Product Datasheet

28-Port Full Gigabit Managed Industrial PoE Switch

(ONV-IPS33228PFM)

OVERVIEW

The ONV-IPS33228PFM is a full gigabit L2+ managed industrial PoE fiber switch independently developed by ONV. it has 16*10/100/1000Base-T RJ45 ports and 8*100/1000Base-X SFP fiber slot ports and 4*100/1000Base-X SFP fiber slot ports (combo port). Port 1-16 can support IEEE802.3af/at standard POE, single port POE power up to 30W, and the maximum POE output power of the whole machine is 250W. 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 equipment such as wireless AP, web camera, VoIP phone, industrial sensor, visual intelligent building intercom through the network cable, and meet the network environment that needs high-density PoE power supply. It is suitable for industrial scenarios such as intelligent transportation, rail transit, power industry, mining, petroleum, shipping, metallurgy, and green energy construction to form a cost-effective, stable, and reliable network.

The ONV-IPS33228PFM has L2+ network management function, support IPV4/IPV6 management, static route full line-rate forwarding, security protection mechanism, ACL/QoS policy and rich VLAN functions, 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 the 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 port traffic control, VLAN division, and SNMP through the Web network management mode.

FEATURE

■ **Gigabit line speed access, SFP port uplink**

◇ All series supports Ethernet port and SFP port uplink 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.

■ **Intelligent PoE power supply**

◇ IEEE 802.3af/at PoE standard, without damaging non-PoE devices.

◇ 16*10/100/1000Base-T RJ45 ports, meeting the needs of security monitoring, teleconferencing system, wireless coverage, and other scenarios.

◇ PoE network management, realize PoE port power allocation, priority setting, port power status viewing, time scheduling, etc.

◇ 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**

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◇ ERPS/STP/RSTP/MSTP.

◇ Static and dynamic aggregation.

◇ IGMP V1/V2 and IGMP Snooping.

◇ IEEE802.1Q VLAN, flexible VLAN division,Voice VLAN 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

■ Security

◇ 802.1X authentication.

◇ Port isolation,Storm control.

◇ IP-MAC-VLAN-Port binding.

■ Stable and reliable

◇ CCC,CE, FCC, RoHS.

◇ Low power consumption, fan active cooling , galvanized steel casing.

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

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

■ Easy operation and maintenance management

◇ HTTPS, SSLV3, and SSHV1/V2.

◇ RMON, system log, LLDP, and port traffic statistics.

◇ CPU monitoring, memory monitoring, Ping test, and cable diagnose.

◇ Web management, CLI command line (Console, Telnet), SNMP (V1/V2/V3).

TECHNICAL SPECIFICATION

Model	ONV-IPS33228PFM	ONV-IPS33228PFM-at
Interface Characteristics		
Fixed Port	1*Console port(115200,N,8,1) Power-off alarm switch (FAULT) 1*AC100-240V power input port 8*100/1000Base-X uplink SFP slot ports (Data) 16*10/100/1000Base-T PoE ports (Data/Power) 4*100/1000Base-X uplink SFP ports (Data)(Combo port) 2*DC12-48V power input ports (support anti-reverse protection)	
Ethernet Port	Port 1-16 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)	
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, 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	256Gbps	

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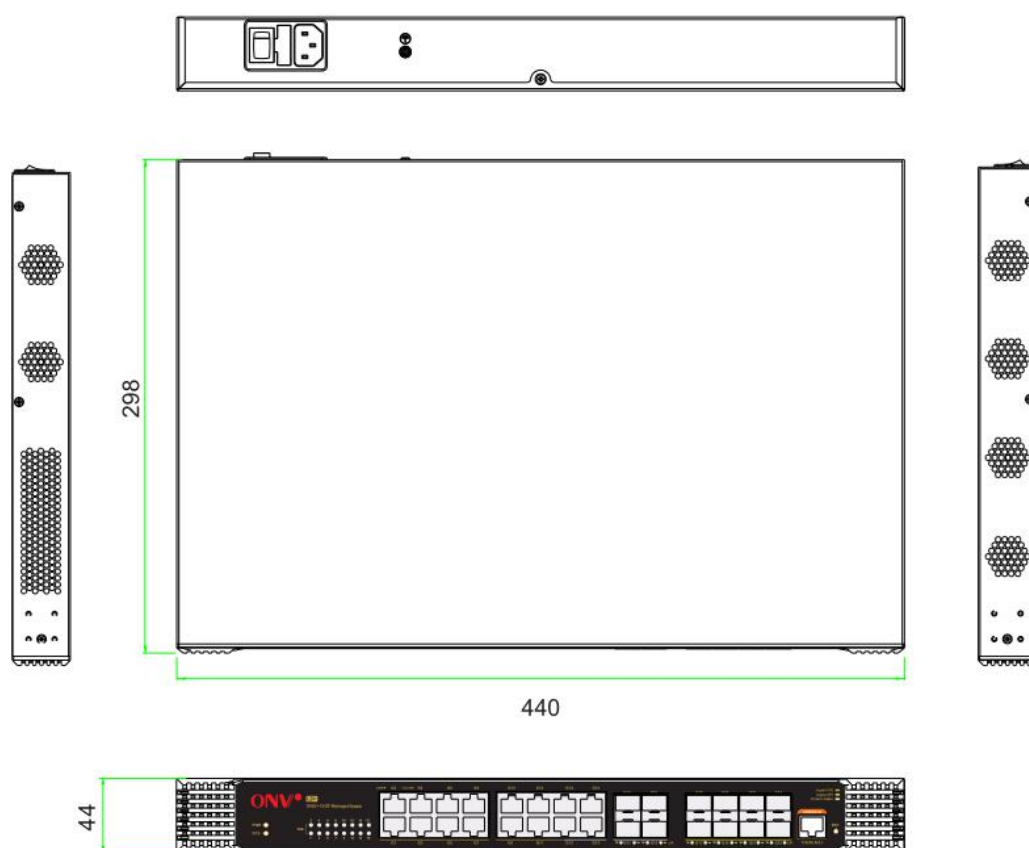| Forwarding Rate@64byte	35.71Mpps	
MAC	8K	
Buffer Memory	8M	
Jumbo Frame	9.6K	
LED Indicator	Power: PWR (yellow), System: SYS (yellow), Network: Link/Act (yellow), Fiber Port : L/A (green), PoE: PoE (green)	
Reset Switch	Yes. Press and hold for 10 seconds and release to restore factory settings	
PoE & Power Supply		
PoE Port	Port 1 to 16	
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	250W (AC100-240V)	400W (AC100-240V)
Power Consumption	Standby<30W, Full load<250W	Standby<35W, Full load<400W
Power Input Interface	Power-off alarm switch Dual power input port design AC power supply priority support anti-reverse protection 1* AC100-240V power input port 2*DC12-48V power input ports Power-off automatic switching DC connection	

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Power Supply	Built-in power supply, AC100~240V 50-60Hz 4.1A	Built-in power supply, AC100~240V 50-60Hz 5.0A
Physical Parameter		
Heat Dissipation	Low noise,fan active cooling	
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)	400*300*44.5mm	
Net /Gross Weight	<4.5kg / <5.2kg	<4.5kg / <5.5kg
Installation	Desktop, 19 inch 1U cabinet installation	
Certification & Warranty		
Lightning protection / protection level	Port Lightning protection: 6KV 8/20us; Protection level: IP30 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

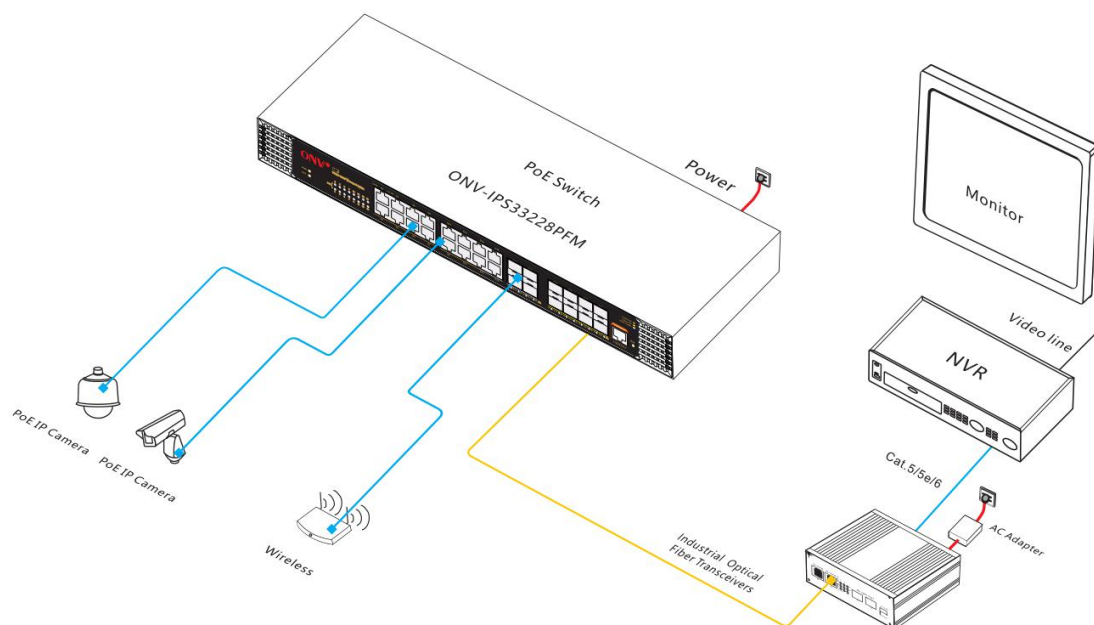| Interface	IEEE802.3X (Full-duplex) Port temperature protection setting Port green Ethernet Energy-saving setting Broadcast storm control based on port speed The speed limit of the message flow in the access port. The minimum particle size is 64Kbps.
Layer 3 Features	L2+ network management ,IPV4/IPV6 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 12 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 255 Ring at most, Max 254 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
	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 |

DIMENSION

APPLICATION

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ORDERING INFORMATION

Model	Description	Power Supply
ONV-IPS33228PFM	L2+ managed industrial PoE fiber switch with 16* 10/100/1000M RJ45 ports and 8*100/1000M uplink SFP ports and 4*100/1000M uplink SFP ports (combo ports). Port 1-16 can support IEEE 802.3af/at PoE standard.it supports DC and AC redundant power input and 1U/19 inch cabinet installation.	240W
ONV-IPS33228PFM-at		400W
Note: SFP optical module needs to be purchased separately. Please refer to the optical module information		

PACKING LIST

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	CONTENT	QTY	UNIT
PACKING LIST	28-port full gigabit managed industrial PoE fiber switch	1	SET
	AC Power Cable	1	PC
	RJ45-DB9 Line	1	PC
	Mounting Kits	1	SET
	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
	ONV-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	PC

12		pull.	
	ONV-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

RELATED PRODUCT

Model	Description
ONV-IPS33026PFM	L2+ managed industrial PoE fiber switch with 24* 10/100/1000M RJ45 ports and 4*100/1000M uplink SFP ports (combo ports). Port 1-24 can support IEEE 802.3af/at PoE standard.it supports DC and AC redundant power input and 1U/19 inch cabinet installation.
ONV-IPS36028PFM	L2+ managed industrial PoE fiber switch with 24* 10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ ports. Port 1-24 can support IEEE 802.3af/at PoE standard.it supports DC and AC redundant power input and 1U/19 inch cabinet installation.
ONV-IPS36048PFM	L2+ managed industrial PoE fiber switch with 48* 10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ ports. Port 1-48 can support IEEE 802.3af/at PoE standard.it supports DC and AC redundant

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	power input and 1U/19 inch cabinet installation.
ONV-IPS36368PFM	L2+ managed industrial PoE fiber switch with 8* 10/100/1000M RJ45 ports and 24*100/1000M uplink SFP ports and 4*1/10G uplink SFP+ ports. Port 1-8 can support IEEE 802.3af/at PoE standard.it supports DC and AC redundant power input and 1U/19 inch cabinet installation.
ONV-IPS36448PFM	L2+ managed industrial PoE fiber switch with 12* 10/100/1000M RJ45 ports and 28*100/1000M uplink SFP ports and 4*1/10G uplink SFP+ ports. Port 1-8 can support IEEE 802.3af/at PoE standard.it supports DC and AC redundant power input and 1U/19 inch cabinet installation.

CONTACT US

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