Product Datasheet

28-port Gigabit Managed Industrial PoE Switch
(ONV-IPS33028PFM)

OVERVIEW

The ONV-IPS33028PFM is a Gigabit managed industrial PoE fiber switch independently developed by ONV. It has 24*10/100/1000Base-T adaptive RJ45 ports and 4*100/1000Base-X uplink SFP fiber ports. Port 1-24 can support IEEE 802.3 af/at PoE standard and the single-port PoE power reaches 30W. 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, IP cameras, VoIP phones, and industrial sensors through a network cable, and meet the network environment that needs a high-density PoE power supply. It is suitable for intelligent transportation, rail transit, electric power, mining, metallurgy, and green energy, industrial scenes such as construction setting up a cost-effective and stable communication network.

The ONV-IPS33028PFM L2+ network management functions. It can support IPV4 management and static routing forwarding, complete security protection mechanisms, complete ACL/ QoS policies, and rich VLAN functions, making it easy to manage and maintain. Supports multiple network redundancy protocols RSTP (<50ms) to improve link

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backup and network reliability. When a one-way network fails, communication can be quickly restored to ensure uninterrupted communication of important transmissions. According to application needs, PoE power supply management, port flow control, VLAN division, QoS, and other application service configurations can be performed through network management methods such as Web, CLI, SNMP, and Telnet.

FEATURE

■ Gigabit access

◇ Support non-blocking wire-speed forwarding.

◇ Support full-duplex based on IEEE 802.3x and half-duplex based on Backpressure.

◇ Support Gigabit RJ45 port and SFP fiber port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ Smart PoE power supply

◇ Comply with IEEE 802.3 af/at PoE power supply standard, automatically identify PoE equipment for power supply.

◇ Support PoE network management function, port power status viewing, etc. through network management configuration.

◇ 24*10/100/1000Base-T 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.

◇ Ring network RSTP spanning tree protocol eliminates layer 2 loops and realizes link backup.

◇ Support IGMP Snooping V1/V2 to meet the needs of multi-terminal high-definition video surveillance and video conferencing access.

◇ Support QoS, three priority modes based on port, 802.1P-based and DSCP-based, and four queue scheduling algorithms: SP, WRR, and WFQ.

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◇ Static aggregation and dynamic aggregation effectively increase link bandwidth, achieve load balancing, and link backup, and improve link reliability.

◇ Support ACL to filter data packets by configuring matching rules, processing operations, and time permissions to provide flexible security access control strategies.

■ Security

◇ Port isolation and storm control.

◇ 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.

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

◇ Using self-developed power supply, redundant dual power supply provides long-term stable PoE power output.

◇ Low power consumption, with fan, galvanized steel housing, and excellent heat dissipation to ensure stable operation of the switch.

■ Easy O&M management

◇ CPU monitoring, memory monitoring, and Ping detection.

◇ System logs and port traffic statistics facilitate network optimization and transformation.

◇ LLDP facilitates the network management system to query and determine the communication status of the link.

◇ Web network management, CLI (Console, Telnet), SNMP (V1/V2/V3), Telnet, and other diversified management and maintenance methods.

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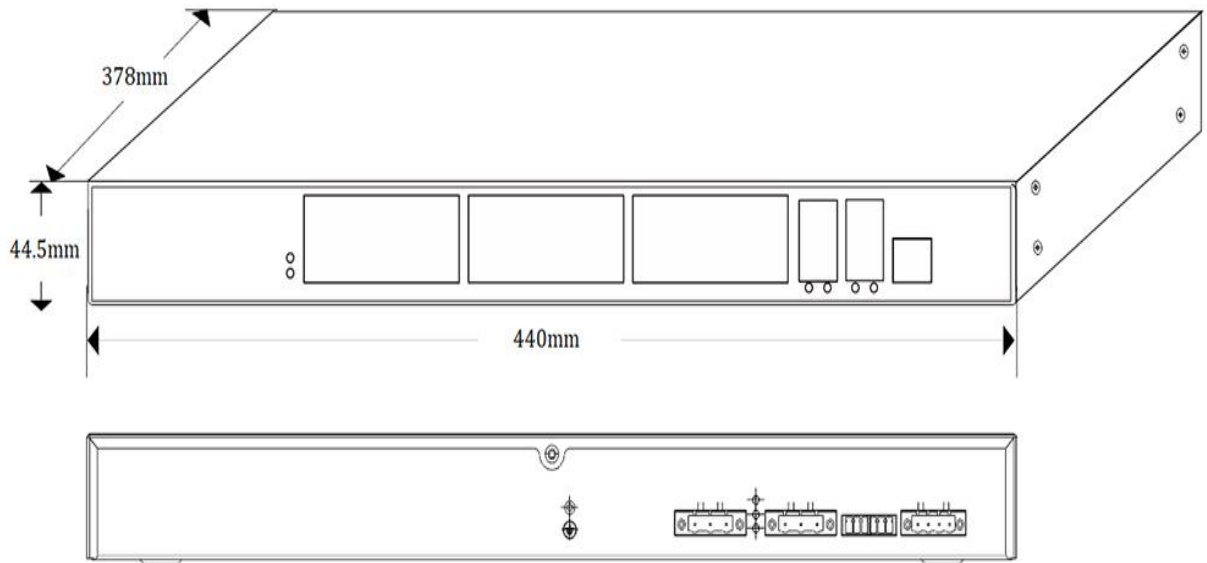**Optical Network Video Technologies (Shenzhen) Co., Ltd.** ONV

TECHNICAL SPECIFICATION

Model	ONV-IPS33028PFM	ONV-IPS33028PFM-at
Interface Characteristics		
Fixed Port	2*AC100-240V input ports 1*RS232 Console port (115200, N, 8,1) 24*10/100/1000Base-T PoE ports (Data/ Power) 4*100/1000Base-X uplink SFP fiber ports (Data) 1 set DC48-57V input ports (support reverse connection protection)	
Ethernet Port	Port 1-24 cab 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)	
Optical Fiber Port	Gigabit optical fiber port, default no include optical modules (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)	
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.	
Chip Parameter		
Network Management Type	L2+	
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3x	
Forwarding Mode	Store and Forward (Full Wire Speed)	
Switching Capacity	56Gbps (non-blocking)	
Forwarding Rate@64byte	41.66Mpps	
CPU	500M	
DRAM	1G	
FLASH	256M	

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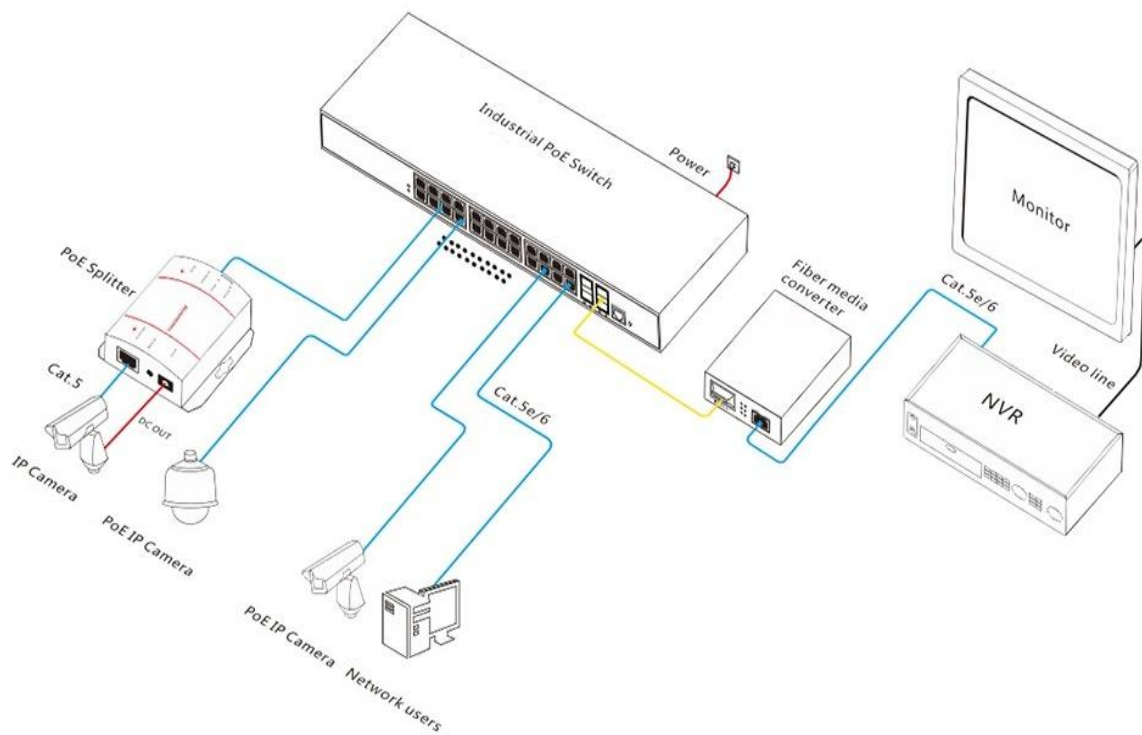| MAC	8K	
Buffer Memory	4.1M	
LED Indicator	Power: PWR (Yellow), System: SYS (Yellow), Fiber port: L/A (Green), PoE: PoE (Green), Network: Link/ Act (Yellow)	
Reset Switch	Yes, press and hold the switch for 10 seconds and release it to restore the factory settings	
PoE& Power Supply		
PoE Port	Port 1-24 IEEE 802.3 af/at	
PoE Management	Port PoE output on/off, Port PoE working status display	
Power Supply Pin	1/2(+) 3/6(-)	
Max Power Per Port	30W, IEEE 802.3 af/at	
Total PWR/ Input Voltage	400W/ (AC100-240V)	600W/ (AC100-240V)
Power Consumption	Standby<18W, Full Load<380W	Standby<22W, Full Load<600W
Power Supply	Built-in power supply, AC100~240V 50-60Hz, 5.0A	Built-in power supply, AC100~240V 50-60Hz, 6.6A
Power Input Port	Alarm switch port, 2*AC power input ports, 2*DC48-57V input ports Dual input power port: AC power supply priority to support anti-reverse connection protection, and automatically switches to DC connection when power fails.	
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)	440*378*44.5mm	
Net /Gross Weight	5.4kg/ 6.2kg	6.2kg/ 7.0kg
Installation	Desktop, 1U/19" cabinet	
Certification & Warranty		
Lightning Protection	IEC61000-4-3(RS):10V/m (80~1000MHz) FCC Part 15/CISPR22 (EN55022): Class A IEC61000-6-2 (Common Industrial Standard)	

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6	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
	Protection level: IP30, Lightning protection: 6KV 8/20us
	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, 1-3s
	IEC61000-4-5(Surge): Power cable: CM±4kV/DM±2kV, Data cable: ±4kV
Mechanical Properties	IEC60068-2-6 (Anti Vibration), IEC60068-2-32 (Free Fall), IEC60068-2-27 (Anti Shock)
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class A, RoHS
Warranty	5 years, lifelong maintenance.

Network Management Feature

Interface	IEEE802.3x flow control (Full duplex)
	Broadcast storm suppression based on port rate
	Port real-time traffic management (Flow Interval)
	Limit the rate of packet traffic on incoming and outgoing ports, mini granularity is 16Kbps and max is 1Gbps
L3 Feature	IPV4 static route/ default route
VLAN	Port configuration of Access, Trunk, Hybrid
	IEEE802.1q, Port-based VLAN (4K), VLAN based on the protocol
Port Aggregation	LACP dynamic aggregation, Static aggregation, Max 14 aggregation groups and 8 ports per group
Spanning Tree	RSTP (IEEE 802.1w)
ERPS	ERPSv2
Multicast	Multicast VLAN, User quick exit mechanism, IGMP Snooping v1/v2

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Port Mirroring	Bidirectional data mirroring based on port
QoS	802.1p/ DSCP priority mapping, Diff-Serv QoS Queue scheduling algorithm (SP, WRR, WFQ) Flow-based rate limiting, Flow-based packet filtering Flow-based based redirection, 8*Output queues of each port
ACL	Port-based and VLAN-delivered ACL The L2-L4 packet filtering function can match the first 80 bytes of the packet and provide information based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range to define the ACL.
Security	Port isolation, Port broadcast message suppression Port-based and Mac-based IEEE802.1X certification User hierarchical management and password protection AAA&RADIUS certification, IP source address protection
DHCP	DHCP Client, DHCP Snooping
Management	Web network management (https), Ping detection ONV-NMS platform cluster management (LLDP+SNMP) One click recovery, View CPU real-time utilization status Link Layer Discovery Protocol (LLDP), System work log Console/ Telnet and CLI configuration, SNMP V1/V2/V3 NTP clock, HTTP file upload and download management
System	Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, Mac OS X) installed on each computer in the network Cat5 and above Ethernet cable

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ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV-IPS33028PFM	L2+ managed industrial PoE switch with 24*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. Port 1-24 can support IEEE 802.3 af/at PoE standard. It built-in power supply and 1U/19" cabinet installation.	2*400W
ONV-IPS33028PFM-at		2*600W

Note: The optical module is not included and needs to be purchased.

PACKING LIST

	Content	Qty	Unit
Packing List	28-port Gigabit managed industrial PoE switch	1	Set
	RJ45-DB9 Adapter Cable	1	PC
	AC Power Cable	1	PC
	Mounting Kit (Hanging Ear)	1	Set
	User Guide	1	PC
	Warranty Card and Certificate of Conformity	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

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10	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

CONTACT US

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