

## Product Datasheet

# 26-port Full Gigabit Managed Industrial Ethernet Fiber Switch

(ONV-IPS33028FM)



## OVERVIEW

The ONV-IPS33028FM is a full gigabit managed industrial Ethernet fiber switch independently developed by ONV. It has 24\*10/100/1000Base-T RJ45 ports and 4\*100/1000Base-X SFP fiber slot ports. Each port can support wire-speed forwarding.

The ONV-IPS33028FM has L2+ full network management function, supports IPV4 management, static route full line rate forwarding, 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) 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 port traffic control, VLAN division, and SNMP through the Web network management mode. It meets the needs of various industrial Ethernet application environments and is suitable for industrial, intelligent transportation, rail transit, power industry, mining, petroleum, marine, metallurgical and green energy construction to form a cost-effective, stable and reliable communication network.

## FEATURE

### ■ Gigabit access, Gigabit SFP port uplink

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
- ◇ A combination of Gigabit Ethernet port and Gigabit SFP port to meet the networking requirements of various scenarios.

### ■ Strong business processing capability

- ◇ STP/RSTP/MSTP.
- ◇ Static and dynamic aggregation.
- ◇ IGMP V1/V2 and IGMP Snooping.
- ◇ IEEE802.1Q VLAN, flexible VLAN division, 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.

### ■ Security

- ◇ 802.1X authentication.
- ◇ Port isolation, Storm control.
- ◇ IP-MAC-VLAN-Port binding.

### ■ Stable and reliable

- ◇ Low power consumption, No fan, aluminum shell.
- ◇ Self-developed power supply, high redundancy design, providing a long term and stable power output.
- ◇ CCC, CE, FCC, RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, Link.

## TECHNICAL SPECIFICATION

Model	ONV-IPS33028FM
<b>Interface Characteristics</b>	
Fixed Port	2*AC100-240V input ports Alarm switch port (FAULT) 1*Console port (115200, N, 8,1) 4*100/1000Base-X SFP ports(Data) 24*10/100/1000Base-T RJ45 ports (Data) 1 group of DC12-48V 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 meter) 100BASE-TX: Cat5 or later UTP(≤100 meter) 1000BASE-T: Cat5e or later UTP(≤100 meter)
SFP Slot Port	Gigabit SFP optical fiber interface, default not included optical modules (optional order 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.
<b>Chip Parameter</b>	
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	192Gbps

Forwarding Rate@64byte	41.7Mpps
MAC	8K
Buffer Memory	4.1M
Jumbo Frame	10K
CPU(Hz)	500M
DRAM	1G
Flash	256M
LED Indicator	Power:PWR (Yellow), System: SYS(Yellow), Network: Link (Yellow), Fiber port: L/A (Green)
Reset Switch	Yes, Press and release for 10 seconds to restore factory settings
<b>Power Supply</b>	
Total PWR / Input Voltage	60W (AC100-240V)
Power Consumption	Standby<18W, Full load<35W
Power Supply	Built-in power adapter, AC100~240V 50-60Hz 0.56A
Power Input Port	1 group of DC12-48V input port, Alarm switch port, 2* AC power input ports  Dual input power port design: AC power supply priority, support anti-reverse protection, power-off automatic switching DC connection.
<b>Physical Parameter</b>	
Operation TEMP / Humidity	-40~+80°C, 5%~90% RH Non condensing
Storage TEMP / Humidity	-40~+85°C, 5%~95% RH Non condensing
Dimension (L*W*H)	440*298*44mm
Net /Gross Weight	<4.7kg / <5.4kg
Installation	Desktop, 19 inch 1U cabinet

## Certification & Warranty

Lightning Protection	<p>Lightning protection: 6KV 8/20us, Protection level: IP40</p> <p>IEC61000-4-2(ESD):±8kV contact discharge,±15kV air discharge</p> <p>IEC61000-4-3(RS):10V/m(80~1000MHz)</p> <p>IEC61000-4-4(EFT): power cable:±4kV; data cable:±2kV</p> <p>IEC61000-4-5(Surge):power cable:CM±4kV/DM±2kV; data cable:±4kV</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 to 3s</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>IEC61000-4-16(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>IEC60068-2-32 (free fall), IEC60068-2-27 (anti shock)</p> <p>IEC60068-2-6 (anti vibration)</p>
Certification	<p>CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS</p>
Warranty	<p>5 years, lifelong maintenance.</p>

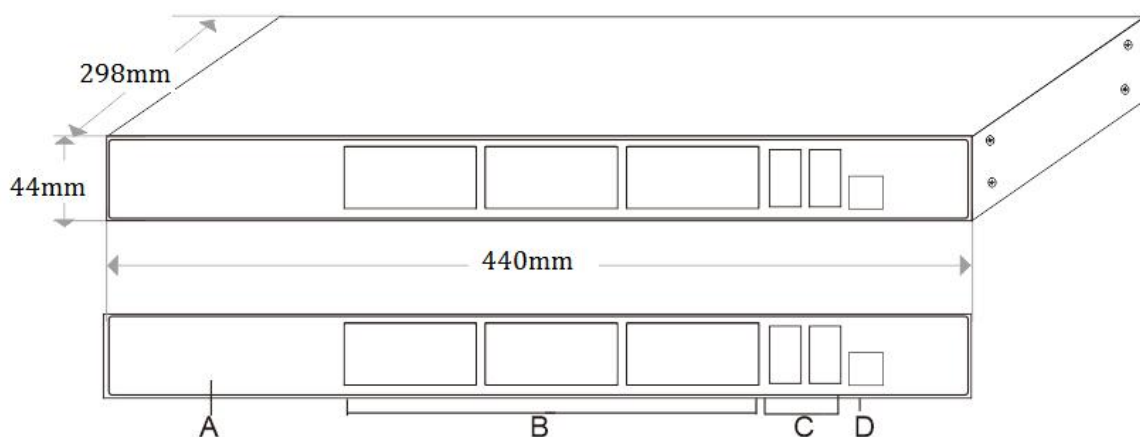
## Network Management Features

Interface	<p>IEEE802.3X (Full-duplex)</p> <p>Broadcast storm control based on port speed</p> <p>The speed limit of the message flow in the access port.</p> <p>The minimum particle size is 64Kbps.</p> <p>Port temperature protection setting</p> <p>Port green Ethernet Energy-saving setting</p>
Layer 3 Features	<p>L2+ network management</p> <p>ARP protocol, maximum 1024 entries</p>

	<p>IPV4/IPV6 static route/default route supports up to 128 entries</p> <p>Layer 3 routing and forwarding, support communication between different network segments and different VLANs</p>
VLAN	<p>Port configuration of Access, Trunk, Hybrid</p> <p>VLAN based on MAC, VLAN based on the protocol</p> <p>QinQ configuration, 4K VLAN based on port, IEEE802.1q</p>
Port Aggregation	<p>LACP, Static aggregation</p> <p>Max 14 aggregation groups and 8 ports per group.</p>
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Multicast	<p>MLD Snooping v1/v2, Multicast VLAN</p> <p>IGMP Snooping v1/v2, Max 1024 multicast groups, Fast log out</p>
Port Mirroring	Bidirectional data mirroring based on port
QoS	<p>Flow-based Rate Limiting</p> <p>Flow-based Packet Filtering</p> <p>8*Output queues of each port</p> <p>802.1p/DSCP priority mapping</p> <p>Diff-Serv QoS, Priority Mark/Remark</p> <p>Queue Scheduling Algorithm (SP, WRR, SP+WRR)</p>
ACL	<p>Port-based Issuing ACL, ACL based on port and VLAN</p> <p>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.</p>
Security	<p>IEEE802.1X &amp; MAC address authentication</p> <p>Broadcast storm control, Backup for host datum</p> <p>SSH 2.0, SSL, Port isolation, ARP message speed limit</p> <p>User hierarchical management and password protection</p> <p>IP-MAC-VLAN-Port binding, ARP inspection, Anti-DoS attack</p> <p>AAA &amp; RADIUS, MAC learning limit, Mac black holes, IP source protection</p>

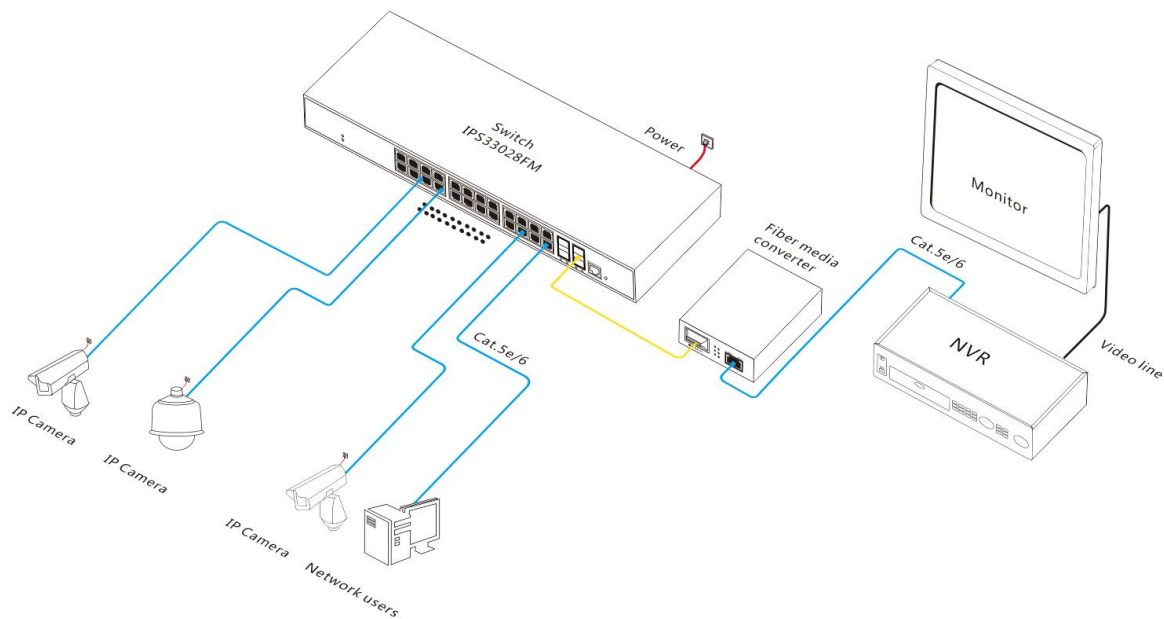
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	<p>CPU instant utilization status view</p> <p>One-key recovery, Cable Diagnose, LLDP</p> <p>Console /AUX Modem /Telnet /SSH2.0 CLI</p> <p>Web Management (HTTPS), NTP, System work log, Ping Test</p> <p>Download &amp; Management on FTP, TFTP, Xmodem, SFTP, SNMP</p> <p>V1/V2C/V3</p> <p>ONV NMS-Smart Network Management System Platform (LLDP+SNMP)</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. Working indicator
- B. 24\*10/100/1000M RJ45 ports
- C. 4\*100/1000M SFP ports
- D. Console port

## APPLICATION



## ORDERING INFORMATION

Model	Description	Recommended Power
ONV-IPS33028FM	L2+ managed industrial Ethernet fiber switch with 24*10/100/1000M RJ45 ports and 4*100/1000M SFP ports. Built-in redundant dual power supply. support 2AC+DC power terminal input and 1U/19-inch cabinet installation.	2*60W

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



## PACKING LIST

PACKING LIST	CONTENT	QTY	UNIT
	26-port full gigabit managed industrial Ethernet fiber switch	1	SET
	AC Power Cable	1	PC
	Mounting Kits	1	SET
	User Guide	1	PC
	Warranty Card	1	PC

## OPTICAL MODULE INFORMATION

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	PC

		fiber TX1310nm/RX1550nm, transmission distance: 20km, SC interface, support DDM function, support hot plug and pull.	
	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
Power Module	ONV-2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	PC

## RELATED PRODUCT

Model	Description
ONV-IPS33018FM	L2+ managed industrial Ethernet fiber switch with 16*10/100/1000M RJ45 ports and 2*100/1000M SFP slot ports. Built-in redundant dual power supply. support 2AC+DC power terminal input and 1U/19-inch cabinet installation.
ONV-IPS36028FM	L2+ managed industrial Ethernet switch with 24* 10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber slot ports. Built-in redundant dual power supply. support 2AC+DC power terminal input and 1U/19-inch cabinet installation.
ONV-IPS36036FM	L2+ managed industrial Ethernet switch with 24* 10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber slot ports and 4*1/10G uplink SFP+ fiber slot ports. Built-in redundant dual power supply. support 2AC+DC power terminal input and 1U/19-inch cabinet installation.
ONV-IPS36368FM	L2+ managed industrial Ethernet switch with 8* 10/100/1000M RJ45 ports and 24*100/1000M uplink SFP fiber slot ports and 4*1/10G uplink SFP+

	fiber slot ports. Built-in redundant dual power supply. support 2AC+DC power terminal input and 1U/19-inch cabinet installation.
ONV-IPS36448FM	L2+ managed industrial Ethernet switch with 12* 10/100/1000M RJ45 ports and 28*100/1000M uplink SFP fiber slot ports and 4*1/10G uplink SFP+ fiber slot ports. Built-in redundant dual power supply. support 2AC+DC power terminal input and 1U/19-inch cabinet installation.

## CONTACT US

**ONV** OPTICAL NETWORK VIDEO TECHNOLOGIES (SHENZHEN) CO., LTD.

Tel: 0086-755-33376606

Fax: 0086-755-33376608

Email: [onv@onv.com.cn](mailto:onv@onv.com.cn)

Skype: [onv@onv.com.cn](https://www.skype.com/people/onv@onv.com.cn)

WeChat ID: ONV-PoE-IoT

Website: [www.onvcom.com](http://www.onvcom.com)

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

Factory Address: The 4-6th Floor, No. 59, Huaning Road, Xinwei Community, Dalang Street, Longhua District, Shenzhen.

