

Product Datasheet

28-port Gigabit L2+ Managed Industrial PoE Fiber Switch (ONV-IPS33028PFM)



OVERVIEW

The ONV-IPS33028PFM is full Gigabit L2+ managed industrial PoE fiber switch independently developed by ONV. It has 24*10/100/1000Base-T adaptive RJ45 ports and 4*100/1000Base-X SFP fiber ports. Port 1-24 can support IEEE 802.3 af/at PoE standard. Single port PoE power reaches 30W. As a PoE power supply device, it can automatically detect and recognize power-compliant devices that meet the standard and supply power through the network cable. It can supply power to POE terminal equipment such as wireless AP, IP camera, VoIP, 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, industrial scenes such as shipping, metallurgy, and green energy construction form a cost-effective, stable and reliable communication network.

The ONV-IPS33028PFM has an L2+ network management function, supports IPV4 management, static routing forward, complete security protection mechanism, perfect ACL/QoS policy, and rich VLAN functions for easy management and maintenance. It supports 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, the communication can be quickly restored to ensure the uninterrupted

communication of important applications. According to actual application needs, PoE power supply management, port management, routing address management, port flow control, VLAN division, IGMP, security policy and other application service configurations are performed through Web, CLI, SNMP, Telnet and other network management methods.

FEATURE

■ Gigabit access and Gigabit SFP uplink

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

■ Intelligent PoE power supply function

- ◇ PoE network management, realize PoE port power allocation, priority setting, port power status viewing, time scheduling, etc.
- ◇ Comply with IEEE 802.3 af/at PoE standard, automatically identify PoE devices for power supply, and not damage non-PoE devices.
- ◇ The PoE port supports the priority mechanism. When the remaining power is insufficient, the power of the high-priority port is given priority to avoid overloading of the device.
- ◇ 24*10/100/1000Base-T RJ45 support PoE power, meeting the PoE power requirements of security monitoring, industrial automation systems, wireless coverage and other scenarios.

■ Security

- ◇ Support port isolation.
- ◇ Support port broadcast storm suppression.
- ◇ Support port+MAC binding, IP+MAC+port binding function
- ◇ Support 802.1X authentication to provide authentication functions for LAN computers,

and control the authorization status of controlled ports according to the authentication results.

■ Strong business processing capability

- ◇ Support IEEE802.1Q VLAN, Users can flexibly divide VLAN according to their needs.
- ◇ Support ERPS ring network and STP/RSTP/MSTP to eliminate layer 2 loops and realize link backup.
- ◇ Support static and dynamic aggregation to effectively increase link bandwidth, realize load balancing, link backup, and improve link reliability.
- ◇ Support QoS, port-based, 802.1P-based and DSCP-based three priority modes and four queue scheduling algorithms: Equ, SP, WRR, and SP+WRR.
- ◇ Support ACL to filter data packets by configuring matching rule processing operations and time permissions, and provide flexible security access control policies.
- ◇ Support IGMP V1/V2 multicast protocol, IGMP Snooping V1/V2/V3 meets multi-terminal high-definition video surveillance and video conference access requirements.

■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, Link, PoE.
- ◇ Using self-developed power supply, redundant dual power supply provides long-term stable PoE power output.
- ◇ Low power consumption, with fan, galvanized steel shell, excellent heat dissipation to ensure stable operation of the switch.

■ Easy O&M management

- ◇ Support NMS platform cluster management.
- ◇ Support CPU monitoring, memory monitoring, Ping detection, cable length detection.

- ◇ Support RMON, system log, and port traffic statistics to facilitate network optimization and transformation.
- ◇ Support HTTPS, SSLV3, SSHV1/V2 and other encryption methods, making management more secure.
- ◇ Support LLDP to facilitate the network management system to query and judge the communication status of the link.
- ◇ Support Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3) ,Telnet and other diversified management and maintenance.

TECHNICAL SPECIFICATION

Model	ONV-IPS33028PFM	ONV-IPS33028PFM-at
Interface Characteristics		
Fixed Port	2*AC100-240V input ports Power-down alarm switch port (FAULT) 1*RS232 Console port (115200, N, 8,1) 4*100/1000Base-X uplink SFP ports (Data) 24*10/100/1000Base-T PoE ports (Data/Power) 1 group of DC48-57V input ports (Support reverse polarity protection function)	
Ethernet Port	Port 1-24 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/ 0-500m Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.	

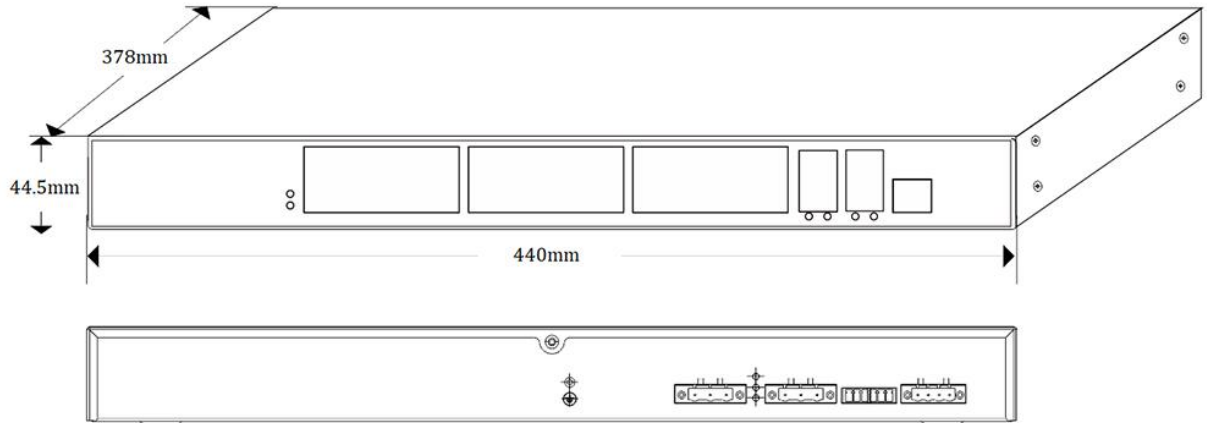
Chip Parameter	
Network Management Type	L2+
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T, IEEE802.3z 1000Base-X, IEEE802.3x
Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	56Gbps (Non-blocking)
Forwarding Rate@64byte	41.7Mpps
CPU	500MHz
DRAM	1Gbits
FLASH	256Mbits
MAC	8K
Buffer Memory	4.1Mbits
Jumbo Frame	10Kbytes
LED Indicator	Power: PWR (Yellow), System: SYS (Yellow), PoE: PoE (Green) Network: Link/Act (Yellow), Fiber port: L/A (Green)
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 to 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	2*400W(AC100-240V) 2*600W(AC100-240V)
Power Consumption	Standby<18W, Full Load<380W Standby<22W, Full Load<600W
Power Supply	Built-in power supply, AC100~240V Built-in power supply,

	50-60Hz 2*5.0A	AC100~240V 50-60Hz 2*6.6A
Power Input Port	<p>1 group of DC48-57V input ports</p> <p>Power-down alarm switch port, 2*AC power input ports</p> <p>Dual input power port: AC power supply priority, support anti-reverse protection, power-off automatic switching DC connection.</p>	
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 / <5.8kg	<5.6kg / <6.3kg
Installation	Desktop, 19 inch 1U cabinet	
Certification & Warranty		
Lightning Protection	<p>Protection level: IP30</p> <p>Lightning protection: 6KV 8/20us</p> <p>IEC61000-4-3 (RS):10V/m (80~1000MHz)</p> <p>FCC Part 15/CISPR22 (EN55022): Class B</p> <p>IEC61000-6-2 (Common Industrial Standard)</p> <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>IEC61000-4-4(EFT): Power cable: ±4kV; data cable: ±2kV</p> <p>IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s</p> <p>IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge</p> <p>IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz)</p> <p>IEC61000-4-8 (Power frequency magnetic field): 100A/m, 1000A/m, 1s to 3s</p> <p>IEC61000-4-5 (Surge): Power cable: CM±4kV/ DM±2kV, data cable:</p>	

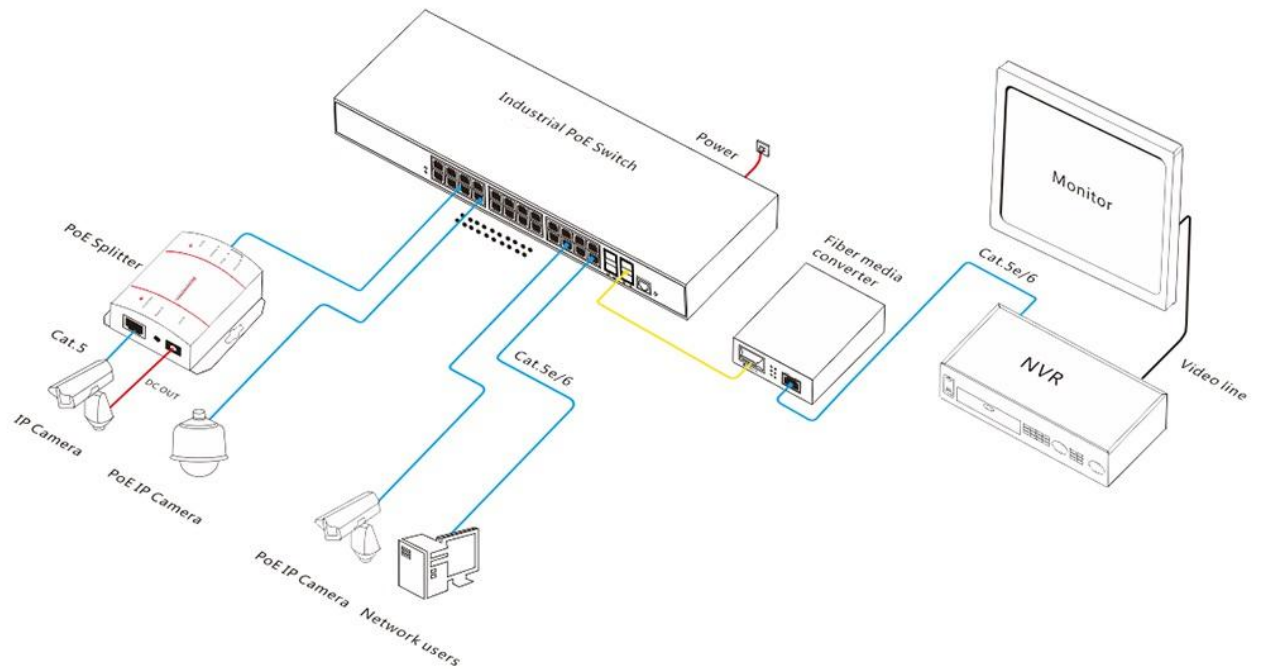
	±4kV
Mechanical	IEC60068-2-32 (Free fall)
Properties	IEC60068-2-6 (Anti vibration), IEC60068-2-27 (Anti shock)
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
Warranty	5 years, lifelong maintenance.
Network Management Features	
Interface	IEEE802.3x flow control (Full duplex) Port real-time flow management (Flow Interval) Broadcast storm suppression based on port rate Limit the rate of incoming and outgoing packet traffic, with min granularity of 16Kbps and max of 1Gbps
Layer 3 Features	IPV4 static route/ default route, max 128 entries L2+ network management, ARP protocol, max 1000 entries
VLAN	Port configuration of Access, Trunk, Hybrid VLAN based on the protocol, (4K) VLAN based on port, IEEE802.1q
Port Aggregation	LACP dynamic aggregation, Static aggregation Max 14 aggregation groups and maximum 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
ITU G.8032 Ring Network	ERPS fast ring network supports up to 250 rings, These rings max support 250 devices, Ring network self-healing time is less than 20ms
Multicast	Multicast VLAN, User quick log out IGMP Snooping V1/V2/V3 and max 1024 multicast groups
Mirroring	Bidirectional traffic mirroring for basic ports
QoS	Queue scheduling algorithm (SP, WRR, SP+WRR) Flow-based rate limiting, Stream based redirection Flow-based packet filtering, 8*output queues of each port 802.1p/ DSCP priority mapping, Diff-Serv QoS, Priority Mark/ Remark
ACL	Support ACL based on port and VLAN

	L2-L4 packet filtering function, can match the first 80 bytes of the message, provided based on the source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, Define ACLs such as VLAN
Security	<p>Port based IEEE802.1X authentication</p> <p>SSL guarantees data transmission security</p> <p>Quad binding function of IP+MAC+VLAN+ports</p> <p>MAC address learning limit, MAC address black hole</p> <p>IP Source Guard function, AAA&RADIUS certification</p> <p>Anti DoS attack, Port broadcast message suppression</p> <p>Hierarchical user management and password protection</p> <p>SSH 2.0 provides a secure encrypted channel for user login</p> <p>Host data backup mechanism, ARP intrusion detection function</p> <p>Port isolation, IP Source Guard, ARP message speed limit function</p>
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	<p>Console/ Telnet/ SSH2.0 CLI configuration</p> <p>NTP clock, One click restore, SNMP V1/V2/V3</p> <p>FTP, TFTP file upload and download management</p> <p>Web network management (HTTPS), Ping detection</p> <p>View CPU instant utilization status, System work log</p> <p>ONV-NMS platform cluster management (LLDP+SNMP)</p> <p>Cable status check, Link Layer Discovery Protocol(LLDP)</p> <p>Cloud network management and mobile APP operation and maintenance (remote O&M)</p>
System	<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</p>

DIMENSION



APPLICATION



ORDERING INFORMATION

Model	Description	Power Supply
ONV-IPS33028PFM	L2+ managed industrial PoE switch with 24*10/100/1000M RJ45 ports and 4*100/1000M SFP	2*400W
ONV-IPS33028PFM-at	ports. Port 1-24 support IEEE 802.3 af/at PoE standard. It support 2AC+DC redundant power terminal input and 1U/19-inch cabinet installation.	2*600W

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

PACKING LIST

	Content	Qty	Unit
Packing List	28-port Gigabit L2+ managed industrial PoE fiber switch	1	SET
	RJ45-DB9 Line	1	PC
	AC Power Cable	1	PC
	Mounting Kits (Hanging Ears)	1	SET
	User Guide	1	PC
	Warranty Card	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, support DDM function, support hot plug and pull.	PC
	2632-G	Industrial SFP optical module, 1.25G, single-mode dual fiber 1310nm, 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
2612-T-G-SC	Industrial 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
2613-R-G-SC	Industrial 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

RELATED PRODUCT

Model	Description
ONV-IPS33020PFM	L2+ managed industrial PoE fiber switch with 16*10/100/1000M RJ45 ports and 4*100/1000M SFP ports. Port 1-16 support IEEE 802.3 af/at PoE standard. It support 2AC+DC redundant power terminal input and 1U/19-inch cabinet installation.
ONV-IPS56028PFM	L2+ managed industrial PoE fiber switch with 24*10/100/1000M RJ45 ports and 4*1/10G SFP+ ports. Port 1-24 support IEEE 802.3 af/at PoE standard. It support 2AC+DC redundant power terminal input and 1U/19-inch cabinet installation.
ONV-IPS56052PFM	L2+ managed industrial PoE fiber switch with 48*10/100/1000M RJ45 ports and 4*1/10G SFP+ ports. Port 1-48 support IEEE 802.3 af/at PoE standard. It support 2AC+DC redundant power terminal input and 1U/19-inch cabinet installation.

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