Product Datasheet

28-port 10G Uplink Managed Industrial PoE Fiber Switch

(ONV-IPS36028PFM)

OVERVIEW

The ONV-IPS36028PFM is a 10G uplink L2+ managed industrial PoE fiber switch independently developed by ONV. It has 24*10/100/1000Base-T adaptive RJ45 ports and 4*1/10G SFP+ fiber ports. Port 1-24 can 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.

The ONV-IPS36028PFM has L2+ network management function, supports IPV4/IPV6 management, supports static route full line rate forwarding, supports complete security protection mechanism, complete ACL/QoS policy and rich VLAN functions, and is easy to manage and maintain. Supports multiple network redundancy protocols STP/RSTP/MSTP

(<50ms) and (ITU-T G.8032) ERPS 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, 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 10G SFP+ uplink 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.

◇ 24*10/100/1000Base-T RJ45 ports, meeting the needs of security monitoring, teleconferencing system, wireless coverage, and other scenarios.

◇ 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.

■ **Security**

◇ 802.1X authentication.

◇ Port isolation, storm control.

◇ IP-MAC-VLAN-Port binding.

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■ **Strong business processing capability**

◇ 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.

■ **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, Link, L/A, 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).

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TECHNICAL SPECIFICATION

Model	ONV-IPS36028PFM	ONV-IPS36028PFM-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) 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 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 port and 10G SFP+ optical fiber port, default no include optical modules (optional order 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(1G), 850nm/ 0-300M(10G), 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 IEEE802.3ae 10GBase-LR/SR, IEEE802.3x	

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Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	598Gbps (non-blocking)
Forwarding Rate@64byte	95.23Mpps
CPU	500MHz
DRAM	2G
FLASH	128M
MAC	32K
Buffer Memory	32M
Jumbo Frame	9.6K
LED Indicator	System: SYS (Green), Network:Link (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	
PoE Port	Port 1 to 24
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, on/off & af/at
Power Supply Pin	1/2(+) 3/6 (-)
Max Power Per Port	30W, IEEE802.3af/at
Total PWR / Input Voltage	400W (AC100-240V)	600W (AC100-240V)
Power Consumption	Standby<25W, Full Load<400W	Standby<30W, Full Load<600W
Power Supply	Built-in power supply, AC	Built-in power supply, AC 100~240V

	100~240V 50-60Hz 5.0A	50-60Hz 6.6A
Power Input Port	1 group of DC48-57V input port 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	<5.5kg / <6.0kg	<5.8kg / <6.6kg
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 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 B IEC61000-6-2(Common Industrial Standard)
Mechanical	IEC60068-2-6 (anti vibration)

Properties	IEC60068-2-27 (anti shock)
	IEC60068-2-32 (free fall)
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 (Full-duplex)
	Port temperature protection setting
	No connection port automatic sleep
	Port green Ethernet Energy-saving setting
	Broadcast storm control based on port speed
	SFP+ optical port DDMI real-time digital diagnosis
	The speed limit of the message flow in the access port, minimum particle size is 64Kbps.
Layer 3 Features	OSPFv1/v2, OSPFv3, Static routing, RIPv1/v2, RIPng
	The maximum number of ARP protocol entries is 1024
	L2+ network management function, Dual stack IPv4/IPv6 management
VLAN	VLAN based on MAC, VLAN based on the protocol
	Port configuration of Access, Trunk, Hybrid. GVRP VLAN protocol
	(4K) VLAN based on port, IEEE802.1q, Voice VLAN, QinQ configuration
Port Aggregation	LACP, Static aggregation
	Max 14 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

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	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	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
	IP-MAC-VLAN-Port binding, ARP inspection, Anti-DoS attack
	AAA & RADIUS, MAC learning limit, Mac black holes, IP source protection
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	CPU instant utilization status view
	One-key recovery, Cable Diagnose, LLDP
	Console /AUX Modem /Telnet /SSH2.0 CLI
	Web Management (HTTPS), NTP, System work log, Ping Test
	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
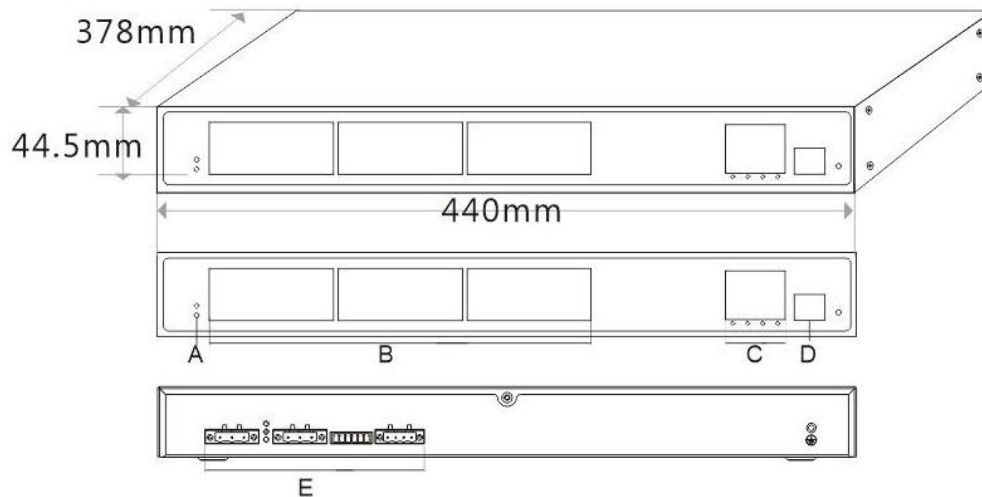
A. Working indicator   B. 24*10/100/1000m PoE ports

C. 4*1/10G SFP+ ports   D. Console port

E. 2AC+DC power terminal input port

APPLICATION

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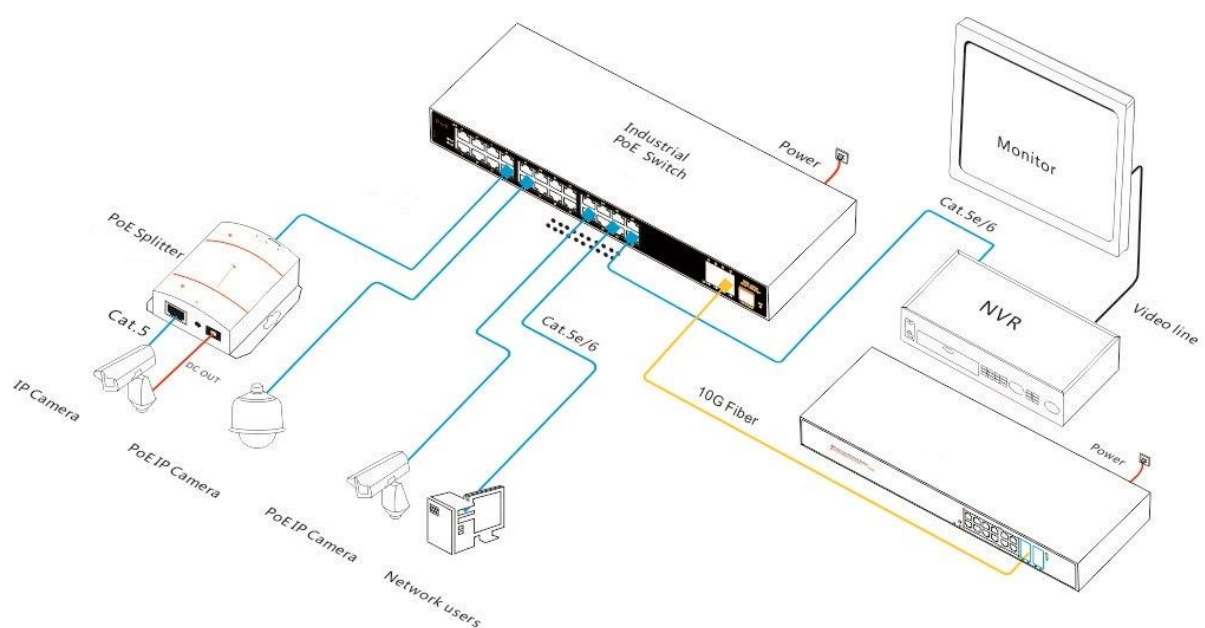
ORDERING INFORMATION

Model	Description	Configure Power Supply
ONV-IPS36028PFM	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. Built-in redundant dual power supply. support 2AC+DC power terminal input and 1U/19-inch cabinet installation.	2*400W
ONV-IPS36028PFM-at		2*600W

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

PACKING LIST

	Content	Qty	Unit
Packing List	28-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

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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

12	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-IPS33018PFM	L2+ managed industrial PoE fiber switch with 16*10/100/1000M RJ45 ports and 2*100/1000M SFP ports. Port 1-16 support IEEE802.3af/at PoE standard. Built-in redundant dual power supply. support 1U/19-inch cabinet installation and 2AC+DC power terminal input (Phoenix terminal connection).
ONV-IPS36036FM	L2+ managed industrial PoE fiber switch with 24*10/100/1000M RJ45 ports and 8*100/1000M SFP ports and 4*1/10G SFP+ ports. Port 1-24 support IEEE802.3af/at PoE standard. Built-in redundant dual power supply. support 1U/19-inch cabinet installation and 2AC+DC power terminal input (Phoenix terminal connection).
ONV-IPS36048FM	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. Built-in redundant dual power supply. support 1U/19-inch

	cabinet installation and 2AC+DC power terminal input (Phoenix terminal connection).

CONTACT US

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