

Product Datasheet

36-port 10G Uplink Managed Industrial PoE Fiber Switch

(ONV-IPS56036PFM)



OVERVIEW

The ONV-IPS56036PFM is a 10G uplink L2+ managed industrial PoE fiber switch independently developed by ONV. It has 24*10/100/1000M RJ45 ports and 8*100/1000M SFP combo ports and 4*1/10G SFP+ ports. Port 1-24 support IEEE802.3af/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, webcam, 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.

ONV-IPS56036PFM has L2+ network management function, supports IPV4/IPV6 management, static routing and forwarding, 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 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, 10G 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 RJ45/SFP combo port and uplink 10G SFP+ port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ Intelligent PoE power supply function

- ◇ IEEE802.3af/at PoE standard, without damaging non-PoE devices.
- ◇ 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.
- ◇ 24*10/100/1000Base-T RJ45 ports support PoE power supply to meet the needs of PoE power supply in scenarios such as security monitoring, teleconferencing systems, and wireless coverage.

■ Security

- ◇ Support port isolation.

- ◇ Support port broadcast storm suppression.
- ◇ Support IP+MAC+port+VLAN quadruple flexible combination 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 ERPS ring network and STP/RSTP/MSTP to eliminate layer 2 loops and realize link backup.
- ◇ Support IEEE802.1Q VLAN, Users can flexibly divide VLAN, Voice VLAN, and QinQ configuration according to their needs.
- ◇ 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 Snooping V1/V2/V3 multicast protocol IGMP to meet the multi-terminal high-definition video surveillance and video conference access requirements.

■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ Low power consumption, galvanized steel casing. The fan active cooling.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, Link, L/A, PoE.
- ◇ Using self-developed power supply, redundant dual power supply provides long-term stable PoE power output.

■ Easy operation and maintenance management

- ◇ Support NMS platform cluster management.
- ◇ Support CPU monitoring, memory monitoring, Ping detection, cable length detection.
- ◇ Support HTTPS, SSLV3, SSHV1/V2 and other encryption methods, making management more secure.
- ◇ Support RMON, system log, and port traffic statistics to facilitate network optimization and transformation.
- ◇ 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/V2C/V3) and other diversified management and maintenance.

TECHNICAL SPECIFICATION

Model	ONV-IPS56036PFM	ONV-IPS56036PFM-at
Interface Characteristics		
Fixed Port	2*AC100-240V input ports Alarm switch port (FAULT) 1*Console port (115200, N, 8,1) 4*1/10G uplink SFP+ ports (Data) 8*100/1000M SFP combo ports(Data) 24*10/100/1000M RJ45 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/6 or later UTP(≤100 meters)	
Optical Fiber Port	Gigabit SFP optical fiber and 10G SFP+ optical fiber port, default no include optical modules (optional single-mode / multi-mode, single fiber /	

	dual fiber optical module. LC)
Optical Fiber Port Expansion	Support Turbo overclocking 2.5G optical module expansion and ring network
Optical Cable/Distance	Multi-mode: 850nm/ 0-500M, 850nm/ 0-300M(10G), Single-mode: 1310nm/ 0-40KM, 1550nm/ 0-120KM.
Chip Parameter	
Network Management Type	L3
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T, IEEE802.3z 1000Base-X IEEE802.3ae 10GBase-LR/SR, IEEE802.3x
Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	336Gbps (non-blocking)
Forwarding Rate@64byte	95.23Mpps
CPU	800MHz
DRAM	1GB
FLASH	128MB
MAC	16K
Buffer Memory	12MB
Jumbo Frame	12KB
LED Indicator	Power: PWR(Yellow), System: SYS (Yellow), Network: Link/Act (Yellow) PoE: PoE (Green), 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 IEEE802.3af/at
PoE Management	PoE working status display, Port PoE on/off, af/at power distribution

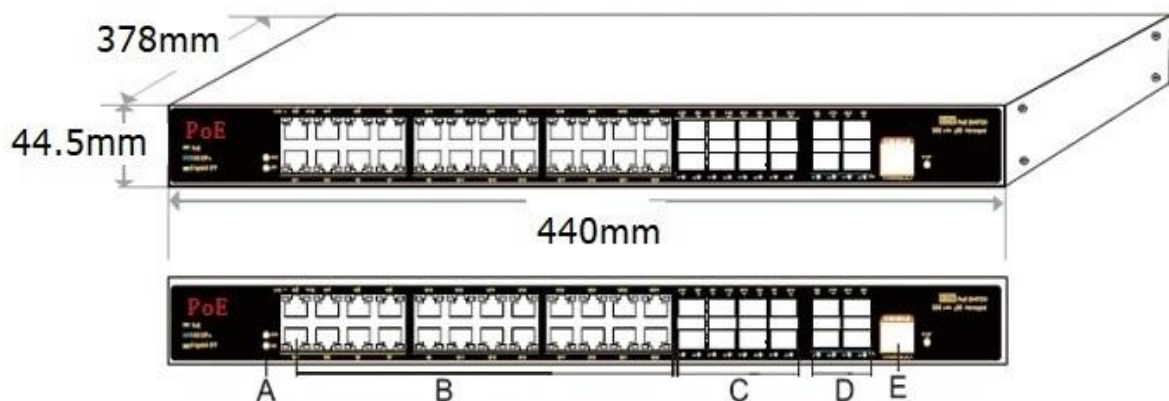
Power Supply Pin	1/2(+) 3/6(-)	
Max Power Per Port	30W, IEEE802.3af/at	
Total PWR / Input Voltage	2*400W(AC100-240V)	2*600W(AC100-240V)
Power Consumption	Standby<20W, Full Load<380W	Standby<22W, Full Load<600W
Power Supply	Built-in power supply, AC 100~240V 50-60Hz 5.0A	Built-in power supply, AC 100~240V 50-60Hz 6.6A
Power Input Port	1 group of DC48-57V input ports Alarm switch port, 1 group of AC power input ports Dual input power port design: AC power supply priority, support anti-reverse protection, power-off automatic switching DC connection.	
Physical Parameter		
Operation TEMP / Humidity	-40~+75°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	<6.0kg / <6.3kg	<6.5kg / <6.8kg
Installation	Desktop, 19 inch 1U cabinet	
Certification & Warranty		
Lightning Protection	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	

	<p>IEC61000-4-10(damped oscillation):30A/m 1MHz</p> <p>IEC61000-4-12/18(shockwave):CM 2.5kV,DM 1kV</p> <p>IEC61000-4-16(common-mode transmission):30V; 300V,1s</p> <p>FCC Part 15/CISPR22(EN55022):Class B</p> <p>IEC61000-6-2(Common Industrial Standard)</p>
Mechanical Properties	<p>IEC60068-2-6 (anti vibration)</p> <p>IEC60068-2-27 (anti shock)</p> <p>IEC60068-2-32 (free fall)</p>
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
Warranty	5 years, lifelong maintenance.
Network Management Features	
Interface	<p>IEEE802.3x flow control (full duplex)</p> <p>Port exception protection mechanism</p> <p>Port real-time flow management (Flow Interval)</p> <p>Broadcast storm suppression based on port rate</p> <p>Optical port SFP module DDMI real-time digital diagnosis</p> <p>Limit the rate of incoming and outgoing packet traffic, with a minimum granularity of 16Kbps and a maximum of 1Gbps</p> <p>Port EEE Green Ethernet Energy-Saving configuration and status view</p> <p>Jumbo frame configuration, the largest 12000byte</p>
Layer 3 Features	<p>OSPFv1/v2, OSPFv3, Static routing, RIPv1/v2, RIPv6</p> <p>The maximum number of ARP protocol entries is 1024</p> <p>L2+ network management function, Dual stack IPv4/IPv6 management</p>
VLAN	<p>VLAN based on MAC, VLAN based on the protocol</p> <p>Port configuration of Access, Trunk, Hybrid. GVRP VLAN protocol</p> <p>(4K) VLAN based on port, IEEE802.1q, Voice VLAN, QinQ configuration</p>
Port Aggregation	<p>LACP dynamic aggregation, Static aggregation</p> <p>Max 18 aggregation groups and maximum 8 ports per group.</p>

Spanning Tree	STP BPDU Guard, BPDU filtering and BPDU forwarding STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
ERPS Ring Network	Support ERPS ring network, ring network self-healing time is less than 20ms, ITU-T G.8032
Multicast	MLD Snooping, IGMP Snooping, Multicast VLAN User quick log out, MVR (Multicast LAN registration) IGMP Snooping v1/v2/v3 and 1024 multicast groups at most
Mirroring	Bidirectional traffic mirroring for basic ports Supports 1-to-multiple mirroring, supports up to 4 port sessions
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	ACL distribution based on port and VLAN L2-L4 packet filtering function, matching the first 80 bytes message, and provides ACL definitions based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN, etc.
Security	Port based IEEE802.1X authentication SSL guarantees data transmission security Quad binding function of IP+MAC+VLAN+ports MAC address learning limit, MAC address black hole Anti DoS attack, Port broadcast message suppression IP Source Guard function, AAA&RADIUS certification Hierarchical user management and password protection SSH 2.0 provides a secure encrypted channel for user login Host data backup mechanism, ARP intrusion detection function Port isolation, IP Source Guard, ARP message speed limit function
DHCP	DHCP Client, DHCP Snooping, DHCP Server

Management	<p>Web network management (https)</p> <p>Link Layer Discovery Protocol(LLDP)</p> <p>Viewing CPU Instant Utilization Status</p> <p>NTP clock, One click restore, SNMP V1/V2C/V3</p> <p>Cable status check, Ping detection, System work log</p> <p>ONV NMS platform cluster management (LLDP+SNMP)</p> <p>Console/AUX Modem/Telnet/CLI command line configuration</p> <p>FTP, TFTP, Xmodem, SFTP file upload and download management</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 network</p>

DIMENSION



A. Power indicator

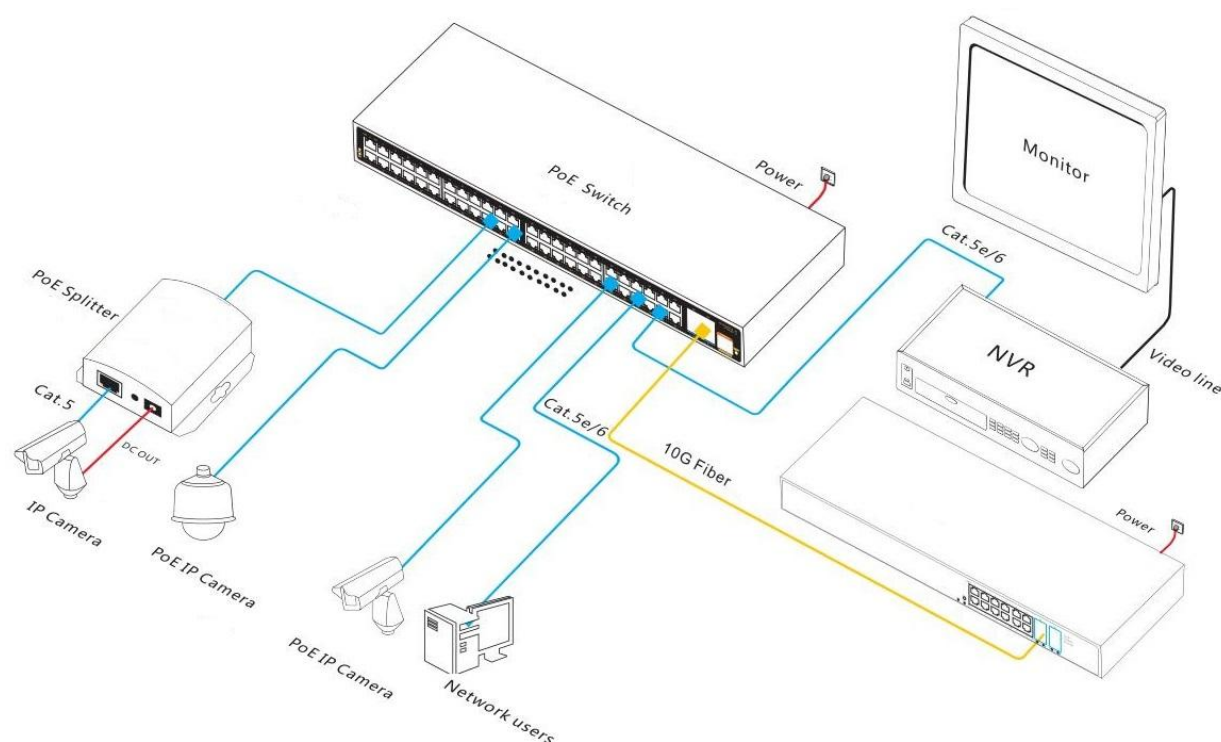
B. 24*10/100/1000M PoE ports

C. 8*100/1000M SFP ports (combo port)

D. 4*1/10G SFP+ ports

E. Console port

APPLICATION



ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV-IPS56036PFM	L2+ managed industrial PoE fiber switch with 24*10/100/1000M RJ45 ports and 8*100/1000M SFP combo ports and 4*1/10G SFP+ ports. Port 1-24 support IEEE802.3af/at PoE standard. support 1U/19-inch cabinet installation.	2*400W
ONV-IPS56036PFM-at		2*600W

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

PACKING LIST

Packing List	Content	Qty	Unit
	36-port 10G uplink managed industrial PoE fiber switch	1	SET
	RJ45-DB9 Line	1	PC
	AC Power Cable	1	PC
	Mounting Kits (Hanging Ear)	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
10G Optical Module	6630-G	Industrial SFP+ optical module, 10G, multi-mode dual fiber 850nm, transmission distance: 300m, LC interface, support DDM function, support hot plug and pull.	PC
	7832-G	Industrial SFP+ optical module, 10G, single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	7832-33-G	Industrial SFP+ optical module, 10G, single-mode single fiber TX1330nm/RX1270nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	7832-27-G	Industrial SFP+ optical module, 10G, single-mode single fiber TX1270nm/RX13300nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC

RELATED PRODUCT

Model	Description
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 IEEE802.3af/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 IEEE802.3af/at PoE standard. It support 2AC+DC redundant power terminal input and 1U/19-inch cabinet installation.

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