

## Product Datasheet

# 10-port Full Gigabit Managed Industrial Ethernet Switch (ONV-IPS33108FM)



## OVERVIEW

The ONV-IPS33108FM is a gigabit L2+ managed industrial Ethernet switch independently developed by ONV. It has 2\*100/1000Base-X SFP fiber ports and 8\*10/100/1000Base-T adaptive RJ45 ports. Each port can support wire-speed forwarding.

The ONV-IPS33108FM has L2+ network management function, support IPV4/IPV6 management, static route forwarding, complete security protection mechanism, perfect ACL/ QoS policy and rich VLAN functions, easy to manage and maintain. Support multiple network redundancy protocols STP/ RSTP/ MSTP(<50ms) and (ITU-T G.8032) ERPS (<20ms) to improve link backup and network reliability. Communication can be quickly restored when a one-way network fails, to ensure uninterrupted communication of important applications. According to actual application needs, port management, routing address management, port flow control, VLAN division, IGMP, security policy and other application service configurations are performed through Web, CLI, SNMP, Telnet and other network management methods. ONV-IPS33108FM industrial-grade products follow

the design materials of industrial products, and the shell is made of aluminum alloy to enhance heat dissipation, which has excellent industrial field environmental adaptability (mechanical stability, climate environment adaptability, electromagnetic environment adaptability, etc.), protection level IP40, support dual redundant power supply, low power consumption without fan, 5-year warranty. It suitable for building cost-effective, stable and reliable communication networks in industrial scenarios such as intelligent transportation, rail transportation, power industry, mining, petroleum, shipping, metallurgy and green energy construction.

## 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.

### ■ Strong business processing capability

- ◇ Support ERPS ring network and STP/RSTP/MSTP to eliminate layer 2 loops and realize link backup.
- ◇ Support IEEE802.1Q VLAN, Users can flexibly divide VLAN, Voice VLAN, and QinQ configuration according to their needs.
- ◇ 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 Snooping V1/V2/V3 multicast protocol IGMP Snooping to meet the 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.
- ◇ 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, SSHV1/V2 and other encryption methods, making management more secure.
- ◇ RMON, system log, 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-IPS33108FM
<b>Interface Characteristics</b>	
Fixed Port	1*RS232 console port (115200,N,8,1) 8*10/100/1000Base-T RJ45 ports (Data) 2*100/1000Base-X uplink SFP fiber ports (Data) 2 sets 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)
SFP Slot Port	Gigabit optical fiber port, default no include optical modules (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.
<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	20Gbps
Forwarding Rate@64byte	14.88Mpps
CPU(Hz)	416M
DRAM	1G
FLASH	128M
MAC	8K

Buffer Memory	4M
Jumbo Frame	9.6K
LED Indicator	Power: PWR (Yellow), System: SYS (Yellow) 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
<b>Power Supply</b>	
Working Voltage	DC12-48V, 5 Pin industrial Phoenix terminal, support anti-reverse protection.
Power Consumption	Standby<8W, Full load<12W
Power Supply	No, optional 24V/24W industrial power supply
<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)	165*148*54mm
Net /Gross Weight	<0.8kg / <1.2kg
Installation	Desktop, 35mm DIN rail
<b>Certification &amp; Warranty</b>	
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

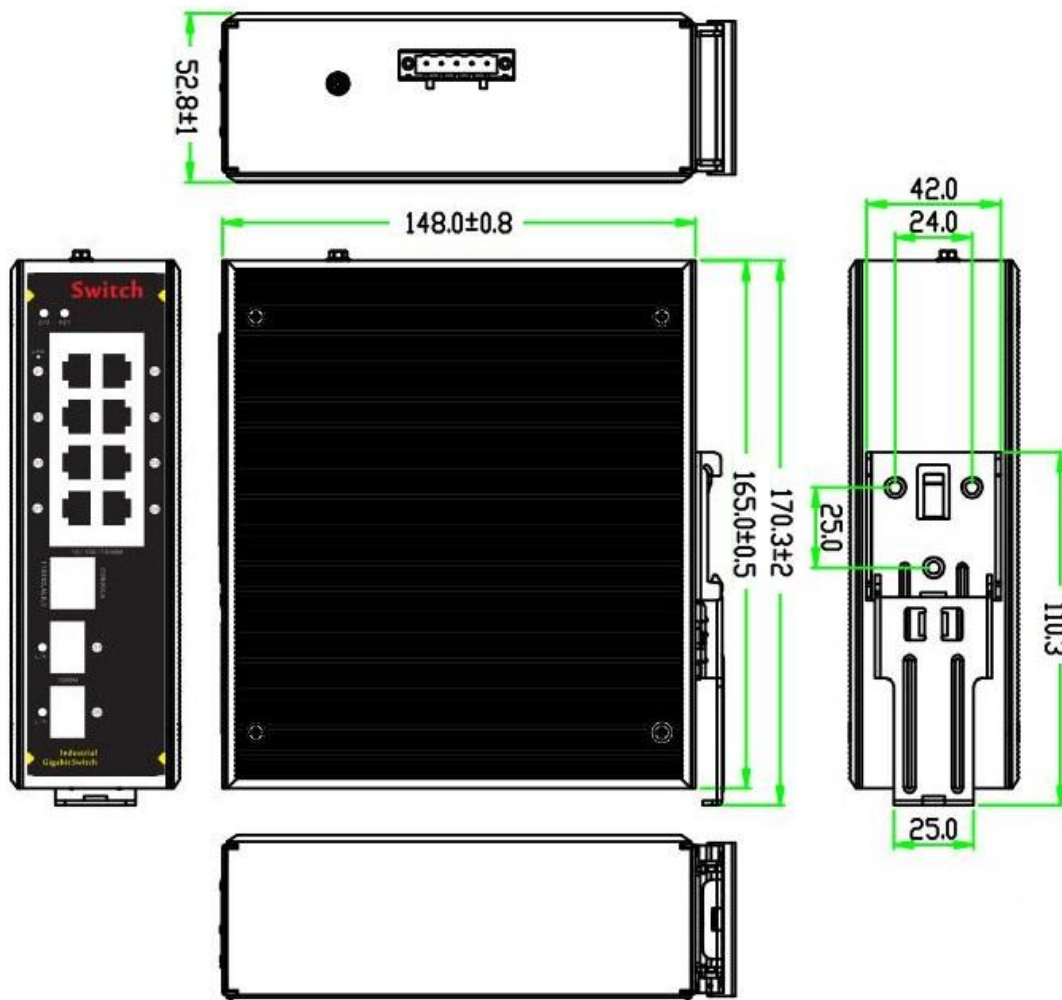
	IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz) IEC61000-4-8 (Power frequency magnetic field): 100A/m, 1000A/m, 1s to 3s IEC61000-4-5 (Surge): Power cable: CM±4kV/ DM±2kV, data cable: ±4kV
Mechanical Properties	IEC60068-2-6 (anti vibration), IEC60068-2-27 (anti shock) IEC60068-2-32 (free fall)
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
Warranty	5 years, lifelong maintenance.
<b>Network Management Features</b>	
Interface	Port green Ethernet Energy-saving setting Broadcast storm control based on port speed IEEE802.3X (Full-duplex), Port temperature protection setting Speed limit of message flow in the access port. The min particle size is 64Kbps.
Layer 3 Features	ARP protocol max 1024 entries Static routing/ default routing max 128 entries Support L2+ network management, IPV4/ IPV6 dual stack management Support L3 routing and forwarding, and support communication between different network segments and different VLAN
VLAN	Port configuration of Access, Trunk, Hybrid VLAN based on MAC, Voice VLAN, QinQ configuration VLAN based on the protocol, 4K VLAN based on port, IEEE802.1q
Port Aggregation	LACP, Static aggregation Max 5 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)

Industrial Ring	G.8032 (ERPS), Recovery time less than 20ms
Network Protocol	255 Ring at most, Max 1024 devices per ring.
Multicast	MLD Snooping v1/v2, Multicast VLAN IGMP Snooping v1/v2/v3, Max 1024 multicast groups, Fast log out
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	MAC learning limit, Mac black holes 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 & TACACS+ certification, IP source protection
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	ONV-NMS platform cluster management (LLDP+SNMP) CPU real-time utilization status view, SNMP V1/V2/V3 Console/ AUX Modem/ Telnet/ SSH2.0, CLI configuration Cable length status detection, NTP clock, One-key recovery, LLDP FTP, TFTP, Xmodem, SFTP file upload and download management Ping detection, System work log, Web network management (HTTPS)
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

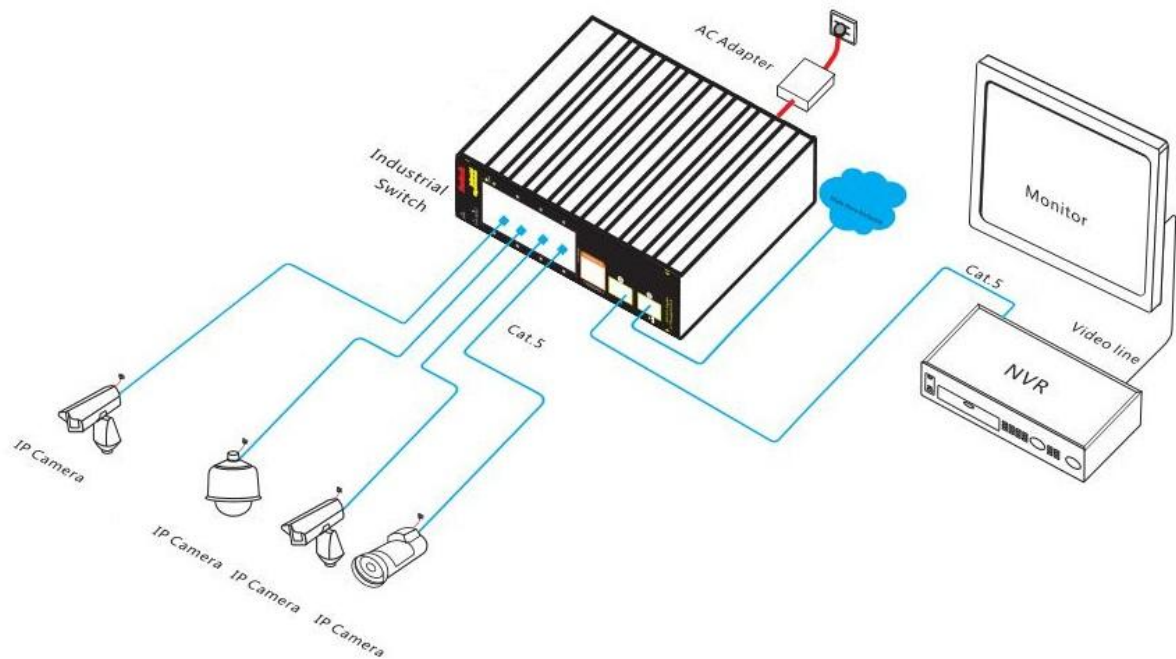
TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in a network

## DIMENSION





## APPLICATION



## ORDERING INFORMATION

Model	Description	Recommended power supply
ONV-IPS33108FM	L2+ managed industrial Ethernet fiber switch with 8*10/100/1000M RJ45 ports and 2*100/1000M SFP ports. It can support dual DC power input and DIN rail mounting.	24V/24W

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 Ethernet 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 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 Module	2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	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 50-60Hz, 0.35A Output Voltage: DC24V1.0A Operation Temperature: -40°C to +70°C	PC

## RELATED PRODUCT

Model	Description
ONV-IPS33064FM	L2+ managed industrial fiber switch with 4*10/100/1000M RJ45 ports and 2*100/1000M SFP ports. It can support dual DC power input and DIN rail mounting.
ONV-IPS33084FM	L2+ managed industrial fiber switch with 4*10/100/1000M RJ45 ports and 4*100/1000M SFP ports. It can support dual DC power input and DIN rail mounting.
ONV-IPS33148FM	L2+ managed industrial fiber switch with 10*10/100/1000M RJ45 ports and 4*100/1000M SFP ports. It can support dual DC power input and DIN rail mounting.
ONV-IPS33168FM	L2+ managed industrial fiber switch with 8*10/100/1000M RJ45 ports and 8*100/1000M SFP ports. It can support dual DC power input and DIN rail mounting.
ONV-IPS33168FM-4GF	L2+ managed industrial fiber switch with 12*10/100/1000M RJ45 ports and 4*100/1000M SFP ports. It can support dual DC power input and DIN rail mounting.

## CONTACT US

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