

Product Datasheet

14-Port Full Gigabit Managed Industrial PoE Switch

(ONV-IPS33148PFM)



OVERVIEW

ONV-IPS33148PFM is a full gigabit managed industrial PoE switch independently developed by ONV. It has 8*10/100/1000M PoE ports and 2*10/100/1000M RJ45 ports and 4*100/1000M SFP fiber slot ports. Port 1-8 can support IEEE802.3af/at standard POE power supply, single port POE power up to 30W, and the maximum POE output power is 120W(at-240W). As a POE power supply device, it can automatically detect and identify the electrical equipment that meets the standard and supply power through the cable. It can supply the POE terminal equipment, such as wireless AP, network camera, network telephone, industrial sensor and so on, to meet the demand for high density PoE power supply network environment. It is suitable for intelligent transportation, rail transportation, electric power industry, mining, metallurgy and green energy construction and so on. A reliable communication network.

The ONV-IPS33148PFM has L2+ full network management function, support IPV4/IPV6 management, static route full line rate forwarding, security protection mechanism,

ACL/QoS policy and VLAN, and is easy to manage and maintain. Support multiple network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS(<20ms) to improve link backup and network reliability. When one-way network fails, communication can be quickly restored to ensure important Uninterrupted communication for applications. According to the actual application requirements, you can configure multiple application services such as PoE power management, port traffic control, VLAN division, and SNMP through the Web network management mode.

FEATURE

■ Gigabit access, SFP fiber port uplink

- ◇ All series support “Gigabit Ethernet port and Gigabit SFP port” combination, which enables users to flexibly build networking to meet the needs of various scenarios.
- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE802.3x and half-duplex based on backpressure.



■ Powerful port lightning protection, ultra-wide voltage input

- ◇ Contact discharge 8KV, air discharge 15KV; port lightning protection common-mode 4KV, differential mode 2KV.

- ◇ Industrial dual power input
- ◇ DC INPUT: 48V-57V, non-PoE DC INPUT: 12-48V.



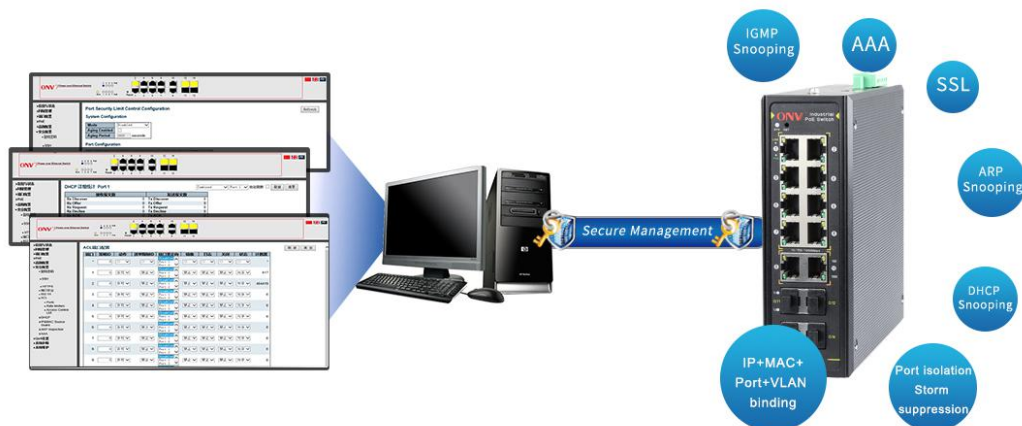
Contact discharge 8KV

Air discharge 15KV

Port lightning protection 6KV

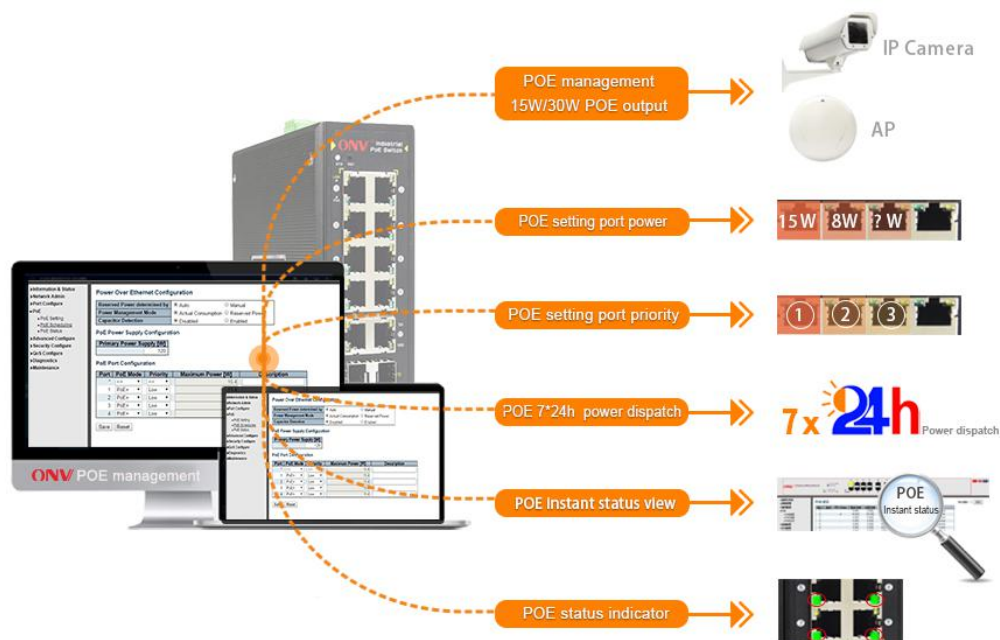
■ Security

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



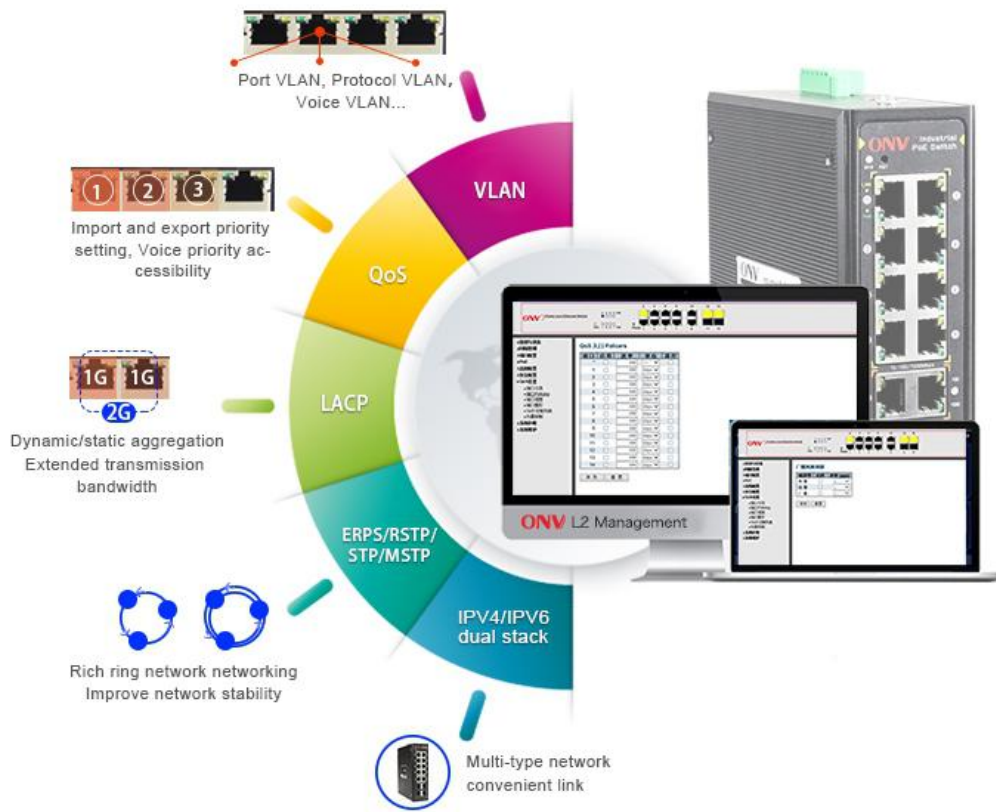
■ Intelligent PoE power supply

- ◇ 8*10/100/1000Base-T RJ45 ports, meeting the needs of security monitoring, teleconferencing system, wireless coverage, and other scenarios.
- ◇ IEEE 802.3af/at PoE standard, without damaging non-PoE devices.
- ◇ 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.
- ◇ PoE network management, realize PoE port power allocation, priority setting, port power status viewing, time scheduling, etc.



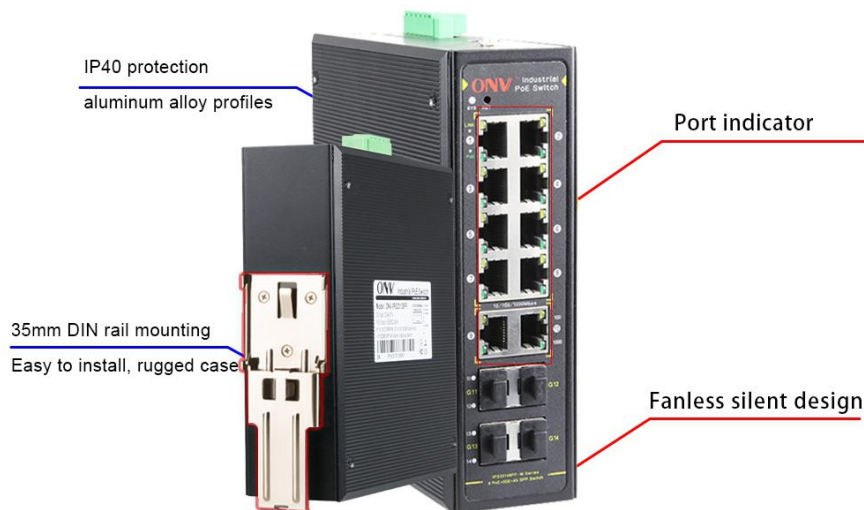
■ PoE network management and fast Ring function

- ◇ IEEE802.1Q VLAN, flexible VLAN division 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.
- ◇ IGMP V1/V2 and IGMP Snooping.
- ◇ ERPS/STP/RSTP/MSTP.
- ◇ Static and dynamic aggregation.



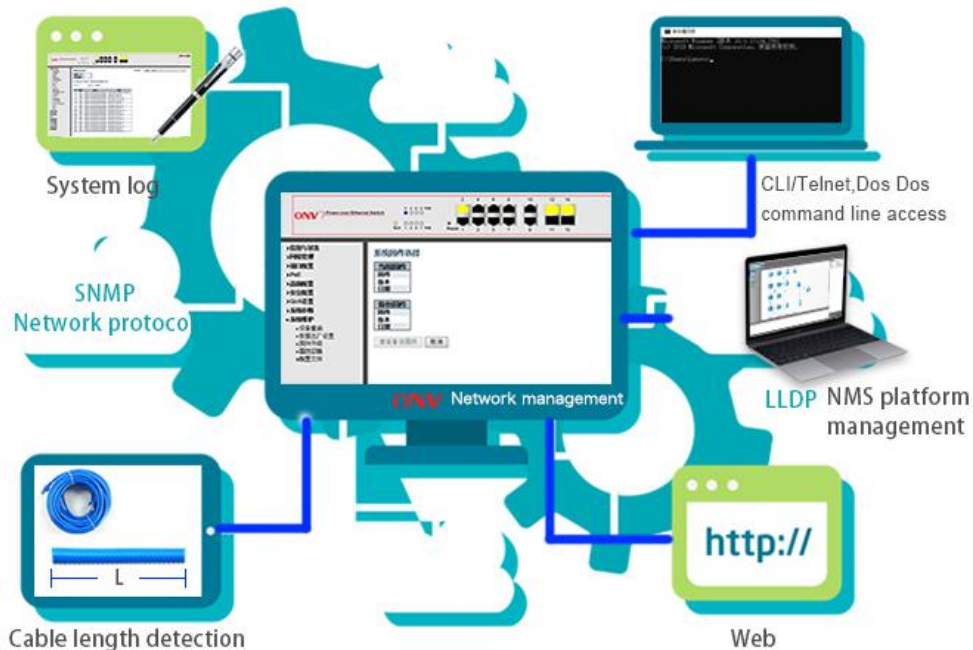
■ **Stable and reliable**

- ◇ Low power consumption, fan-less design, aluminum shell.
- ◇ CE, FCC, RoHS.
- ◇ The user-friendly panel, it can show the device status through the LED indicator of PWR, SYS, Link, PoE.



■ One-stop remote control and management

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



TECHNICAL SPECIFICATION

Model	ONV-IPS33148PFM	ONV-IPS33148PFM-at
Interface Characteristics		
Fixed Port	8*10/100/1000Base-T PoE ports (Data/Power) 2*10/100/1000Base-T uplink RJ45 ports (Data) 4*100/1000Base-X uplink SFP slot ports (Data) 1 * RS232 console port (115200, N,8,1) 2 set of V+, V- redundant DC power interface (6 Pin Phoenix terminal) Power-off alarm switch (FAULT)	

Ethernet Port	10/100/1000Base-T, Auto-sensing, Full/half duplex MDI/MDI-X self-adaption	
SFP Slot Port	Gigabit SFP optical fiber interface, default matching optical modules (optional order single-mode / multi-mode, single fiber / dual fiber optical module. LC)	
Chip Parameter		
Network Management Type	L2+	
Network Protocol	IEEE802.3 10BASE-T; IEEE802.3i 10Base-T; IEEE802.3u 100Base-TX/FX; IEEE802.3ab 1000Base-TX IEEE802.3z 1000Base-X IEEE802.3x	
Forwarding Mode	Store and Forward (Full Wire Speed)	
Switching Capacity	256Gbps	
Forwarding Rate@64byte	20.83Mpps	
MAC	8K	
Buffer Memory	6M	
Jumbo Frame	9.6K	
PoE & Power Supply		
PoE Port	Port 1 to port 8	
Power Supply Pin	Default: 1/2 (+), 3/6 (-)	
Max Power Per Port	30W; IEEE802.3af/at	
Total PWR / Input Voltage	120W (48VDC)	240W (48VDC)
Power Consumption	Standby:<10W; Full load:<120W	Standby:<12W; Full load:<240W
Working Voltage	48-57VDC; 6 Pin industrial Phoenix terminal, support anti-reverse	

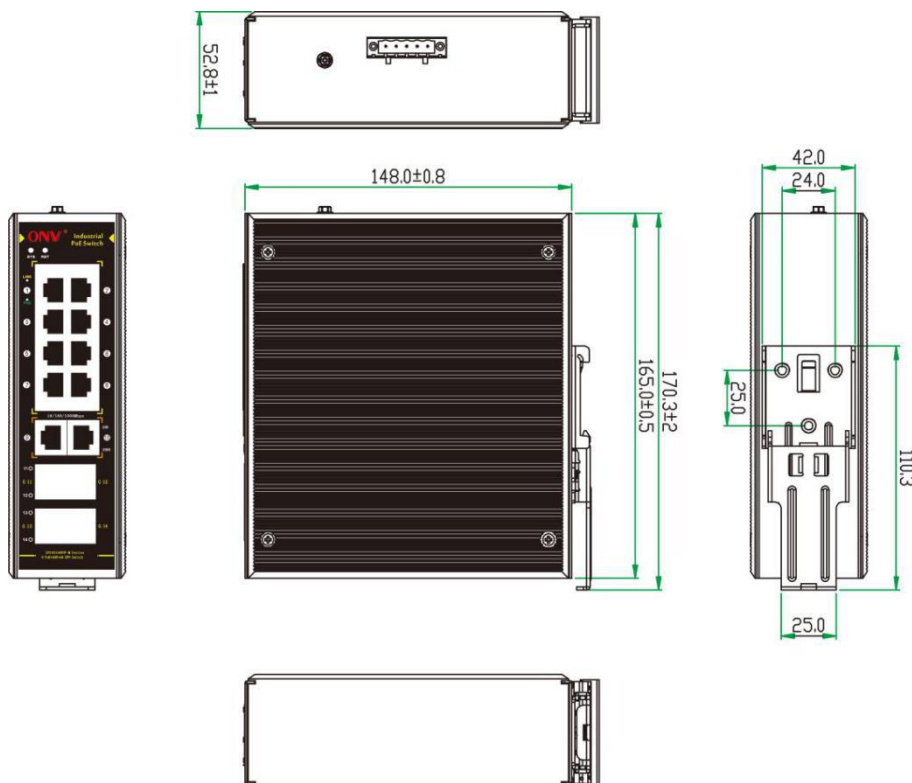
	protection.
Power Supply	No, optional 48V/120W or 48V/240W industrial power supply
LED Indicator	Power/System: SYS (green); Network: Link (yellow); SFP: L/F (green); PoE: PoE (green); Speed:100/1000 (green)
Physical Parameter	
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP (≤100 meter) 100BASE-TX: Cat5 or later UTP (≤100 meter) 1000BASE-T: Cat5e or later UTP (≤100 meter)
Optical Cable	Multi-mode: 850nm 0 ~ 550M, single mode: 1310nm 0 ~ 40KM, 1550nm 0 ~ 120KM.
Reset Switch	Yes, One-button factory reset
Operation TEMP / Humidity	-40~+80°C;5%~95% RH Non condensing
Storage TEMP / Humidity	-40~+85°C;5%~95% RH Non condensing
Dimension (L*W*H)	165*148*54mm
Net /Gross Weight	<1.1kg / <1.5kg
Installation	Desktop, DIN rail
Certification & Warranty	
Lightning protection / protection level	Lightning protection: 6KV 8/20us; Protection level: IP40 IEC61000-4-2(ESD): ±8kV contact discharge, ±15kV air discharge IEC61000-4-3(RS):10V/m(80~1000MHz) IEC61000-4-4(EFT): power cable: ±4kV; data cable:±2kV IEC61000-4-5(Surge): power cable:CM±4kV/DM±2kV; data cable: ±4kV IEC61000-4-6(radio frequency transmission):10V(150kHz~80MHz) IEC61000-4-8(power frequency magnetic field):100A/m;1000A/m ,1s to 3s

	<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 A</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 EN60950; FCC Part 15 Class B; RoHS;
Warranty	5 years, lifelong maintenance.
Network Management Features	
Interface	<p>IEEE802.3X (Full-duplex)</p> <p>Port temperature protection setting</p> <p>Port green Ethernet Energy-saving setting</p> <p>Broadcast storm control based on port speed</p> <p>The speed limit of the message flow in the access port.</p> <p>The minimum particle size is 64Kbps.</p>
Layer 3 Features	<p>L2+ network management, IPV4/IPV6 management</p> <p>L3 soft routing forwarding,</p> <p>Static route, Default route @ 128 pcs, APR @ 1024 pcs</p>
VLAN	<p>4K VLAN based on port, IEEE802.1q</p> <p>VLAN based on the protocol</p> <p>VLAN based on MAC</p> <p>Voice VLAN, QinQ configuration</p> <p>Port configuration of Access, Trunk, Hybrid</p>
Port Aggregation	<p>IEEE 802.3ad, LACP, Static aggregation</p> <p>Max 7 aggregation groups and 8 ports per group.</p>

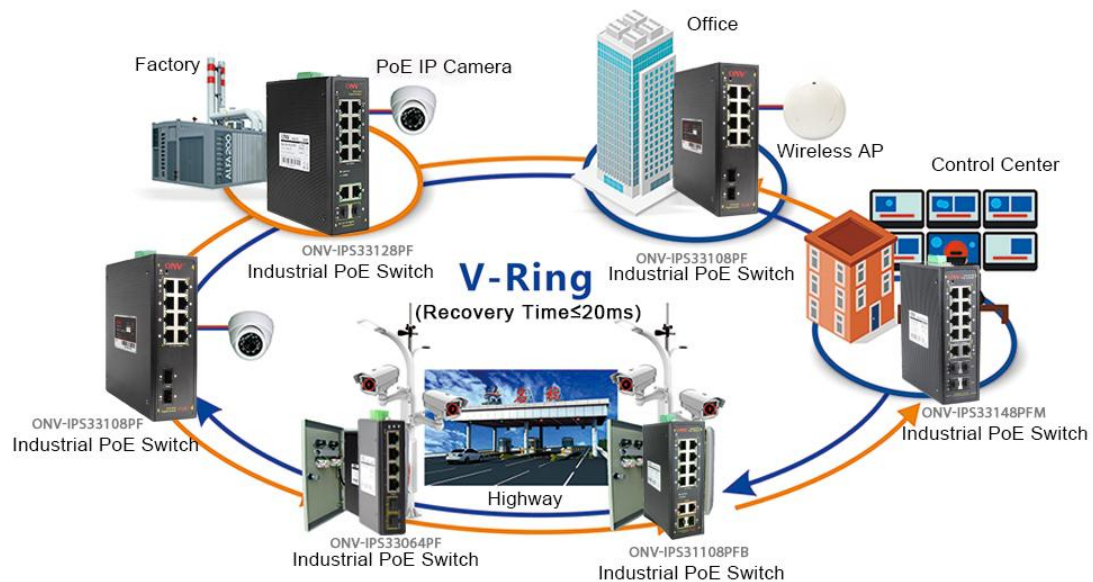
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Industrial Ring	G.8032 (ERPS), Recovery time less than 20ms
Network Protocol	250 Ring at most, Max 1024 devices per ring.
Multicast	MLD Snooping v1/v2, Multicast VLAN IGMP Snooping v1/v2, Max 1024 multicast groups, Fast log out
Port 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 ToS, 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	One-key recovery Cable Diagnose, LLDP Web Management (HTTPS)

	<p>NTP, System work log, ICMP, Ping Test</p> <p>CPU instant utilization status view</p> <p>Console/AUX Modem/Telnet/SSH2.0 CLI</p> <p>Download & Management on FTP, TFTP, Xmodem, SFTP, SNMP</p> <p>V1/V2C/V3</p> <p>ONV NMS - smart network management system platform (LLDP+SNMP)</p>
<p>System</p>	<p>Category 5 Ethernet network cable</p> <p>Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 or later;</p> <p>TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in a network</p>

DIMENSION



APPLICATION



ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS33148PFM	L2+ managed industrial PoE fiber switch with 10*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP slot ports, Port 1-8 can support	120W
ONV-IPS33148PFM-at	IEEE802.3af/at PoE. Support DC dual power supply input and DIN rail mounting.	240W

Note: Industrial PoE switch does not match the SFP optical module and power supply.

PACKING LIST

	CONTENT	QTY	UNIT
PACKING LIST	14-port full gigabit managed industrial PoE switch	1	SET
	RJ45-DB9 Line	1	PC
	User Guide	1	PC
	Warranty Card	1	PC

OPTICAL MODULE INFORMATION

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

		20km, LC interface, support DDM function, support hot plug and pull.	
	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
	ONV-2612-T-S C	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
	ONV-2613-R-S C	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
Power Module	ONV-2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	PC

POWER SUPPLY SELECTION TABLE

Product	Model	Description	Unit
120W DIN Rail Industrial Power Supply	GWS-DP120-4 8	Din Rail type 120W single set of output power supply; Input Voltage:AC 100V~240V 50-60Hz,1.5A Output Voltage:DC 48V 2.5A Operation Temperature:-40℃—+70℃	PC
240W DIN Rail Industrial Power Supply	GWS-DP240-4 8	Din Rail type 240W single set of output power supply Input Voltage:AC 100V~240V 50-60Hz,3A Output Voltage:DC 48V 5A Operation Temperature:-40℃—+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 slot ports. Port 1-4 can support IEEE802.3af/at PoE. Support DC dual power supply input and DIN rail mounting.
ONV-IPS33084PFM	L2+ managed industrial PoE fiber switch with 4*10/100/1000M RJ45 ports and 4*100/1000M SFP slot ports. Port 1-4 can support IEEE802.3af/at PoE. Support DC dual power supply input and DIN rail mounting.
ONV-IPS33108PFM	L2+ managed industrial PoE fiber switch with 8*10/100/1000M RJ45 ports and 2*100/1000M SFP slot ports. Port 1-8 can support IEEE802.3af/at PoE. Support DC dual power supply input and DIN rail mounting.
ONV-IPS33168PFM	L2+ managed industrial PoE fiber switch with 8*10/100/1000M RJ45 ports and 8*100/1000M SFP slot ports. Port 1-8 can support IEEE802.3af/at PoE. Support DC dual power supply input and DIN rail mounting.

CONTACT US

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