

Product Datasheet

10-port Gigabit Bypass Managed Industrial PoE Switch (ONV-IPS33010PFM-BY)



OVERVIEW

The ONV-IPS33010PFM-BY is a Gigabit bypass managed industrial PoE fiber switch independently developed by ONV. It has 8*10/100/1000M adaptive RJ45 ports and 2*100/1000M uplink SFP fiber ports. Ports 1-8 can support IEEE802.3af/at PoE standard and the single-port PoE power up to 30W. As a PoE power supply device, it can automatically detect and identify the electrical equipment that meets the standard and supply power through the cable. It can supply PoE terminal equipment, such as wireless APs, IP cameras, network telephones, and industrial sensors, to meet the demand for a high-density PoE power supply network environment. The switch integrates the Bypass optical switching module. When the power supply of the switch is interrupted, the optical fiber is automatically switched to the bypass-through state to avoid communication interruption due to switch failure and ensure the reliability of network transmission. It is suitable for intelligent transportation, rail transit, electric power, mining, metallurgy and green energy, and industrial scenes such as construction, setting up a cost-effective and stable communication network.

The ONV-IPS33010PFM-BY has L2+ network management functions, supports IPv4

static route forwarding, and offers comprehensive security protection mechanisms, robust ACL/QoS policies, and extensive VLAN functionality, making it easy to manage and maintain. It supports network redundancy protocols RSTP (<50 ms) and ERPS (<20 ms) to enhance link redundancy and network reliability; in the event of a unidirectional network failure, communication can be rapidly restored, ensuring uninterrupted communication for critical applications. Depending on actual application requirements, PoE management, port management, routing address management, port traffic control, VLAN segmentation, IGMP, security policies, and various other application configurations can be carried out via network management methods such as Web, CLI, SNMP, and Telnet.

FEATURE

■ Gigabit access

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
- ◇ Support Gigabit RJ45 port and SFP port combination, which enables users to flexibly build networking to meet the needs of various scenarios.
- ◇ Support physical single-mode single fiber optical path (Bypass) function, pure hardware switching, short switching time, does not affect the data transmission rate and improves the stability of the network system.

■ Smart PoE power supply

- ◇ PoE network management, realize PoE port power allocation, priority setting, port power status viewing, time scheduling, etc.
- ◇ Comply with IEEE802.3af/at PoE standard, automatically identify PoE devices for power supply, and not damage non-PoE devices.
- ◇ 8*10/100/1000Base-T RJ45 ports can support PoE power to meet the needs of security monitoring, teleconferencing system, wireless coverage, and other scenarios.

■ Strong business processing ability

- ◇ Support the RSTP for ring networks, eliminating Layer 2 loops and providing link

redundancy.

- ◇ Support IEEE 802.1Q VLANs, allowing users to flexibly partition VLANs according to their requirements.
- ◇ Support QoS, with three priority modes-port-based, 802.1P-based, and DSCP-based-and four queue scheduling algorithms: SP, WRR, and WFQ.
- ◇ Support ACLs, enabling packet filtering through the configuration of matching rules and processing actions, and providing flexible security access control policies.
- ◇ Support both static and dynamic aggregation, effectively increasing link bandwidth, achieving load balancing and link redundancy, and enhancing link reliability.
- ◇ Support IGMP V1/V2 multicast protocols and IGMP Snooping, meeting the access requirements for high-definition video surveillance and video conferencing across multiple terminals.

■ Security

- ◇ Support port isolation and port broadcast storm suppression.
- ◇ Support 802.1X authentication to provide authentication functions for LAN computers, and control the authorization status of controlled ports according to the authentication results.

■ Stable and reliable

- ◇ CE, FCC, RoHS.
- ◇ The user-friendly pane can show the device status through the LED indicators of PWR, SYS, Link, L/A, and PoE.
- ◇ Low power consumption, aluminum alloy housing, and excellent heat dissipation to ensure the stable operation of the switch.

■ Easy O&M management

- ◇ Support CPU monitoring, memory monitoring, and Ping testing.
- ◇ Port traffic statistics to facilitate network optimisation and upgrades.
- ◇ Support LLDP, enabling network management systems to query and assess link

status.

- ◇ Support a variety of management and maintenance methods, including web-based management, CLI (Console, Telnet), SNMP (V1/V2/V3), and Telnet.

TECHNICAL SPECIFICATION

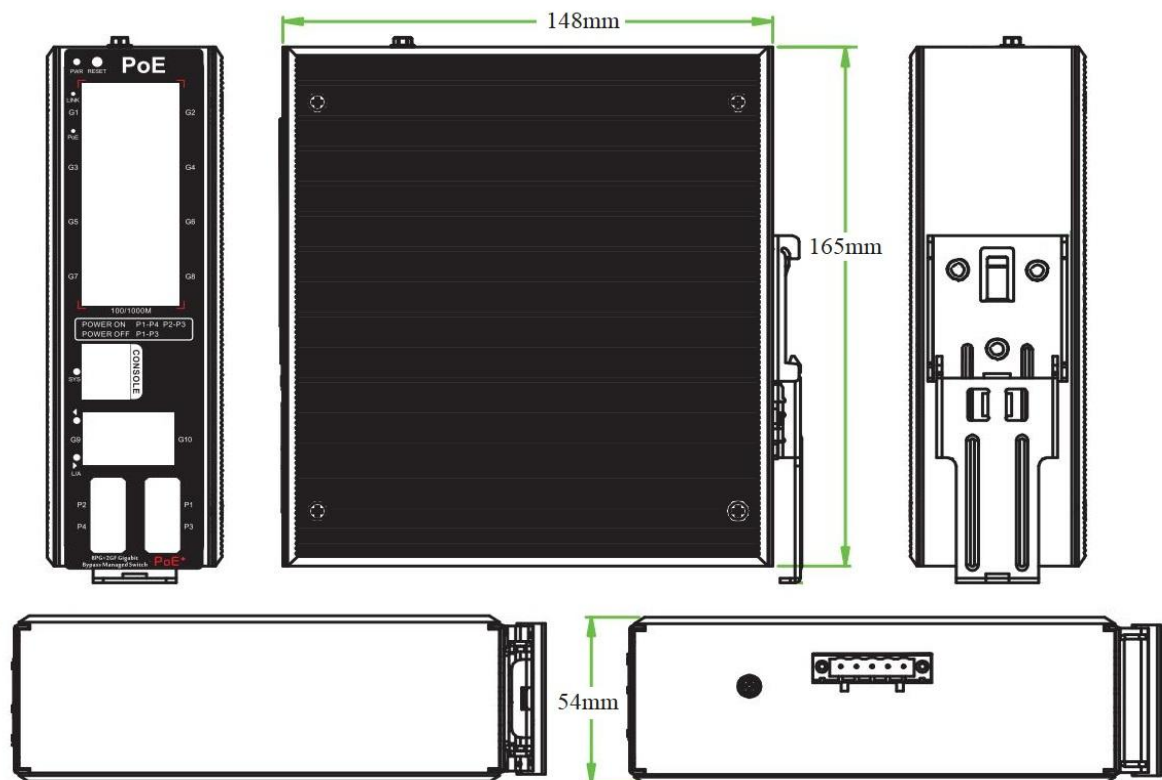
Model	ONV-IPS33010PFM-BY
Interface Characteristics	
Fixed Port	2 sets of bypass optical fiber ports 1*Console RS232 port (115200,N,8,1) 2*100/1000Base-X uplink SFP ports (Data) 8*10/100/1000Base-T PoE ports (Data/Power) 2 set V+, V- redundant DC power ports (5P industrial Phoenix terminal)
Bypass Optical Port	Power ON: P1-P4 intercommunication, P2-P3 intercommunication Power OFF: P1-P3 Pass-through
Ethernet Port	Ports 1-8 can 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 or later UTP (≤100 meters)
Optical Fiber Port	Default does not include optical module (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	20Gbps (non-blocking)
Forwarding Rate@64byte	14.88Mpps
CPU (Hz)	500M
DRAM	1G
Flash	128M
MAC	8K
Buffer Memory	4M
Jumbo Frame	10K
LED Indicator	PoE: PoE (Green), Fiber port: L/A (Green), Power: PWR (Yellow), System: SYS (Yellow), Network: Link (Yellow)
PoE& Power Supply	
PoE Port	Port 1-8
PoE Management	PoE working status display, Port PoE out on/off
Power Supply Pin	1/2 (+) 3/6 (-)
Max Power Per Port	30W, IEEE802.3af/at
Power Consumption	Standby<6W, full load<120W
Input Voltage/ Interface	DC44-57V, 5P industrial Phoenix terminal, supports anti-reverse protection
Power Supply	No, optional 48V/120W or 48V/240W industrial power supply
Physical Parameter	
Operation Temp/ Humidity	-40°C~+80°C, 5%~90% RH non-condensing
Storage Temp/ Humidity	-40°C~+85°C, 5%~95% RH non-condensing
Dimension (L*W*H)	165*148*54mm
Net /Gross Weight	0.9kg/ 1.1kg
Installation	Desktop, 35mm DIN Rail
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)

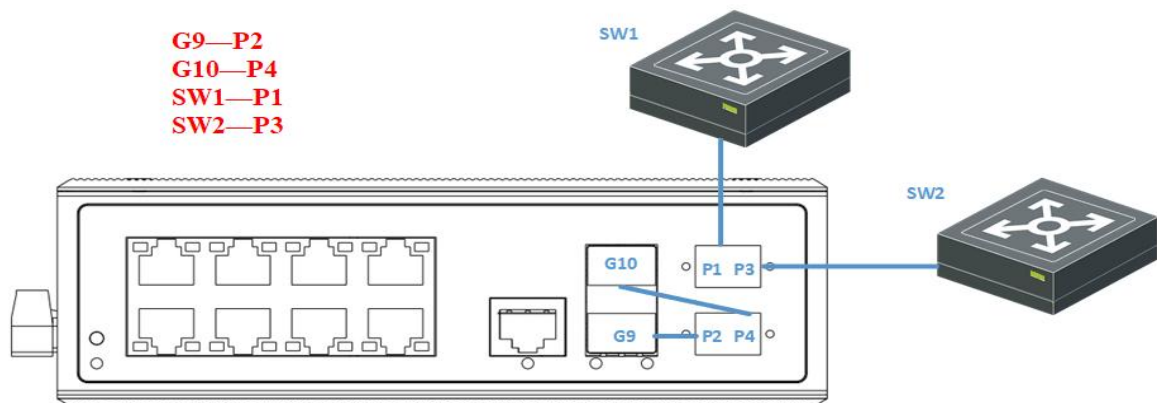
	IEC61000-4-9 (Pulsed magnet field): 1000A/m IEC61000-4-10 (Damped oscillation): 30A/m 1MHz IEC61000-4-12/18 (Shockwave): CM 2.5kV, DM 1kV Protection level: IP40, Lightning protection: 6KV 8/20us IEC61000-4-4 (EFT): Power cable:±4kV, data cable: ±2kV IEC61000-4-16 (Common-mode transmission): 30V, 300V, 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,1s-3s IEC61000-4-5 (Surge): Power cable: CM±4kV/DM±2kV, data cable: ±4kV
Mechanical Properties	IEC60068-2-6 (Anti Vibration), IEC60068-2-27 (Anti Shock), IEC60068-2-32 (Free Fall)
Certification	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) Port real-time traffic management (Flow Interval) Broadcast storm suppression based on port rate Limit the speed of the message traffic at the inbound and outbound ports, mini granularity is 16Kbps and max 1Gbps
L3 Feature	IPV4 static routing/ default routing, L2+ network management
VLAN	4K VLAN based on port, IEEE802.1q, Port configuration of Access, Trunk, Hybrid
Port Aggregation	LACP dynamic aggregation, Static aggregation Max 5 aggregation groups and 8 ports per group
Spanning Tree	RSTP (IEEE802.1w)
ITU G.8032 Fast Ring Network	Support ERPS fast ring network function, recovery time less than 20ms
Multicast	Multicast VLAN, IGMP Snooping v1/v2, Fast log out

Port Mirroring	Bidirectional data mirroring based on port
QoS	8*output queues of each port, 802.1p/DSCP priority mapping Diff-Serv QoS, Queue scheduling mechanism (SP, WRR, SP+WRR)
ACL	Support for port-based ACL deployment Support L2 to L4 packet filtering, enabling the definition of ACLs 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, and other criteria.
Security	User-level access control and password protection Port- and MAC-based IEEE 802.1X authentication Port broadcast suppression, Host data backup mechanism Port isolation, Limit on the number of MAC addresses that can be learned AAA & RADIUS authentication (supports authentication only; does not support authorisation or billing)
DHCP	DHCP Client, DHCP Snooping
Management	SNMP V1/V2C/V3, Web network management NTP clock, CPU real-time utilization status check Console/ Telnet/ CLI command line configuration ONV-NMS platform cluster management (LLDP+SNMP) System work log, Cable status check, Ping Test (CLI) One-click restore, Link Layer Discovery Protocol (LLDP)
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

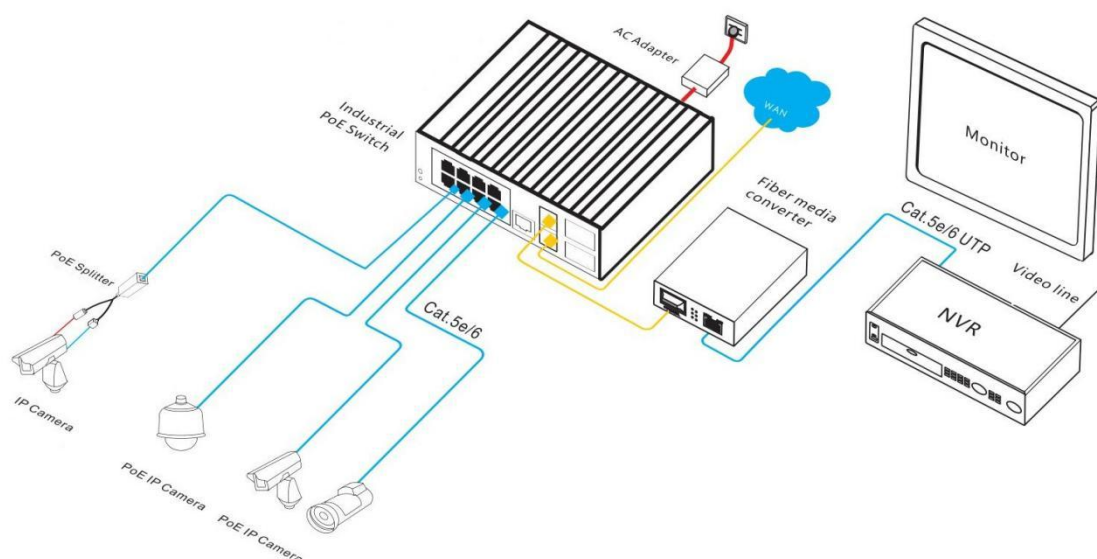
DIMENSION



PHYSICAL CONNECTION



APPLICATION



ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS33010PFM-BY	L2+ managed bypass industrial PoE switch with 8*10/100/1000M RJ45 ports and 2*100/1000M uplink SFP fiber ports. Ports 1-8 can support the IEEE802.3af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.	120W/240W

Note: The optical module and power supply are not included and need to be purchased.

PACKING LIST

	Content	Qty	Unit
Packing List	10-port Gigabit bypass managed industrial PoE switch	1	Set
	RJ45-DB9 Adapter Cable	1	PC
	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
	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-G-SC	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-G-SC	Industrial SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, SC interface, supports DDM function and hot plugging.	PC

POWER SUPPLY

Product	Model	Description	Unit
120W DIN Rail Industrial Power Supply	GWS-DP120-48	DIN Rail 120W single set of output power supply Input voltage: AC100V-240V 50-60Hz, 2.3A Output voltage: DC48V, 2.5A Operation temperature: -40℃ to 70℃	PC

240W DIN Rail Industrial Power Supply	GWS-DP240-48	DIN Rail 240W single set of output power supply Input voltage: AC100V-240V 50-60Hz, 3.0A Output voltage: DC48V, 5.0A Operation temperature: -40℃ to 70℃	PC
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RELATED PRODUCT

Model	Description
ONV-IPS33006PFM-BY	L2+ managed bypass industrial PoE fiber switch with 2*100/1000M uplink SFP fiber ports and 4*10/100/1000M RJ45 ports. Ports 1-4 can support the IEEE802.3af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.

CONTACT US



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