Product Datasheet

6-port Full Gigabit L2+ Managed Industrial Ethernet Switch
(ONV-IPS33006FM)

OVERVIEW

The ONV-IPS33006FM is a Gigabit L2 managed industrial Ethernet fiber switch independently developed by ONV. It has 4*10/100/1000Base-T adaptive RJ45 ports and 2*100/1000Base-X uplink SFP fiber ports. Each port can support wire-speed forwarding.

The ONV-IPS33006FM L2+ network management functions, supports IPV4 management, static routing forwarding, complete security protection mechanism, perfect ACL/QoS strategy, and rich VLAN functions for easy management and maintenance. Supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) to improve link backup and network reliability. When a unidirectional network fails, communication can be quickly restored to ensure uninterrupted communication of important applications. According to application needs, port management, routing address management, port flow control, VLAN division, IGMP, security strategy, and other application business configurations can be performed through network management methods such as Web, CLI, SNMP, Telnet, etc. It is suitable for industrial scenarios such as intelligent transportation, rail transportation, power industry, mining, petroleum, shipping, metallurgy, and green energy construction to form an economical, efficient, stable, and reliable communication network.

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FEATURE

■ **Gigabit access, uplink SFP fiber port**

◇ Support non-blocking wire-speed forwarding.

◇ Support full-duplex based on IEEE802.3x and half-duplex based on backpressure.

◇ Support RJ45 port and SFP fiber port combination which enables users to flexibly build networking to meet the needs of various scenarios.

■ **Security**

◇ Port isolation and storm control.

◇ IP+MAC+port+VLAN quadruple flexible combination binding function.

◇ 802.1X authentication provides authentication functions for LAN computers and controls 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.

◇ IEEE 802.1Q VLAN, users can flexibly divide VLANs according to their needs, and support QinQ configuration.

◇ 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/V3 multicast protocol, IGMP Snooping meets multi-terminal high-definition video surveillance and video conference access requirements.

■ **Stable and reliable**

◇ CCC, CE, FCC, RoHS.

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◇ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, and Link.

◇ Low power consumption, no fan, aluminum shell, and excellent heat dissipation to ensure the stable operation of the switch.

■ **Easy O&M management**

◇ Support CPU monitoring, memory monitoring, Ping detection, and 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), and other diversified management and maintenance.

TECHNICAL SPECIFICATION

Model	ONV-IPS33006FM
Interface Characteristics	
Fixed Port	1*Console port (115200,N,8,1) 4*10/100/1000Base-T RJ45 ports (Data) 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 1-4 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	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/ 0-500m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
Chip Parameter	
Network Management Type	L2+
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	12Gbps (non-blocking)
Forwarding Rate@64byte	8.93Mpps
CPU(Hz)	500M
DRAM	1G
Flash	128M
MAC	8K
Buffer Memory	4M
Jumbo Frame	10K
LED Indicator	Power/ System: SYS (Green), Network: Link (Yellow), Fiber port: L/A (Green)
Reset Switch	Yes, Press and hold the reset switch for 10s and release it to restore the factory settings
Power Supply	
Working Voltage	DC12-48V, 5P Phoenix terminal connection, supports anti-reverse connection protection
Power Consumption	Standby<8W, Full load<12W
Power Supply	No, optional 24V/24W industrial power supply
Physical Parameter	
Operation TEMP / Humidity	-40~+80°C, 5%~90% RH Non condensing

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Storage TEMP / Humidity	-40~+85°C, 5%~95% RH Non condensing
Dimension (L*W*H)	145*134.5*47mm
Net /Gross Weight	0.7kg / 0.9kg
Installation	Desktop, 35mm DIN Rail

Certification & Warranty

| Lightning Protection	Protection level: IP40
	Lightning protection: 6KV 8/20us
	IEC61000-4-3 (RS):10V/m (80~1000MHz)
	FCC Part 15/CISPR22 (EN55022): Class B
	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
	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), IEC60068-2-32 (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 Feature

| Interface	IEEE 802.3x flow control (Full duplex)
	Broadcast storm control based on port speed
	Port real-time traffic management (Flow Interval)
	Limit the speed of the message traffic at the inbound and outbound ports mini

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	granularity is 16Kbps, and max granularity is 1Gbps
L3 Feature	ARP protocol, max 1024 entries L2+ network management function IPV4 static route/ default route, max 128 entries
VLAN	Port configuration of Access, Trunk, Hybrid 4K VLAN based on port, IEEE802.1q, VLAN based on the protocol
Port Aggregation	LACP dynamic aggregation, static aggregation Max 3 aggregation groups, per group support up to 8 ports
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Multicast	Multicast VLAN, User quick exit mechanism IGMP Snooping v1/v2/v3, Max 1024 multicast groups
Port Mirroring	Bidirectional data mirroring based on port
QoS	Queue Scheduling Algorithm (SP, WRR, SP+WRR) Flow-based rate limiting, Flow-based packet filtering Flow-based redirection, Diff-Serv QoS, Priority Mark/ Remark 8*Output queues of each port, 802.1p/DSCP priority mapping
ACL	ACL issued based on port and VLAN L2-L4 packet filtering function can match the first 80 bytes of the message and provide ACL definition 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 User hierarchical management and password protection DoS attack prevention, Port broadcast message suppression SSH 2.0, provides a secure encrypted channel for user login Port isolation, IP+MAC+VLAN+port four-way binding function IP source address protection, ARP message rate limit function Host data backup mechanism, ARP intrusion detection function MAC address the black hole, SSL ensures data transmission security

	AAA&RADIUS authentication, MAC address the learning number limit
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	One-click restore, NTP clock, Ping detection System work log, Link layer discovery protocol LLDP Cable status check, Web network management (https) ONV-NMS platform cluster management (LLDP+SNMP) SNMP V1/V2/V3, CPU real-time utilization status check FTP, TFTP, Xmodem, SFTP file upload and download management Console/AUX Modem/Telnet/SSH2.0 CLI command line configuration
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
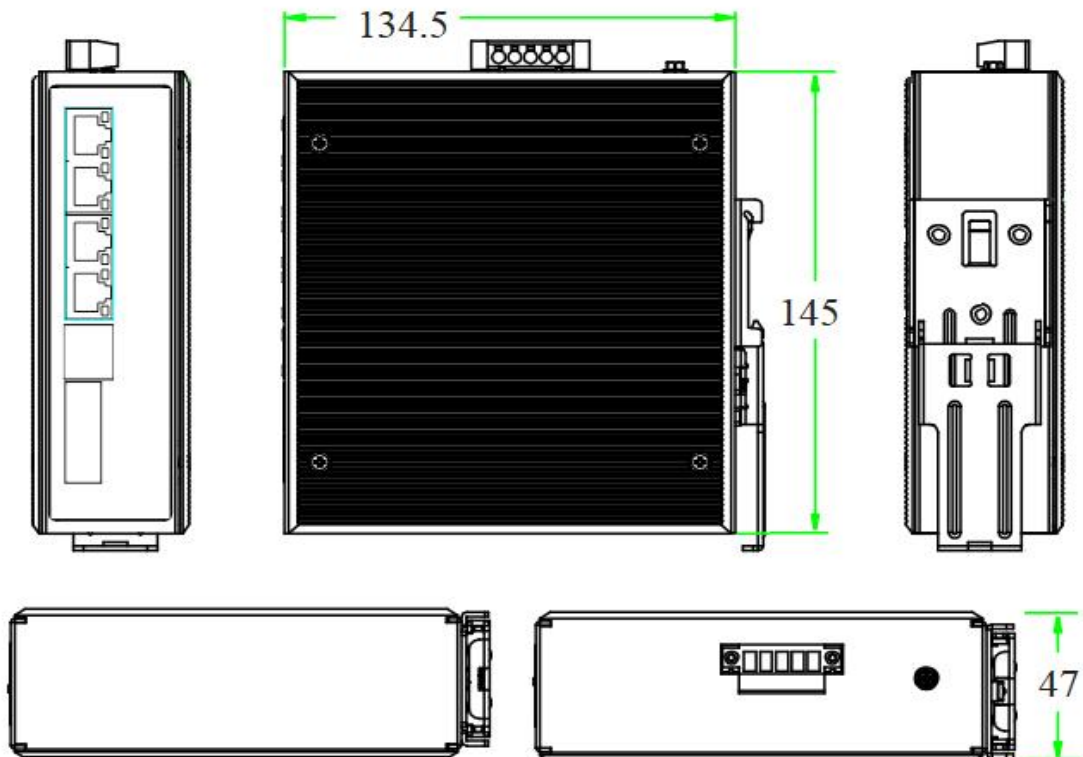
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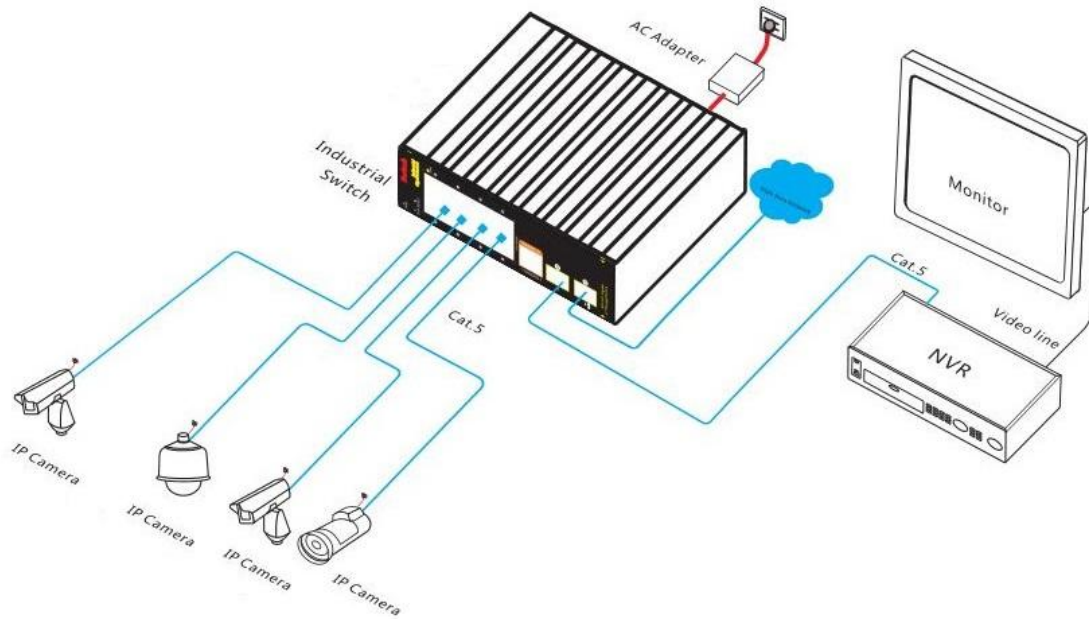
ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS33006FM	L2+ managed industrial Ethernet fiber switch with 4*10/100/1000M RJ45 ports and 2*100/1000M uplink SFP fiber ports. It can support dual DC power supply input and DIN rail mounting.	24V/24W

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

PACKING LIST

	Content	Qty	Unit
Packing List	6-port full gigabit managed industrial Ethernet switch	1	SET
	RJ45-DB9 adaptation conversion line	1	PC
	User guide	1	PC
	Warranty card	1	PC

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POWER SUPPLY

Product	Model	Description	Unit
24W DIN Rail Industrial Power Supply	GWS-DP24-24	DIN Rail 24W single set of output power supply Input Voltage: AC100V~240V 50-60H, 0.35A Output Voltage: DC24V, 1.0A Operation Temperature:-40℃ to +70℃	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-SC-G	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-SC-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	PC

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Power Module	2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	PC

RELATED PRODUCT

Model	Description
ONV-IPS33010FM	L2+ managed industrial Ethernet fiber switch with 8*10/100/1000M RJ45 ports and 2*100/1000M SFP uplink SFP fiber ports. It can support dual DC power supply input and DIN rail mounting.
ONV-IPS33012FM	L2+ managed industrial Ethernet fiber switch with 2*10/100/1000M RJ45 ports and 12*100/1000M uplink SFP fiber ports. It can support dual DC power supply input and DIN rail mounting.
ONV-IPS33148FM	L2+ managed industrial Ethernet fiber switch with 10*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. It can support dual DC power supply input and DIN rail mounting.
ONV-IPS33168FM	L2+ managed industrial Ethernet fiber switch with 8*10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber ports. It can support dual DC power supply input and DIN rail mounting.
ONV-IPS33168FM-4GF	L2+ managed industrial Ethernet fiber switch with 12*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. It can support dual DC power supply input and DIN rail mounting.

CONTACT US

ONV Optical Network Video Technologies (Shenzhen) Co., Ltd.

Tel: 0086-755-33376606

Fax: 0086-755-33376608

WeChat: ONV-PoE-IoT

Email: onv@onv.com.cn

Skype: onv@onv.com.cn

Website: www.onvcom.com

Headquarter Address: Room 1003, Block D, Terra Building, Futian District, Shenzhen

Factory Address: Building B3, Galaxy Artificial Intelligence Industrial Park, No. 333,

Zhongkai 6th Road, Chenjiang Street, Zhongkai High-tech Zone, Huizhou

+86 755 33376606
Optical Network Video Technologies (Shenzhen) Co., Ltd.   ONV