Product Datasheet

10-port Gigabit Uplink 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) TP/SFP combo ports . Each port can support wire-speed forwarding.

The ONV-IPS31108FM series adopts a new generation of high-performance hardware and software platform to provide flexible and cost-effective 100M access and gigabit uplink ports. It can support security protection mechanism, ACL/QoS and VLAN functions for easy management and maintenance, and meets users' requirements for network devices. Easy to manage, high security, low-cost networking requirements. The industrial-grade series products are designed and used in accordance with industrial products. The aluminum alloy shell enhances heat dissipation and has excellent industrial field environment adaptability (including mechanical stability, climatic environment adaptability, electromagnetic environment adaptability, etc.), protection level IP40, support dual redundant power supply, low power consumption, fan-less cooling, MTBF mean trouble-free working time up to 35 years, 5 years warranty. It is suitable for industrial scenes such

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as intelligent transportation, rail transit, power industry, mining, petroleum, shipping, metallurgy and green energy construction to form a cost-effective, stable and reliable communication network.

FEATURE

■ **10/100M access, Gigabit TP/SFP combo port uplink**

◇ All series support "10/100M Ethernet port and Gigabit combo port"combination, which enables users to flexibly build networking to meet the needs of various scenarios.

◇ Support non-blocking wire-speed forwarding.

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

■ **Security**

◇ 802.1X authentication.

◇ Port isolation,Storm control.

◇ IP-MAC-VLAN-Port binding.

■ **Strong business processing capability**

◇ 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.

◇ IGMP V1/V2 and IGMP Snooping.

◇ STP/RSTP/MSTP.

◇ Static and dynamic aggregation.

■ **Stable and reliable**

◇ Low power consumption, no fan , aluminum casing.

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◇ CCC,CE, FCC, RoHS.

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

■ **Easy operation and maintenance management**

◇ Web management, CLI command line (Console, Telnet), SNMP (V1/V2/V3).

◇ HTTPS, SSLV3, and SSHV1/V2.

◇ RMON, system log, LLDP, and port traffic statistics.

◇ CPU monitoring, memory monitoring.

TECHNICAL SPECIFICATION

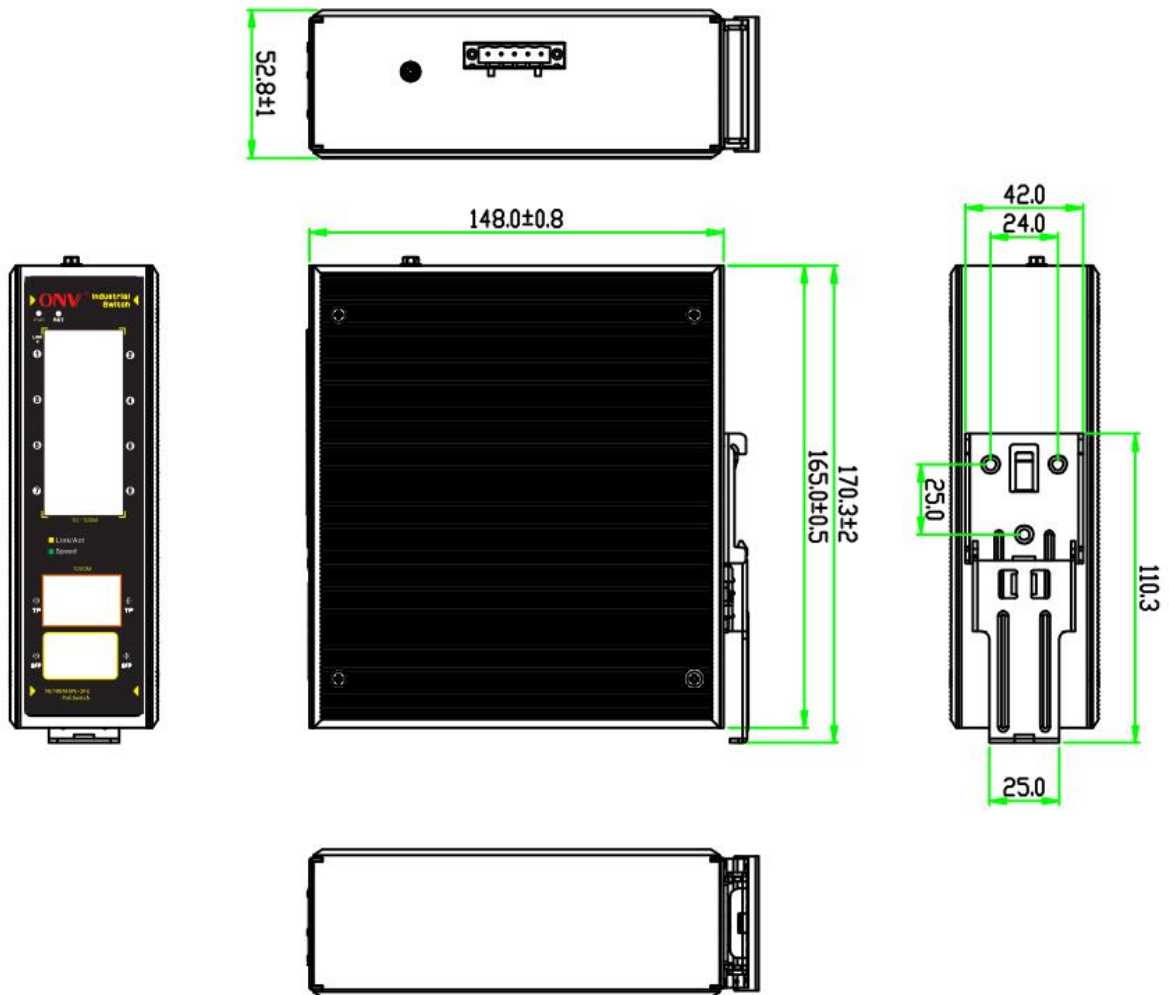| Model	ONV-IPS31064FM	ONV-IPS31108FM
Interface Characteristics		
Fixed Port	4*10/100Base-TX RJ45 ports (Data) 2*10/100/1000Base-T uplink RJ45 ports (Data) 2*100/1000Base-X uplink SFP slot ports (combo ports) (Data) 2 set of V+, V- redundant DC power interface (5P Phoenix terminal)	8*10/100Base-TX RJ45 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 1-4 support 10/100Base-TX, Port 5-6 support 10/100/1000Base-T(X) automatic detection, full / half duplex MDI/MDI-X adaptive	Port 1-8 support 10/100Base-TX, Port 9-10 can support 10/100/1000BaseT(X) automatic detection, full / half duplex MDI/MDI-X adaptive
Twisted Pair	10BASE-T: Cat3,4,5 UTP(≤100 meter)	

Transmission	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 matching optical modules (optional order single-mode / multi-mode, single fiber / dual fiber optical module. LC)	
Optical Cable/ Dinstance	Multi mode: 850nm / 0 ~ 500M single mode: 1310nm / 0 ~ 40KM, 1550nm / 0 ~ 120KM.	
Chip Parameter		
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX/FX, IEEE802.3ab 1000Base-T IEEE802.3z 1000Base-X IEEE802.3x	
Forwarding Mode	Store and Forward(Full Wire Speed)	
Switching Capacity	64Gbps	
Forwarding Rate@64byte	3.57Mpps	4.17Mpps
MAC	16K	
Buffer Memory	4M	
Jumbo Frame	10K	
LED Indicator	Power: PWR (green), network: Link, link/Act (yellow), Speed: Speed (green)	
Reset Switch	Yes, Press and hold the reset switch for 10s and release it to restore the factory settings	
Power		
Working Voltage	12-48VDC; 5P industrial Phoenix terminal, support anti-reverse protection.	
Power Consumption	Standby<5W, Full load<8W	Standby<8W, Full load:<12W

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| Power Supply	No, optional 24V/24W industrial power supply	
Physical Parameter		
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)	145*134.5*47.5mm	165*148*54mm
Net /Gross Weight	<0.8kg / <1.0kg	<1.3kg / <1.8kg
Installation	Desktop, DIN rail	
Certification & Warranty		
Lightning protection / protection level	Lightning protection: 6KV 8/20us; Protection level: IP40 IEC61000-4-2(ESD):±8kV contact discharge,±15kV air discharge IEC61000-4-3(RS):10V/m(80~1000MHz) IEC61000-4-4(EFT): power cable:±4kV; data cable:±2kV IEC61000-4-5(Surge):power cable:CM±4kV/DM±2kV; data cable:±4kV IEC61000-4-6(radio frequency transmission):10V(150kHz~80MHz) IEC61000-4-8(power frequency magnetic field):100A/m;1000A/m ,1s to 3s IEC61000-4-9(pulsed magnet field):1000A/m IEC61000-4-10(damped oscillation):30A/m　1MHz IEC61000-4-12/18(shockwave):CM 2.5kV,DM 1kV IEC61000-4-16(common-mode transmission):30V; 300V,1s FCC Part 15/CISPR22(EN55022):Class A IEC61000-6-2(Common Industrial Standard)	
Mechanical Properties	IEC60068-2-6 (anti vibration) IEC60068-2-27 (anti shock) IEC60068-2-32 (free fall)	
Certification	CCC;CE mark, commercial; CE/LVD EN60950;FCC Part 15 Class B; RoHS;	

Warranty	5 years , lifelong maintenance.	
Network Management Features		
Interface	IEEE802.3X (Full-duplex) Broadcast storm control based on port speed The speed limit of the message flow in the access port. The minimum particle size is 64Kbps.	
VLAN	QinQ configuration VLAN based on protocol 4K VLAN based on port, IEEE802.1q	
Port Aggregation	LACP,Manual aggregation Max 3 aggregation groups and 8 ports per group.	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 v1/v2,Multicast VLAN IGMP Snooping v1/v2/v3, Max 64 multicast groups, Fast log out	
Port Mirroring	Bidirectional data mirroring based on port	
QoS	Diff-Serv QoS Priority Mark/Remark 8*Output queues of each port 802.1p/DSCP priority mapping Queue Scheduling Algorithm (SP,WRR,SP+WRR)	
ACL	L2-L4 packet filtering, matching first 80 bytes message. Provide ACL based on MAC, Destination MAC, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range and VLAN etc. Port-based Issuing ACL.	
Security	Port isolation Broadcast storm control Port+MAC binding, IP+MAC+port binding	
DHCP	DHCP Client,DHCP Snooping,DHCP Relay	

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| System &
Management | NTP |
	SNMP V1/V2C/V3
	One-key recovery
	Login Record
	Web Management (HTTPS)

DIMENSION

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APPLICATION
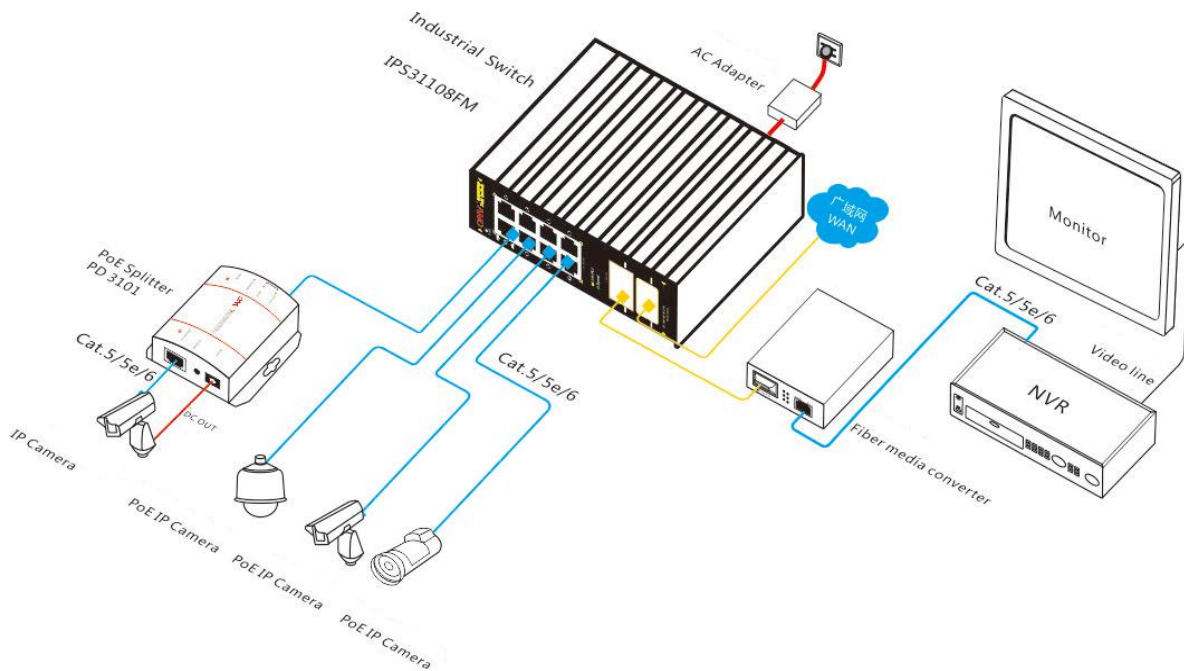
ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS31064FM	L2 managed industrial Ethernet fiber switch with 4*10/100M RJ45 ports and 2*10/100/1000M uplink RJ45 ports and 2*100/1000M uplink SFP ports (combo port). It can support dual DC power supply input and DIN rail mounting.	24W
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 ports (combo port). It can support dual DC power supply input and DIN rail mounting.	24W

Note: Industrial Ethernet switch does not match the SFP optical module and power supply.

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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 INFORMATION

Product	Model	Description	Unit
155M Optical module	ONV-5315-114	SFP optical module, 155M, single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	ONV-1313-20	SFP optical module, 155M, single-mode single fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	ONV-1315-20	SFP optical module, 155M, single-mode single fiber, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
1.25G Optical module	ONV-2630	SFP optical module, 1.25G, multi mode dual fiber 850nm, transmission distance: 550m, LC interface, support DDM function, support hot plug and pull.	PC
	ONV-2632	SFP optical module, 1.25G, single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	ONV-2612-T	SFP optical module, 1.25G, single-mode single fiber	PC

		TX1310nm/RX1550nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	
	ONV-2613-R	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
	ONV-2612-T-SC	SFP optical module, 1.25G, single-mode single fiber TX1310nm/RX1550nm, transmission distance: 20km, SC interface, support DDM function, support hot plug and pull.	PC
	ONV-2613-R-SC	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

POWER SUPPLY SELECTION TABLE

Product	Model	Description	Unit
24W DIN Rail Industrial Power Supply	GWS-DP24-24	Din Rail type 24W single set of output power supply; Input Voltage:AC 100V~240V 50-60H,0.35A Output Voltage:DC 24V 1.0A Operation Temperature：-40℃—+70℃	PC

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RELATED PRODUCT

Model	Description
ONV-IPS33064FM	L2+ managed industrial Ethernet fiber switch with 4*10/100/1000M RJ45 ports and 2*100/1000M SFP slot ports. 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 SFP slot ports. Support dual DC power supply input and DIN rail mounting.
ONV-IPS33128FM	L2+ managed industrial Ethernet fiber switch with 10*10/100/1000M RJ45 ports and 2*100/1000M SFP slot ports. 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 SFP slot ports. 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 SFP slot ports. Support dual DC power supply input and DIN rail mounting.

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