Product Datasheet

10-port Gigabit Uplink Managed Industrial PoE Data Switch

ONV-IPS31107PFM-2D

- 7*10/100M RJ45 ports and 3 *1000M uplink SFP slot ports and 1*RS485 data port and 1*RS232 data port, port 1-7 can support PoE.

- Support RSTP/STP and MSTP for Ethernet ring network redundancy.

- Support gateways and proxy servers can transfer data over the Internet, and can immediately connect to a TCP/IP network.

- Support dynamic IP (DHCP), static IP, web management, and maintenance.

- Provide data bidirectional transparent transmission, can realize serial port to TCP/IP, the users do not need to make any modifications to the original system.

- Internal integration of ARP, IP/TCP, HTTP, ICMP, SOCKET, UDP, DNS, and other protocols.

OVERVIEW

The ONV-IPS31107PFM-2D series is a L2 gigabit uplink managed industrial PoE data switch independently developed by ONV. It has 7*10/100Base-TX RJ45 ports and 3*1000Base-X uplink

SFP slot ports. Port 1-7 can support IEEE 802.3af/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 recognize the power receiving equipment that meets the standard and supply power through the network cable. It can supply power to PoE terminal device such as wireless AP, web camera, VoIP phone, industrial sensor through the network cable, and meet the network environment that needs high-density PoE power supply. It is suitable for intelligent transportation, rail transit, power industry, mining, petroleum, sea transportation. Industrial scenes such as metallurgy and green energy construction form a cost-effective, stable and reliable communication network.

ONV-IPS31107PFM-2D has L2 network management function and provides serial to network function. It can convert RS232/485 serial port into TCP/IP network interface, it can realize data bidirectional transparent of RS232/485 serial port and TCP/IP network interface. transmission. The serial device can immediately have the TCP/IP network interface function, connect the network for data communication, and greatly expand the communication distance of the serial device.

FEATURE

■ 10/100M Ethernet port access, Gigabit SFP uplink

◇ Gigabit uplink SFP fiber port, easy to achieve high switching capacity and high rate transmission.
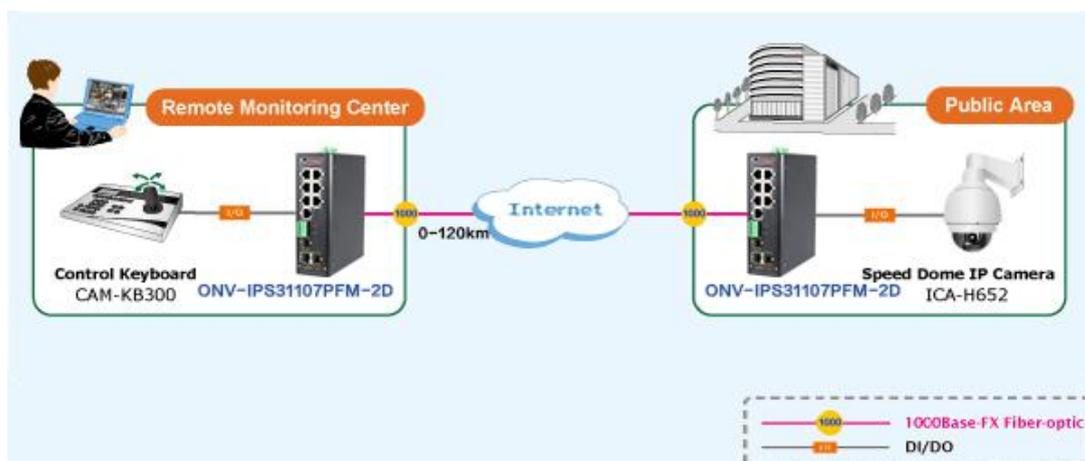
■ **Provide data bidirectional transparent transmission, can realize serial port to TCP/IP, the users do not need to make any modifications to the original system.**

◇ Support 1 channel RS485 serial port data to TCP/IP transparent transmission;

◇ Support 1 channel RS232 serial port data to TCP/IP transparent transmission;
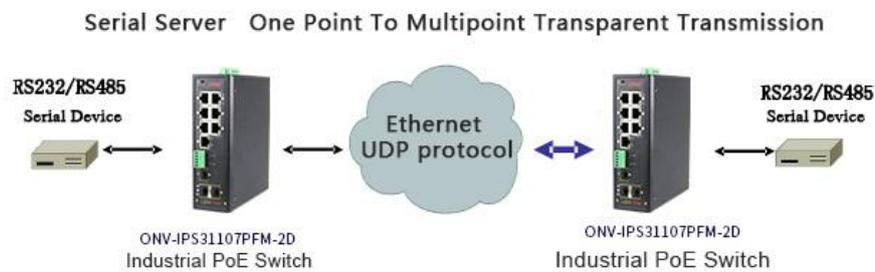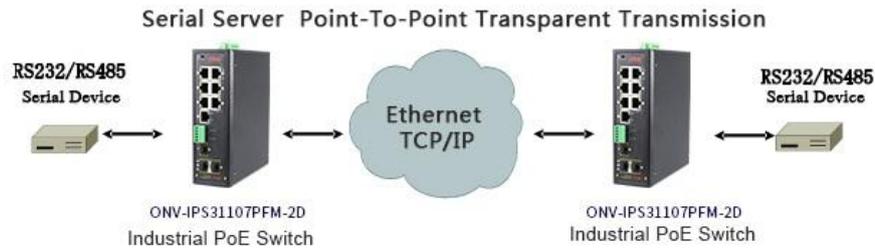
■ **Powerful port lightning protection, ultra-wide voltage input**

◇ 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.

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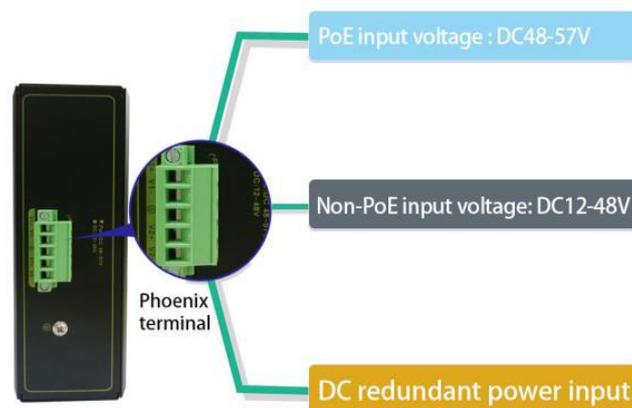
■ Intelligent PoE power supply function

◇ 7*10/100Base-TX RJ45 ports can support POE power supply to meet 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.

■ Strong business processing capability

◇ IGMP V1/V2 and IGMP Snooping.

◇ STP/RSTP/MSTP.

◇ Static and dynamic aggregation.

◇ IEEE802.1Q VLAN, flexible VLAN division, Voice VLAN, and QinQ configuration.

◇ Support IEEE 802.1Q VLAN, users can flexibly divide VLANs according to requirements and support port-based VLANs.

◇ 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.
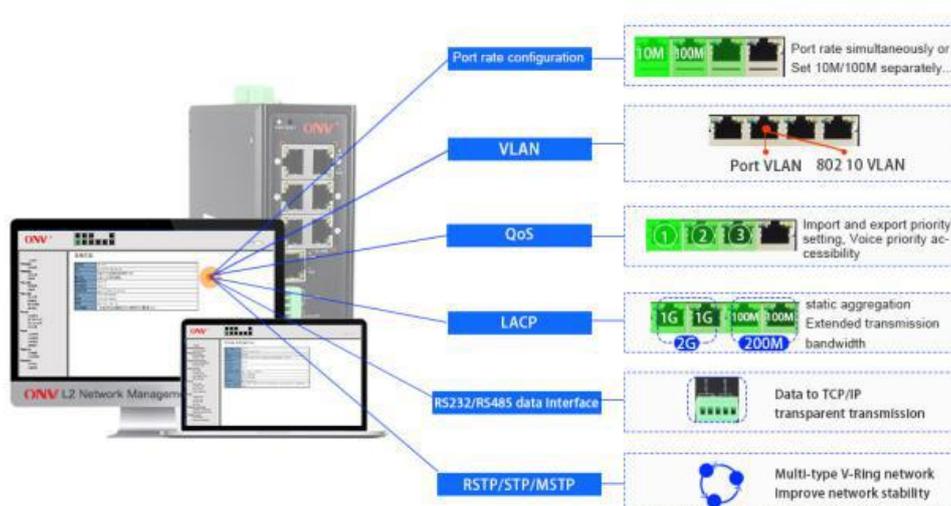
■ Stable and reliable

◇ Low power consumption, fanless mute design, aluminum alloy metal shell.

◇ Self-developed power supply, high redundancy design, providing a long term and stable PoE power output.

◇ CCC,CE, FCC, RoHS.

◇ The user-friendly panel, it can show the device status through the LED indicator of PWR, Link,L/A,PoE.
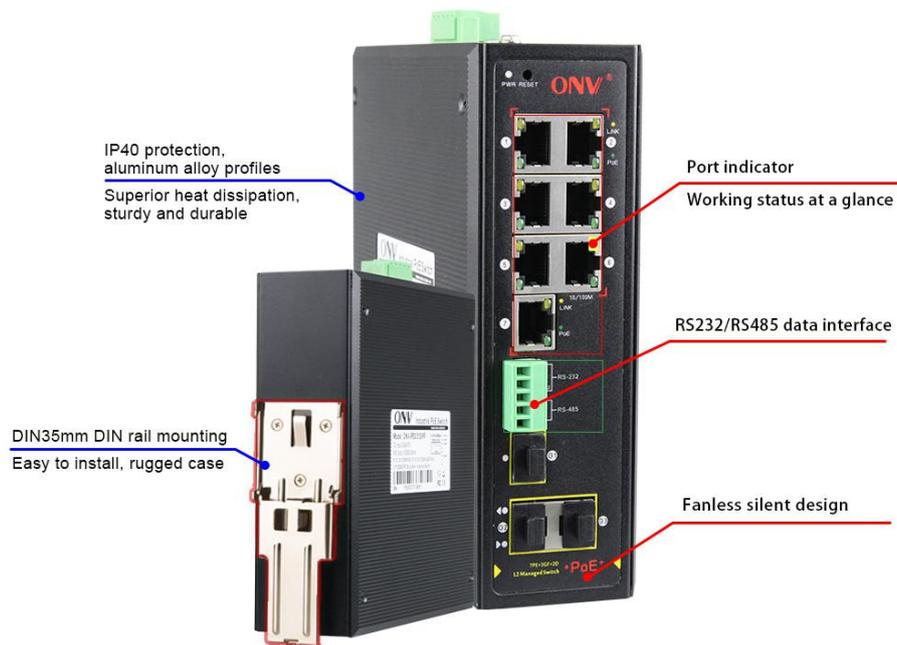
■ Easy operation and maintenance management

◇ Support web management and maintenance.

TECHNICAL SPECIFICATION

Model	ONV-IPS31107PFM-2D	ONV-IPS31107PFM-2D-at
Interface Characteristics		
Fixed Port	7*10/100Base-TX PoE ports (Data/Power) 3 *1000Base-X uplink SFP slot ports (Data) 1*RS485 data port (115200,N,8,1) 1*RS232 data port 2 sets of V+, V- redundant DC power interface (5P phoenix terminal)	
Ethernet Port	Port 1-7 support 10/100Base-TX,auto-sensing,Full/half duplex MDI/MDI-X self-adaption	
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 Fiber Port	Gigabit SFP optical fiber interface, default matching optical modules (optional order single-mode / multi-mode, single fiber / dual fiber optical module. LC)	
Optical Cable/ Distance	Multi mode: 850nm / 0 ~ 500M, (1.25G) 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	64Gbps (Non-blocking)	
Forwarding Rate@64byte	5.51Mpps	

| MAC	8K
Buffer Memory	1M
Jumbo Frame	1632bytes
LED Indicator	Power /System: SYS (green), Network: Link (yellow), PoE: PoE (green), SFP port: L/A (green)
Reset Switch	Yes, One-button factory reset
PoE & Power	
PoE Port	Port 1 to 7
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, 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~+80°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	<1.0kg / <1.3kg
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
	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
	IEC61000-4-16(common-mode transmission):30V; 300V,1s
	FCC Part 15/CISPR22(EN55022):Class A
	IEC61000-6-2(Common Industrial Standard)
Mechanical Properties	IEC60068-2-6 (anti vibration)
	IEC60068-2-27 (anti shock)
	IEC60068-2-32 (free fall)
Certification	CCC;CE mark, commercial; CE/LVD EN60950;FCC Part 15 Class B; RoHS
Warranty	5 years, lifelong maintenance.
Network Management Features	
Interface	IEEE802.3X (Full-duplex)
	Broadcast storm control based on port speed
	The speed limit of the message flow in the access port.
	The minimum particle size is 64Kbps.
Serial Port	Serial port number selection and configuration
	Serial port basic parameter setting (baud rate, data bit, parity, stop bit, minimum forwarding frame, maximum forwarding delay)
	Default (115200, 8, N, 1)
	Serial session setting (connection ID, working mode TCP Server/Client, local port number, remote port information configuration)
VLAN	VLAN based on port, VLAN based on IEEE802.1q,VLAN QinQ

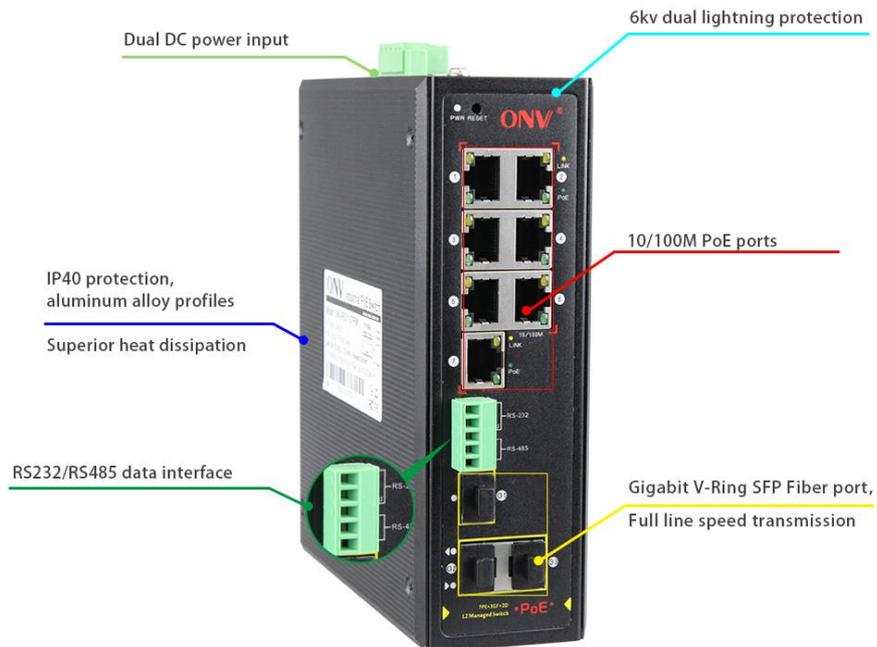|	
Port Aggregation	LACP, Static aggregation Max 4 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Multicast	Supports MAC port-based static multicast groups
Image	Bi-directional traffic mirroring supporting the basic port
QoS	Flow-based Rate Limiting Flow-based Packet Filtering 8*Output queues of each port 802.1p/DSCP priority mapping Diff-Serv QoS,Priority Mark/Remark Queue Scheduling Algorithm (SP, WRR, SP+WRR)
DHCP	DHCP Client, DHCP Server
Management	Login Record One-key recovery Web Management (HTTPS) TFTP file upload management
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
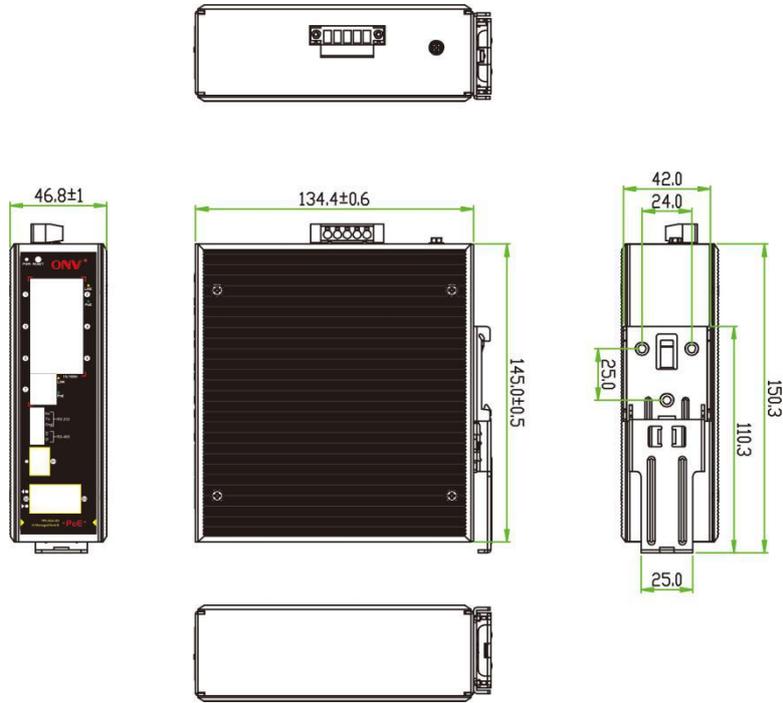
APPLICATION
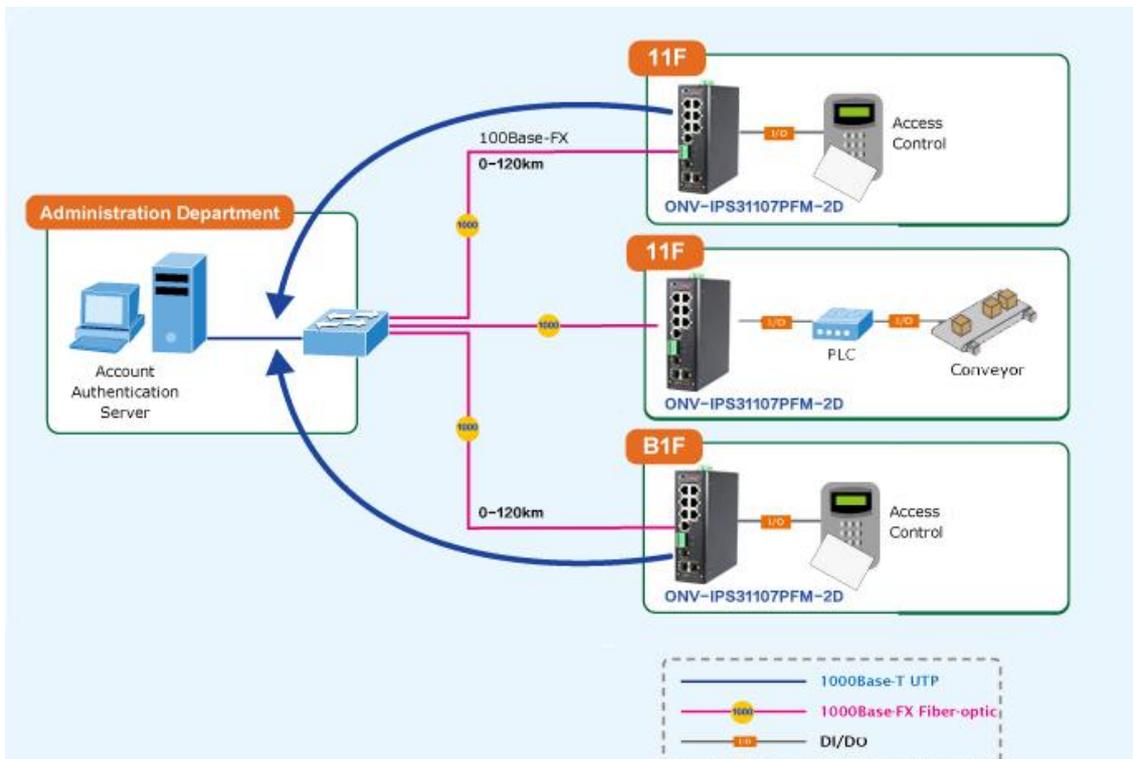
Web network management interface

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switch
▼**System Information**
　　System Information
▼**Network Settings**
　　Parameter Setting
　　Parameter Table
▼**Serial Port Parameters**
　　Parameter Configuration
　　Parameter Table
▼**Basic Function**
　　Port settings
　　Link Aggregation
　　Static Multicast Table
　　Traffic Overview
▼**VLAN**
　　VLAN Startup
　　Port Based VLAN
　　802_1Q VLAN
　　Ports Configuration
▼**QOS**
　　Qos Map Table
　　Cos Map Table
　　Tos Map Table
　　Rate Limit
▼**Network Redundancy**
　　Redundancy Configuration
　　Redundant parameter table
▼**System Security**
　　User Password
　　Equipment Management

System Information

Host Name	switch
MAC	0a:0b:0c:0d:0e:0f
Company	ONVCOM
Module	Network monitoring integrated management system
Hardware Version	Ver2.0
Software Version	Ver1.2
Creation Time	Sep 3 2018 11:42:43
Tel	0755-33376606
Fax	0755-33376608
Website	www.onv.com.cn
Company Address	Room 1003, Block D, Terra Building, Futian district, Shenzhen, China

Product feature overview

Dual DC power input

6kv dual lightning protection

IP40 protection, aluminum alloy profiles

Superior heat dissipation

10/100M PoE ports

RS232/RS485 data interface

Gigabit V-Ring SFP Fiber port, Full line speed transmission

ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS31107PFM-2D	L2 managed industrial PoE data switch with 7*10/100M PoE ports and 3*1000M SFP slot ports, Port 1-7 can support IEEE802.3af/at PoE standard. Support DC dual power supply (Phoenix terminal connection) .support DIN rail mounting.	120W
ONV-IPS31107PFM-2D--at		240W
Note: Industrial PoE data switch do not match SFP optical module power supply by default.		

PACKING LIST

PACKING LIST	CONTENT	QTY	UNIT
	10-port gigabit uplink managed industrial PoE data switch	1	SET
	User Guide	1	PC
	Warranty Card	1	PC

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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: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	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-SC	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-SC	SFP optical module, 1.25G, single-mode single fiber TX1550nm/RX1310nm, transmission distance: 20km, SC	PC

		interface, support DDM function, support hot plug and pull.	
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
130W Desktop Power Adaptor	GWS-AP130-52	Desktop tape 130W single set of output power adapter; Input Voltage:AC 100V~240V 50-60Hz,2.3A Output Voltage:DC 52V 2.5A Operation Temperature:-20℃—+65℃	PC
250W Desktop Power Adaptor	GWS-AP250-52	Desktop tape 250W single set of output power adapter; Input Voltage:AC 100V~240V 50-60Hz,4.1A Output Voltage:DC 52V 4.8A Operation Temperature:-20℃—+65℃	PC
120W DIN Rail Industrial Power Supply	GWS-DP120-48	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-DP240-48	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-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 standard. Total power less than 60W. Support DC dual power supply (Phoenix terminal connection) .support DIN rail mounting.
ONV-IPS33108PFM	L2 managed industrial PoE fiber switch with 8*10/100/1000M RJ45 ports and 2*100/1000M SFP fiber slot ports, Port 1-8 can supports IEEE 802.3af/at POE standard. Total power less than 120W. Support DC dual power supply (Phoenix terminal connection).One-way alarm switch output. support DIN rail mounting.
ONV-IPS33168PFM	L2+ managed industrial PoE fiber switch with 8*10/100/1000M RJ45 ports and 8*100/1000M SFP fiber slot ports, Port 1-8 can supports IEEE 802.3af/at POE standard. Total power less than 120W. Support DC dual power supply (Phoenix terminal connection).support DIN rail mounting.
ONV-IPS33168PFM-4GF	L2+ managed industrial PoE fiber switch with 12*10/100/1000M RJ45 ports and 4*100/1000M SFP fiber slot ports, Port 1-8 can supports IEEE 802.3af/at POE standard. Total power less than 120W. Support DC dual power supply (Phoenix terminal connection).One-way alarm switch output. support DIN rail mounting.
ONV-IPS33248PFM-4GF	L2+ managed industrial PoE fiber switch with 20*10/100/1000M RJ45 ports and 4*100/1000M SFP fiber slot ports, Port 1-8 can supports IEEE 802.3af/at POE standard. Total power less than 120W. Support DC dual power supply (Phoenix terminal connection).One-way alarm switch output. support DIN rail mounting.

CONTACT US

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