◇ 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.

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◇ 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.

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

◇ The user-friendly panel can show the device status through the LED indicator of PWR, Link, and PoE.

■ Easy O&M management

◇ Support CPU monitoring and memory monitoring.

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

◇ Support Web network management, SNMP V1/V2/V3 and other diversified management and maintenance.

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

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

TECHNICAL SPECIFICATION

Model	ONV-IPS31108PFM
Interface Characteristics	
Fixed Port	8*10/100Base-TX PoE ports (Data/Power) 2*10/100/1000Base-T uplink RJ45 ports (Data) 2*100/1000Base-X uplink SFP fiber ports (Combo port)(Data) 2 group of V+, V- redundant DC power ports (5P Phoenix terminal)
Ethernet Port	Port 1-8 support 10/100Base-TX and port 5-6 support 10/100/1000Base-T(X) 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 module (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-T, IEEE802.3z 1000Base-X, IEEE802.3x
Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	14.8Gbps
Forwarding Rate@64byte	4.17Mpps
CPU	150MHz
DRAM	256M
FLASH	128M

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MAC	16K
Buffer Memory	4M
Jumbo Frame	10K
LED Indicator	POE: PoE (Green), Rate: Speed (Green) Power: PWR(Green), Network: Link, Link/Act(Yellow)

PoE & Power Supply

PoE Port	Port 1-8
PoE Management	Power delay start, PoE work, and time scheduling Port PoE working status display, Port PoE output power distribution
Power Supply Pin	1/2(+) 3/6 (-)
Max Power Per Port	30W, IEEE 802.3 af/at
Power Consumption	Standby<8W, Full load af<120W, at<240W
Working Voltage	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~+75°C, 5%~90% RH Non condensing
Storage TEMP / Humidity	-40~+85°C, 5%~95% RH Non condensing
Dimension (L*W*H)	165*148*54mm
Net /Gross Weight	0.9kg / 1.15kg
Installation	Desktop, 35mm DIN Rail

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

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	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 Feature	
Interface	IEEE802.3x flow control (Full-duplex) Broadcast storm control based on port speed Limit the rate of packet traffic on the incoming and outgoing ports with mini granularity 16Kbps
VLAN	IEEE802.1q, Port-based VLAN(4K), Protocol-based VLAN, QinQ configuration
Port Aggregation	LACP, Manual aggregation Max 10 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Multicast	MLD Snooping, Multicast VLAN, Fast log-out IGMP Snooping v1/v2/v3, Max 64 multicast groups
Port Mirroring	Bidirectional data mirroring based on port
QoS	Diff-Serv QoS, 8*output queues of each port Queue Scheduling Algorithm (SP, WRR, SP+WRR) 802.1p/ DSCP priority mapping, Priority Mark/ Remark
ACL	L2-L4 packet filtering function can match the first 80 bytes of the packet, and

	provide ACL based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port range, VLAN, etc.
Security	Binding function of IP+MAC+port Port isolation, Port broadcast storm suppression
DHCP	DHCP Client, DHCP Snooping, DHCP Relay
System	One-key recovery, NTP clock, System work log SNMP V1/V2/V3, Web Network Management (https)

DIMENSION
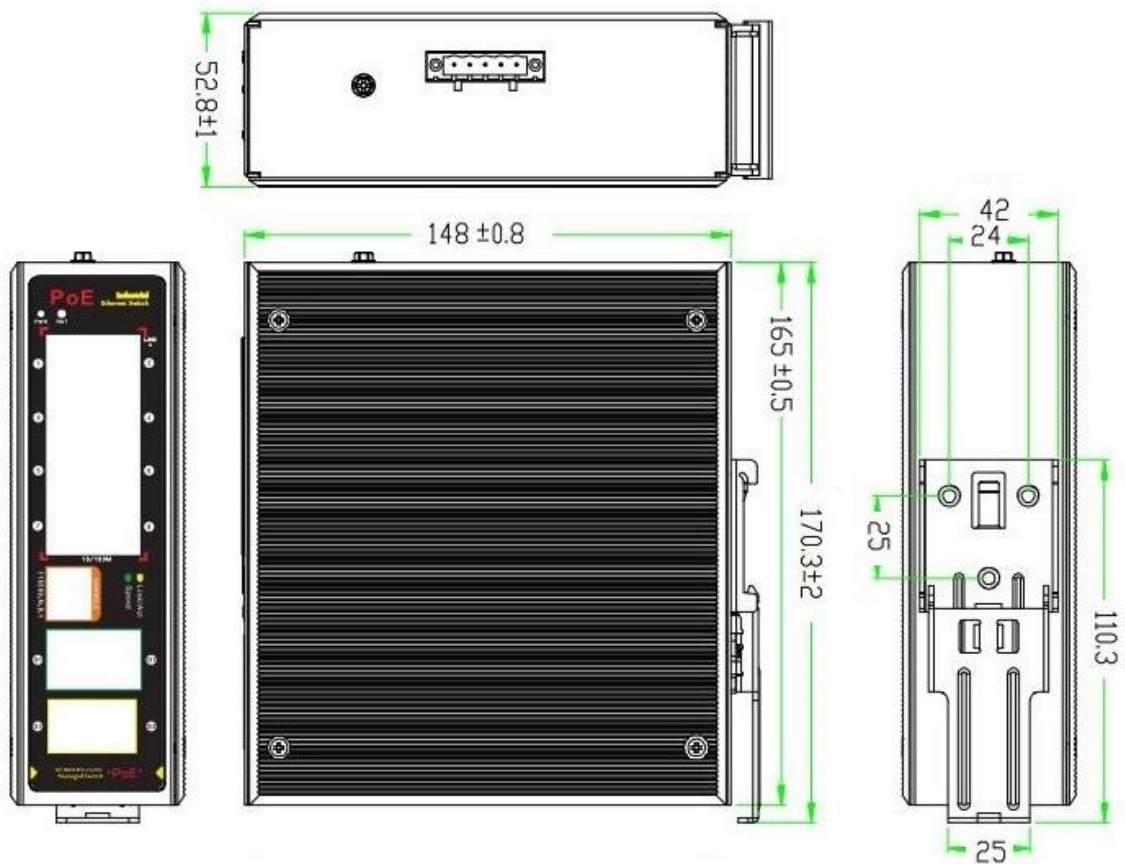
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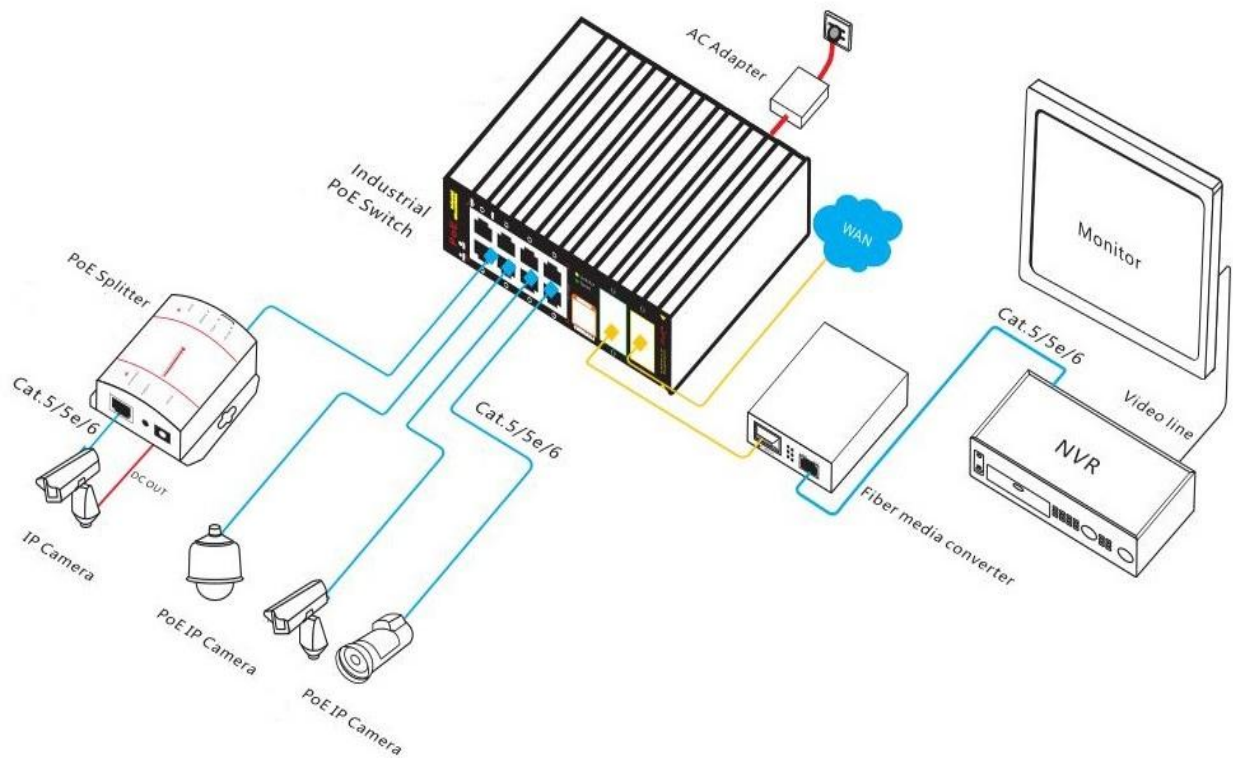
ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS31108PFM	L2 managed industrial PoE fiber switch with 8*10/100M RJ45 ports and 2*10/100/1000M uplink RJ45 ports and 2*100/1000M uplink SFP fiber ports (combo port). 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 and need to be purchased.		

PACKING LIST

	Content	Qty	Unit
Packing List	10-port gigabit uplink 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-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

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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 Adapter	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 Adapter	GWS-AP250-52	Desktop 250W single set of output power adapter Input Voltage: AC100V~240V 50-60Hz, 5.0A Output Voltage: DC52V, 5.0A 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, 5A Operation Temperature: -40℃ to +70℃	PC

RELATED PRODUCT

Model	Description
ONV-IPS31064PFM	L2 managed industrial PoE fiber switch with 4*10/100M RJ45 ports and 2*10/100/1000M uplink RJ45 ports and 2*100/1000M uplink SFP fiber ports (combo port). 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-IPS33064PFM	L2+ managed industrial PoE fiber 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 power input and DIN rail mounting.
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 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 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 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 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 power input and DIN rail mounting.

CONTACT US

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