Product Datasheet

16-Port Full Gigabit Managed Industrial PoE Switch

(ONV-IPS33168PFM-4GF)

OVERVIEW

ONV-IPS33168PFM-4GF is a full gigabit managed industrial PoE switch independently developed by ONV. it has 12*10/100/1000M RJ45 ports and 4*100/1000M SFP fiber slot ports, port 1-8 can supports 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 mining, metallurgy and green energy construction and so on. A reliable communication network.

The ONV-IPS33168PFM-4GF has the 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.
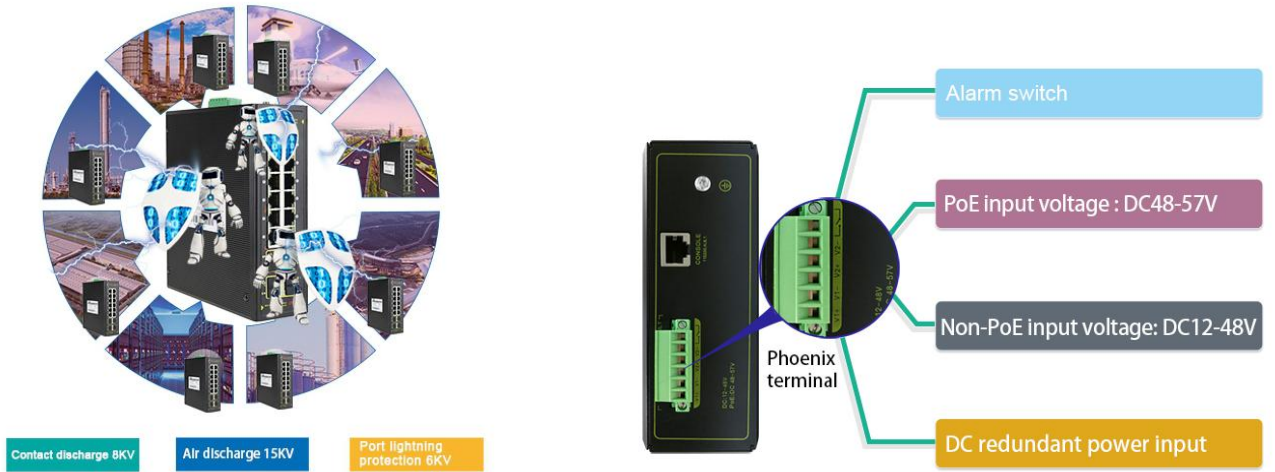
FEATURE

■ **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.

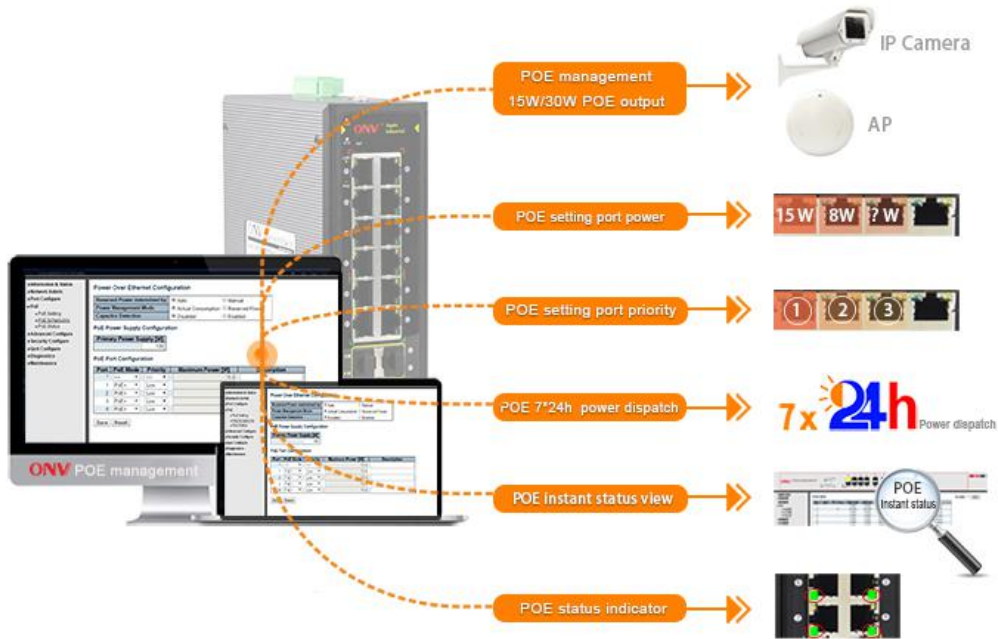
■ **Powerful port lightning protection, ultra-wide voltage input**

◇ Contact discharge 8KV, air discharge 15KV; port lightning protection common-mode 4KV, differential mode 2KV;
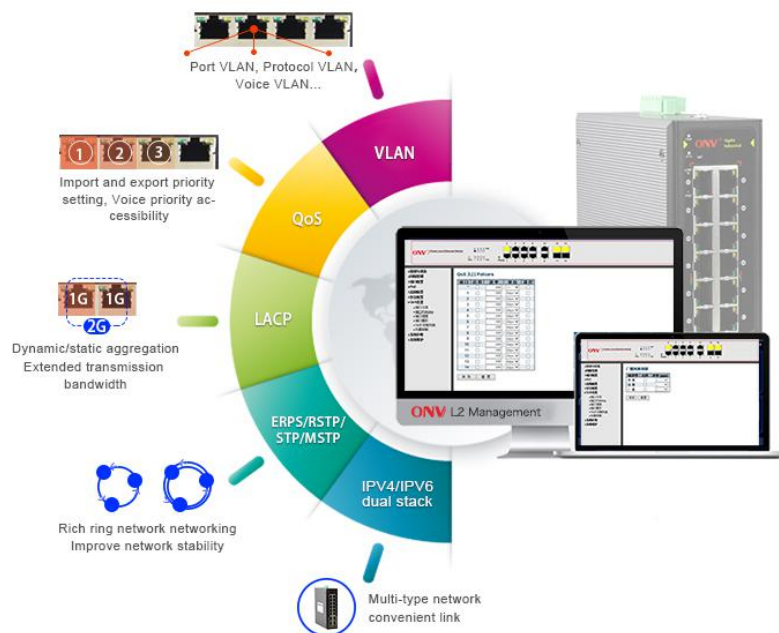
◇ Industrial dual power input, DC INPUT: 48V-57V.

Contact discharge 8KV | Air discharge 15KV | Port lightning protection 6KV

Alarm switch

PoE input voltage : DC48-57V

Non-PoE input voltage: DC12-48V

Phoenix terminal

DC redundant power input

■ **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.

IP Camera

AP

POE management 15W/30W POE output

POE setting port power

POE setting port priority

POE 7*24h power dispatch

POE instant status view

POE status indicator

■ **PoE network management and fast Ring function**

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◇ 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.
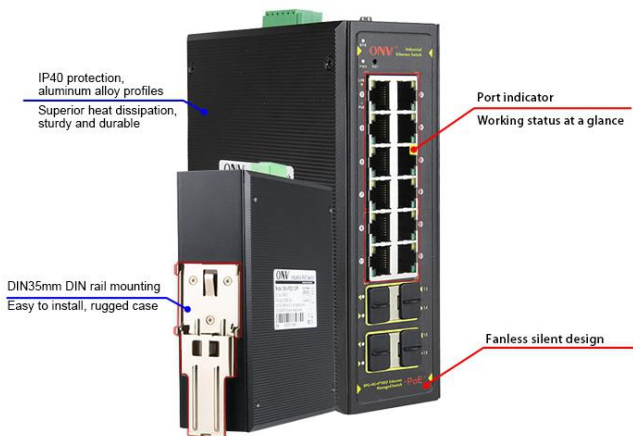
◇ ERPS/STP/RSTP/MSTP.

◇ Static and dynamic aggregation.

■   **Security**

◇ 802.1X authentication.

◇ Port isolation,Storm control.

◇ IP-MAC-VLAN-Port binding.

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■ **Stable and reliable**

◇ Low power consumption, fan-less design, aluminum shell.

◇ CCC, CE, FCC, RoHS.

◇ The user-friendly panel, it can show the device status through the LED indicator of PWR,SYS, Link, L/A, 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-IPS33168PFM-4GF	ONV-IPS33168PFM-4GF-at
Interface Characteristics		
Fixed Port	8*10/100/1000Base-T PoE ports (Data/Power) 4*10/100/1000Base-T 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)	
Ethernet Port	Port 1-12 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 meter) 100BASE-TX: Cat5 or later UTP(≤100 meter) 1000BASE-T: Cat5e or later UTP(≤100 meter)	
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)	
SFP Port Expansion	Turbo overclocking 2.5G optical module and ring	
Optical Cable	Multi mode: 850nm 0 ~ 550M, 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	256Gbps	

Forwarding Rate@64byte	23.81Mpps	
MAC	8K	
Buffer Memory	6M	
Jumbo Frame	9.6K	
LED Indicator	Power/ System : SYS (green) , Network: Link (yellow), fiber port: L/A (green),PoE: PoE (green), Speed:100/1000M(green)	
Reset Switch	Yes, One-button factory reset	
PoE & Power		
PoE Port	Port 1 to port 8	
PoE Management	PoE working status Delay start of power supply PoE output priority configuration Scheduling of PoE operation and time Total power limit of PoE power supply PoE output power allocation, off& af &at	
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	
Physical Parameter		
Operation TEMP / Humidity	-40~+80°C;5%~90% RH Non condensing	
Storage TEMP /	-40~+85°C;5%~95% RH Non condensing	

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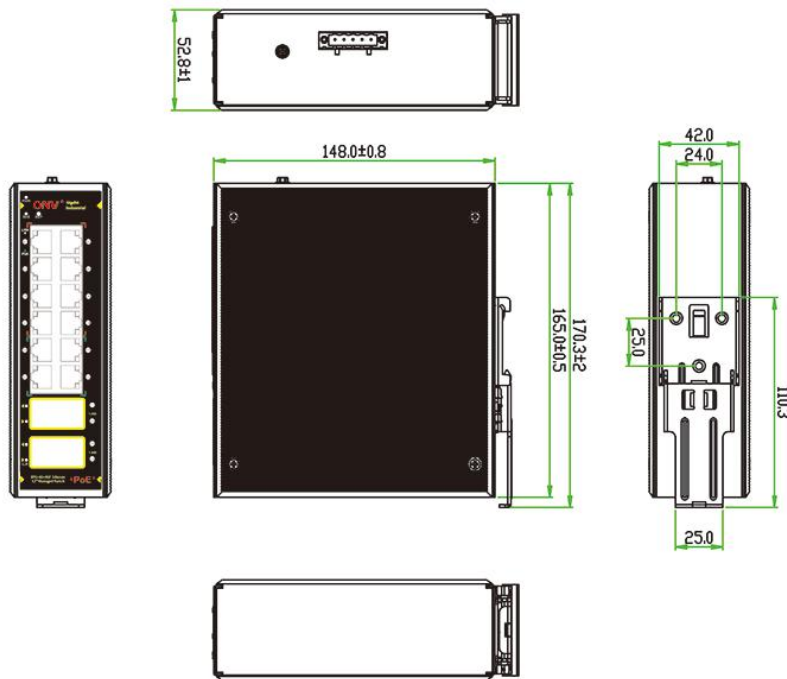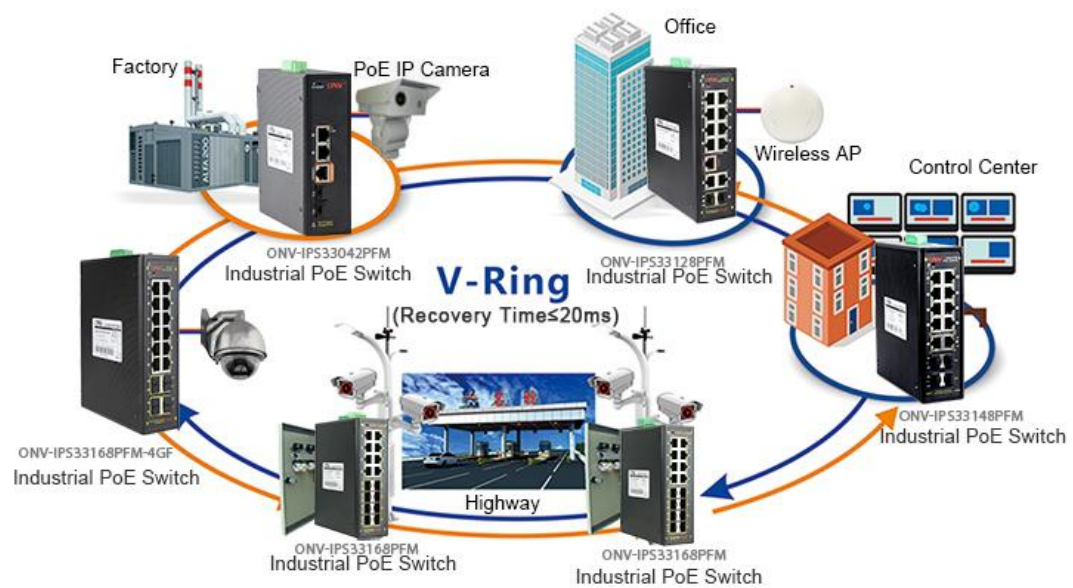| Humidity	
Dimension (L*W*H)	165*148*54mm
Net /Gross Weight	<1.2kg / <1.5kg
Installation	Desktop, DIN rail
Certification & Warranty	
Lightning protection / protection level	Lightning protection: 6KV 8/20us; Protection level: IP40 IEC61000-4-2(ESD):±8kV contact discharge,±15kV air discharge IEC61000-4-3(RS):10V/m(80~1000MHz) 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 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) Port temperature protection setting Port green Ethernet Energy-saving setting

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9	Broadcast storm control based on port speed
	The speed limit of the message flow in the access port.
	The minimum particle size is 64Kbps.
Layer 3 Features	L2+ network management ,IPV4/IPV6 management
	L3 soft routing forwarding,
	Static route, Default route @ 128 pcs, APR @ 1024 pcs
VLAN	4K VLAN based on port, IEEE802.1q
	VLAN based on the protocol
	VLAN based on MAC
	Voice VLAN, QinQ configuration
	Port configuration of Access, Trunk, Hybrid
Port Aggregation	LACP, Static aggregation
	Max 8 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d),RSTP (IEEE802.1w),MSTP (IEEE802.1s)
Industrial Ring Network Protocol	G.8032 (ERPS),Recovery time less than 20ms
	250 Ring at most, Max 250 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
	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
	RFC 1492: TACACS+
	Cable Diagnose,LLDP
	Web Management (HTTPS)
	NTP,System work log,Ping Test
	CPU instant utilization status view
	Console/AUX Modem/Telnet/SSH2.0 CLI
	Download & Management on FTP, TFTP, Xmodem, SFTP,SNMP V1/V2C/V3
	ONV NMS - smart network management system platform(LLDP+SNMP)
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

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DIMENSION

APPLICATION

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ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS33168PFM-4GF	L2+ managed industrial PoE fiber switch with 12*10/100/1000M RJ45 ports and 4*100/1000M SFP slot ports, Port 1-8 can support IEEE802.3af/at PoE. Support DC dual power supply input and DIN rail mounting.	120W
ONV-IPS33168PFM-4GF-at		240W
Note: Industrial PoE switch does not match the SFP optical module and power supply.		

PACKING LIST

	CONTENT	QTY	UNIT
PACKING LIST	16-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

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	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 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
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-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-IPS33148PFM	L2+ managed industrial PoE fiber switch with 10*10/100/1000M RJ45 ports and 4*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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