

Product Datasheet

10-port Full Gigabit Managed Industrial PoE Switch (ONV-IPS3010PFM)



OVERVIEW

The ONV-IPS3010PFM is a full Gigabit 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. Port 1-8 can support IEEE 802.3 af/at PoE standard, and single-port PoE power up to 30W. As a PoE power supply device can automatically detect and recognize the power-receiving equipment that meets the standard and supplies 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 network cables, 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, and industrial scenes such as construction to set up a cost-effective and stable communication network.

The ONV-IPS3010PFM has a L2+ network management function, supports IPV4 static

route forwarding, security protection mechanism, ACL/QoS policy, and VLAN, and is easy to manage and maintain. Support multiple network redundancy protocols STP/RSTP /MSTP(<50ms) to improve link backup and network reliability. When a 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, SFP fiber port 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 port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ Smart PoE power supply

- ◇ 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.
- ◇ 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.
- ◇ 4*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 STP/RSTP/MSTP production tree protocol 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 IEEE 802.1Q VLAN Users can flexibly divide VLAN according to needs, and support three types of port configurations: Access, Trunk, and Hybrid.
- ◇ 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/V3 multicast protocol, IGMP Snooping meets multi-terminal high-definition video surveillance and video conference access requirements.

■ 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.

■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, Link, L/A, and PoE.
- ◇ Low power consumption, no fan, aluminum shell, and excellent heat dissipation ensure the stable operation of the switch.

■ Easy O&M management

- ◇ CPU monitoring, memory monitoring, Ping detection, cable length detection.
- ◇ HTTPS, SSLV3, SSHV1/V2, and other encryption methods, making management more secure.
- ◇ RMON, system logs, and port traffic statistics to facilitate network optimization and

transformation.

- ◇ LLDP to facilitate the network management system to query and judge the communication status of the link.
- ◇ Web network management, CLI (Console, Telnet), SNMP (V1/V2/V3), Telnet, and other diversified management and maintenance methods.

TECHNICAL SPECIFICATION

Model	ONV-IPS3010PFM
Interface Characteristics	
Fixed Port	1*RS232 console port (115200,N,8,1) 8*10/100/1000Base-T PoE ports (Data/Power) 2*100/1000Base-X uplink SFP fiber ports (Data) 2 set of V+, V- redundant DC power interface (5 Pin Phoenix terminal)
Ethernet Port	Port 1-8 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)
Fiber Port	Gigabit optical fiber interface, default no include optical module (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	L2+
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-TX, IEEE802.3z 1000Base-X, IEEE802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)

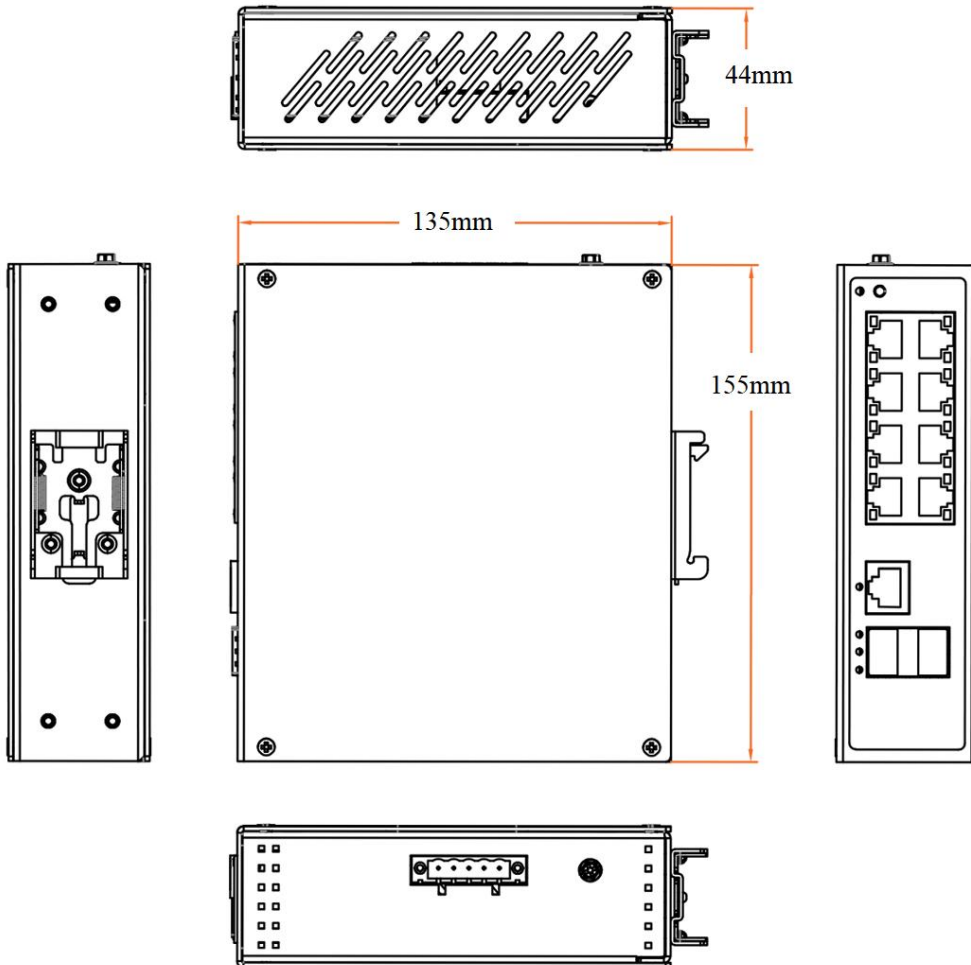
Switching Capacity	20Gbps
Forwarding Rate@64byte	14.88Mpps
MAC	8K
Buffer Memory	4.1Mb
Jumbo Frame	10KB
CPU(Hz)	500M
DRAM	1Gb
Flash	128Mb
LED Indicator	Network: Link G1-G8 (Yellow), Fiber port: L/A G9-G10 (Green) Power: PWR (Green), System: SYS (Green), PoE: PoE G1-G8 (Green)
Reset Switch	Yes. Press and hold the reset switch for 10 seconds and release it to restore factory settings
PoE & Power Supply	
PoE Port	Port 1- 8
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
Power Consumption	Standby<8W, Full load af<120W, at<240W
Input Voltage/ Interface	DC44-56V, 5P industrial phoenix terminal, support anti-reverse protection.
Power Supply	No, optional 48V/120W or 48V/240W industrial power supply
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)	155*135*44mm
Net /Gross Weight	<0.6kg / <0.8kg

Installation	Desktop, DIN Rail
Certification & Warranty	
Lightning Protection	<p>Protection level: IP30, 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-3s</p> <p>IEC61000-4-5 (Surge): Power cable: CM±4kV/ DM±2kV, Data cable: ±4kV</p>
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 B, RoHS
Warranty	5 years, lifelong maintenance.
Network Management Features	
Interface	<p>IEEE802.3x flow control (Full duplex)</p> <p>Port real-time traffic management (Flow Interval)</p> <p>Broadcast storm suppression based on port rate</p> <p>Limit the rate of packet traffic on the incoming and outgoing ports to mini granularity of 16Kbps and max of 1Gbps</p>
Layer 3 Features	<p>IPV4 Static routing/ default routing max 128 entries</p> <p>L2+ network management, ARP protocol max 1024 entries</p>
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 5 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Multicast	Multicast VLAN, Fast log out IGMP Snooping v1/v2, Max 1024 multicast groups
Port Mirroring	Bidirectional data mirroring based on port
QoS	Diff-Serv QoS, Priority Mark/Remark Queue Scheduling Algorithm (SP, WRR, SP+WRR) Flow-based Rate Limiting, Flow-based Packet Filtering 8*Output queues of each port, 802.1p/ DSCP priority mapping
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 User hierarchical management and password protection SSH 2.0, SSL, Port isolation, IP-MAC-VLAN-Port binding Mac black holes, IP source protection, ARP message speed limit ARP inspection, Anti-DoS attack, AAA & RADIUS, MAC learning limit
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	ONV-NMS platform cluster management (LLDP+SNMP) Download & Management on FTP, TFTP, Xmodem, SFTP One-key recovery, Cable Diagnose, LLDP, SNMP V1/V2/V3 NTP, System work log, Ping Test, CPU instant utilization status view Web Management (HTTPS), Console/ AUX Modem/ Telnet/ SSH2.0 CLI
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

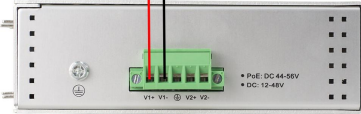
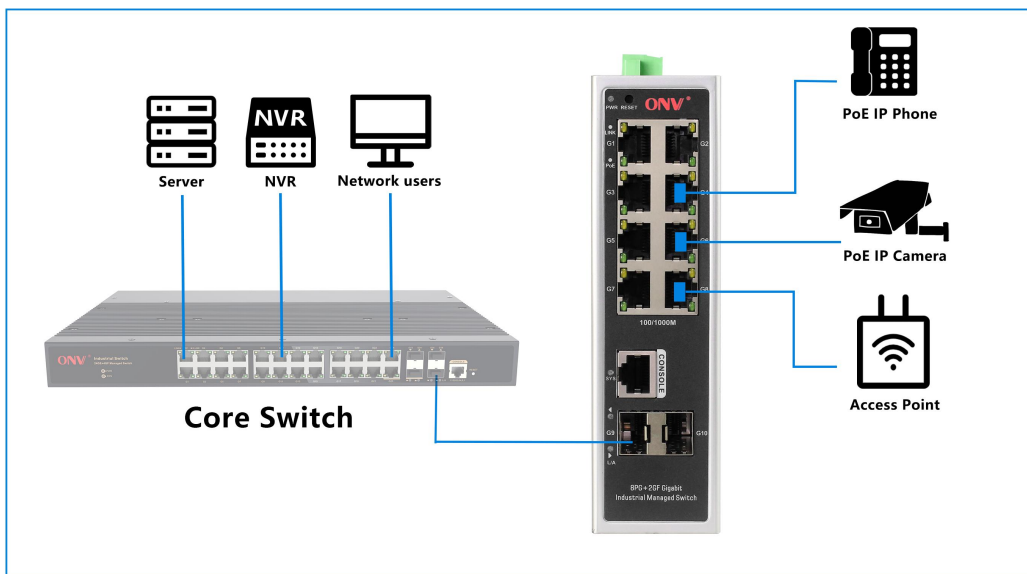


APPLICATION

-  L2+ network management
-  Wide temperature range
-  DIN Rail installation
-  NMS+APP O&M

 PoE: DC 44-56V
(Dual power supply)

Power

ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS3010PFM	L2+ managed industrial PoE fiber switch with 8*10/100/1000M RJ45 ports and 2*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC power input and DIN rail mounting.	60W/120W

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

PACKING LIST

	Content	Qty	Unit
Packing List	10-port full gigabit managed industrial PoE switch	1	SET
	RJ45-DB9 Line	1	PC
	User Guide	1	PC
	Warranty Card	1	PC

OPTICAL MODULE

Product	Model	Description	Unit
1.25G Optical Module	2630-G	Industrial 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 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 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 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 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 optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, SC interface, support DDM function, support hot plug and pull.	PC
Power	2633	1.25G SFP optical module transfers to 10/100/1000M RJ45	PC

Module

port.

POWER SUPPLY

Product	Model	Description	Unit
130W Desktop Power Adapter	GWS-AP130-52	Desktop 130W single set of output power adapter Input Voltage: AC100V~240V 50-60Hz, 2.3A Output Voltage: DC52V, 2.5A Operation Temperature: -20°C to +65°C	PC
250W Desktop Power Adapter	GWS-AP250-52	Desktop 250W single set of output power adapter Input Voltage: AC100V~240V 50-60Hz, 5.0A Output Voltage: DC52V, 4.8A Operation Temperature: -20°C to +65°C	PC
120W DIN Rail Industrial Power Supply	GWS-DP120-48	DIN Rail type 120W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 1.5A Output Voltage: DC48V, 2.5A Operation Temperature: -40°C to +70°C	PC
240W DIN Rail Industrial Power Supply	GWS-DP240-48	DIN Rail type 240W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 3.0A Output Voltage: DC48V, 5.0A Operation Temperature: -40°C to +70°C	PC

CONTACT US



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