Product Datasheet

10-port Gigabit Uplink L2 Managed Industrial Ethernet Switch
(ONV-IPS31108FM)

OVERVIEW

The ONV-IPS31108FM is a gigabit uplink L2 managed industrial Ethernet fiber switch independently developed by ONV. It has 8*10/100Base-TX RJ45 ports and 2*100/1000Base-T(X) uplink RJ45/SFP fiber combo ports. Each port can support wire-speed forwarding.

The ONV-IPS31108FM adopts a new generation of high-performance hardware and software platforms, providing flexible and cost-effective 100M access and uplink ports. It supports a complete security protection mechanism, a complete ACL/QoS strategy, and a flexible VLAN function for easy management and maintenance, meeting users' needs for easy management, high security, and low-cost networking of network equipment. ONV-IPS31108FM uses an aluminum alloy shell to enhance heat dissipation performance. It has excellent adaptability to industrial site environments (including mechanical stability, climate environment adaptability, electromagnetic environment adaptability, 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 economical, efficient, stable, and reliable communication networks.

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FEATURE

■ 100M access, uplink RJ45/SFP fiber combo ports

◇ Support non-blocking wire-speed forwarding.

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

◇ Support RJ45 port and Gigabit uplink RJ45/SFP fiber combo port, 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 STP/RSTP/MSTP production tree protocols to eliminate L2 loops and achieve link backup.

◇ IEEE 802.1Q VLAN, users can flexibly divide VLAN 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.

◇ The user-friendly panel can show the device status through the LED indicator of PWR 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 and memory monitoring.

◇ Support HTTPS, SSLV3, SSHV1/V2, and other encryption methods, making management more secure.

◇ Support Web network management, SNMP (v1/v2/v3), and other diversified management and maintenance.

◇ Support RMON, system log, and port traffic statistics to facilitate network optimization and transformation.

◇ Support LLDP to facilitate the network management system to query and judge the communication status of the link.

TECHNICAL SPECIFICATION

Model	ONV-IPS31108FM
Interface Characteristics	
Fixed Port	8*10/100Base-TX RJ45 ports (Data) 2*10/100/1000Base-T uplink RJ45 ports (Data) 2*100/1000Base-X uplink SFP slot ports (combo ports) (Data) 2 set of V+, V- redundant DC power interface (5P Phoenix terminal)
Ethernet Port	Port 1-8 can support 10/100Base-TX and Port 9-10 can 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 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)

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Optical Cable/ Distance	Multi-mode: 850nm/ 0-500m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
Chip Parameter	
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX/FX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	14.8Gbps (non-blocking)
Forwarding Rate@64byte	4.17Mpps
MAC	16K
Buffer Memory	4M
Jumbo Frame	10K
LED Indicator	Power: PWR (Green), Network: Link, Link/Act (Yellow), Rate: Speed (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 industrial Phoenix terminal, support anti-reverse protection.
Power Consumption	Standby<8W, Full load<12W
Power Supply	No, optional 24V/24W 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)	165*148*54mm
Net /Gross Weight	0.9kg/1.15kg
Installation	Desktop, 35mm DIN Rail
Certification & Warranty	
Lightning Protection	Protection level: IP40

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	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 Limit the speed of the message traffic at the inbound and outbound ports mini granularity is 64Kbps
VLAN	4K VLAN based on port, IEEE802.1q QinQ configuration, VLAN based on protocol
Port Aggregation	LACP, Manual aggregation Max 5 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Multicast	MLD Snooping, Multicast VLAN IGMP Snooping v1/v2/v3, Max 64 multicast groups, Fast log out

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Port Mirroring	Bidirectional data mirroring based on port
QoS	Diff-Serv QoS, Priority Mark/Remark Queue Scheduling Algorithm (SP,WRR,SP+WRR) 8*Output queues of each port, 802.1p/DSCP priority mapping
ACL	Support L2-L4 packet filtering function, can match the first 80 bytes of the message to 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	IP+MAC+port binding function Port isolation, Port broadcast storm suppression
DHCP	DHCP Client, DHCP Snooping, DHCP Relay
Management	NTP clock, One-click restore, SNMP V1/V2/V3 System work log, Web network management (https)

DIMENSION
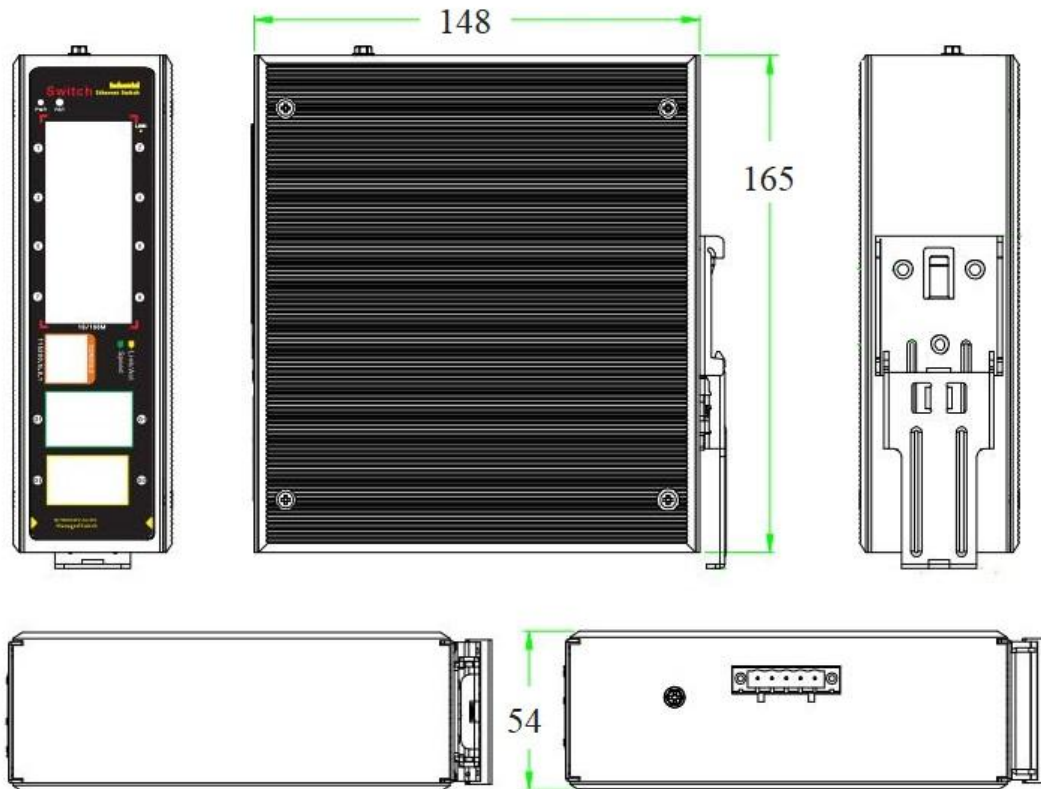
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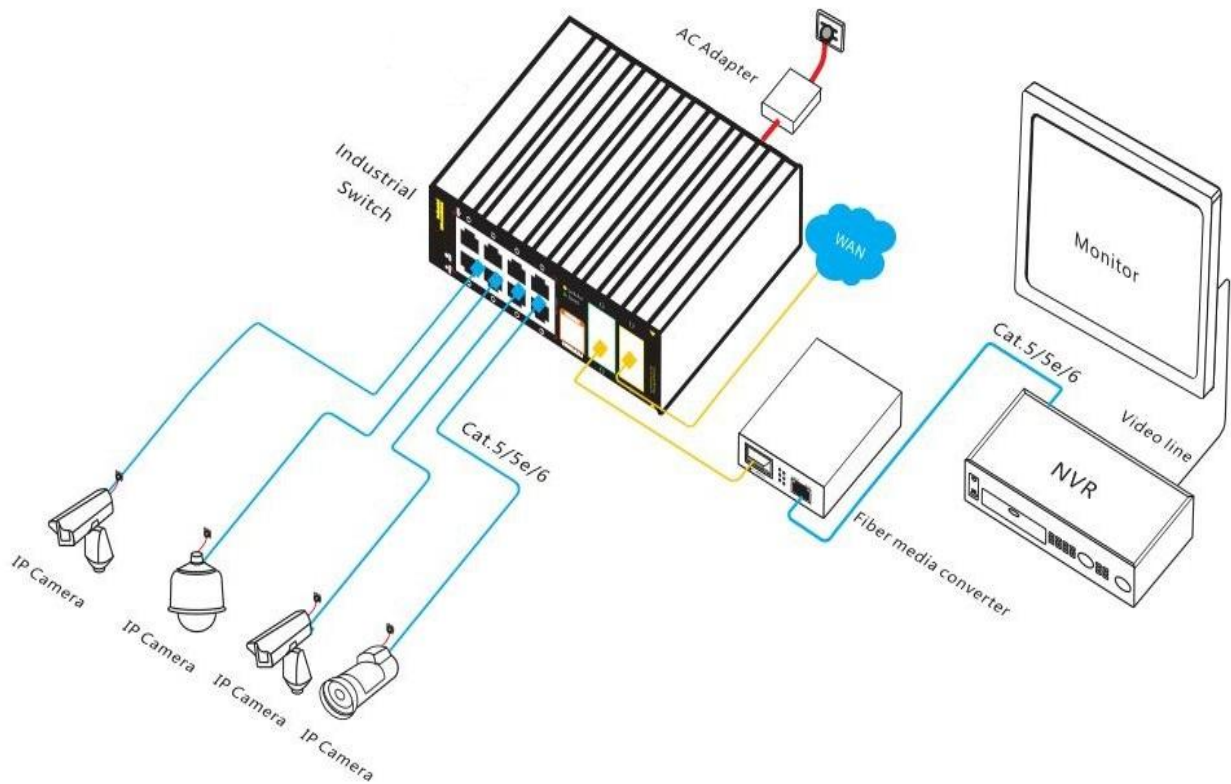
ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS31108FM	L2 managed industrial Ethernet fiber switch with 8*10/100M RJ45 ports and 2*10/100/1000M uplink RJ45 ports and 2*100/1000M uplink SFP fiber combo 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

Packing List	Content	Qty	Unit
	10-port gigabit uplink managed industrial Ethernet switch	1	SET
	User Guide	1	PC
	Warranty Card	1	PC

OPTICAL MODULE

Product	Model	Description	Unit
155M Optical Module	5315-114-G	Industrial SFP optical module, 155M single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	1313-20-G	Industrial SFP optical module, 155M single-mode single fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	1315-20-G	Industrial SFP optical module, 155M single-mode single fiber, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
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	PC

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	Model	Description	Unit
		fiber TX1550nm/ RX1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	
	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
Power Module	2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	PC

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

RELATED PRODUCT

Model	Description
ONV-IPS33064FM	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.
ONV-IPS33108FM	L2+ managed industrial Ethernet fiber switch with 8*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.
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

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	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.

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

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