Product Datasheet

24-Port Full Gigabit Managed Industrial Ethernet Switch

(ONV-IPS33248FM-4GF)

OVERVIEW

The ONV-IPS33248FM-4GF is a full gigabit L2+ managed industrial Ethernet fiber switch independently developed by ONV. it has 20*10/100/1000Base-T RJ45 ports and 4*100/1000Base-X SFP fiber slot ports. Each port can support wire-speed forwarding.

The ONV-IPS33248FM-4GF has L2+ full network management function, supports IPV4/IPV6 management,static route full line rate forwarding, complete security protection mechanism, ACL/QoS policy and rich VLAN functions, and is easy to manage and maintain. Supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS (<20ms) 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 PoE power

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management, port traffic control, VLAN division, and SNMP through the Web network management mode.

FEATURE

■ **Gigabit access , SFP port uplink**

◇ All series supports Ethernet port and SFP 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.

■ **Strong business processing capability**

◇ IEEE802.1Q VLAN, flexible VLAN division,Voice VLAN 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.

◇ ERPS/STP/RSTP/MSTP.

◇ Static and dynamic aggregation.

■ **Security**

◇ 802.1X authentication.

◇ Port isolation,Storm control.

◇ IP-MAC-VLAN-Port binding.

■ **Stable and reliable**

◇ CCC,CE, FCC, RoHS.

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◇ Low power consumption, no fan , aluminum casing.

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

■ **Easy operation and maintenance management**

◇ HTTPS, SSLV3, and SSHV1/V2.

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

◇ CPU monitoring, memory monitoring, Ping test, and cable diagnose.

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

TECHNICAL SPECIFICATION

Model	ONV-IPS33248FM	ONV-IPS33248FM-4GF
Interface Characteristics		
Fixed Port	12*10/100/1000Base-T uplink RJ45 ports (Data) 12*100/1000Base-X uplink SFP slot ports (Data) 1 * RS232 console port(115200,N,8,1) 2 set of V+, V- redundant DC power interface (6 Pin Phoenix terminal) Alarm switch (FAULT)	20*10/100/1000Base-T uplink RJ45 ports (Data) 4*100/1000Base-X uplink SFP slot ports (Data) 1 * RS232 console port(115200,N,8,1) 2 set of V+, V- redundant DC power interface (6 Pin Phoenix terminal) Alarm switch (FAULT)
Ethernet Port	Port 1-12 support 10/100/1000Base-T,auto-sensing ,Full/half duplex MDI/MDI-X self-adaption	Port 1-20 support 10/100/1000Base-T,auto-sensing, Full/half duplex MDI/MDI-X self-adaption

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| 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)
Optical Fiber Port	Gigabit SFP optical fiber interface, default matching optical modules (optional order single-mode / multi-mode, single fiber / dual fiber optical module. LC)
SFP Port Expansion	Turbo overclocking 2.5G optical module and ring
Optical Cable/ Distance	Multi mode: 850nm / 0 ~ 500M, single mode: 1310nm / 0 ~ 40KM, 1550nm 0 ~ 120KM.
Chip Parameter	
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	256Gbps
Forwarding Rate@64byte	35.71Mpps
MAC	8K
Buffer Memory	8M
Jumbo Frame	9.6K
LED Indicator	Power: PWR (green), System: SYS (green), Network: Link (yellow), Fiber Port : L/A (green)
Reset Switch	Yes, One-button factory reset
Power	
Total PWR / Input	36W /48VDC
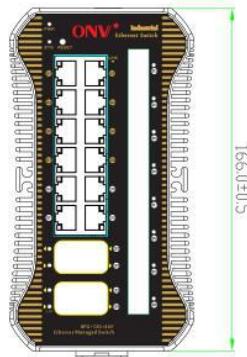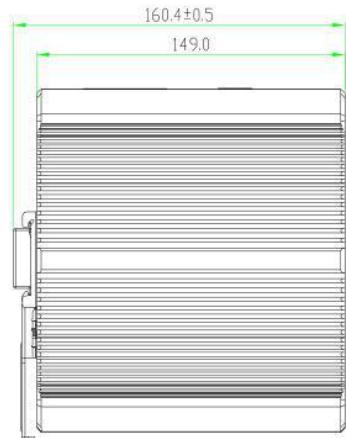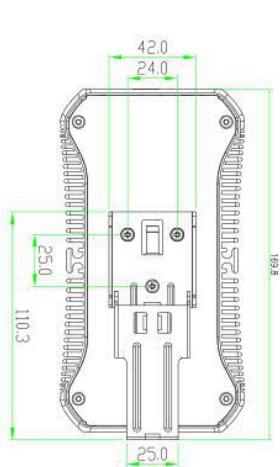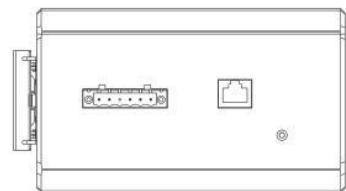
Voltage	
Power Consumption	Standby<20W, Full load<30W
Working Voltage	12-48VDC, 6 Pin industrial Phoenix terminal, support anti-reverse protection.
Power Supply	No, optional 24V/36W or 24V/60W industrial power supply
Physical Parameter	
Operation TEMP / Humidity	-40~+80°C;5%~90% RH Non condensing
Storage TEMP / Humidity	-40~+85°C;5%~95% RH Non condensing
Dimension (L*W*H)	166*149*89mm
Net /Gross Weight	<2.2kg / <2.8kg
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	IEC60068-2-6 (anti vibration)

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Properties	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) Port temperature protection setting Port green Ethernet Energy-saving setting Broadcast storm control based on port speed The speed limit of the message flow in the access port. The minimum particle size is 64Kbps.
Layer 3 Features	L2+ network management ,IPV4/IPV6 management L3 soft routing forwarding, Static route, Default route @ 128 pcs, APR @ 1024 pcs
VLAN	4K VLAN based on port, IEEE802.1q VLAN based on the protocol VLAN based on MAC Voice VLAN, QinQ configuration Port configuration of Access, Trunk, Hybrid
Port Aggregation	LACP, Static aggregation Max 12 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d),RSTP (IEEE802.1w),MSTP (IEEE802.1s)
Industrial Ring Network Protocol	G.8032 (ERPS),Recovery time less than 20ms 250 Ring at most, Max 1024 devices per ring.
Multicast	MLD Snooping v1/v2,Multicast VLAN IGMP Snooping v1/v2, Max 1024 multicast groups, Fast log out
Port Mirroring	Bidirectional data mirroring based on port
QoS	Flow-based Rate Limiting

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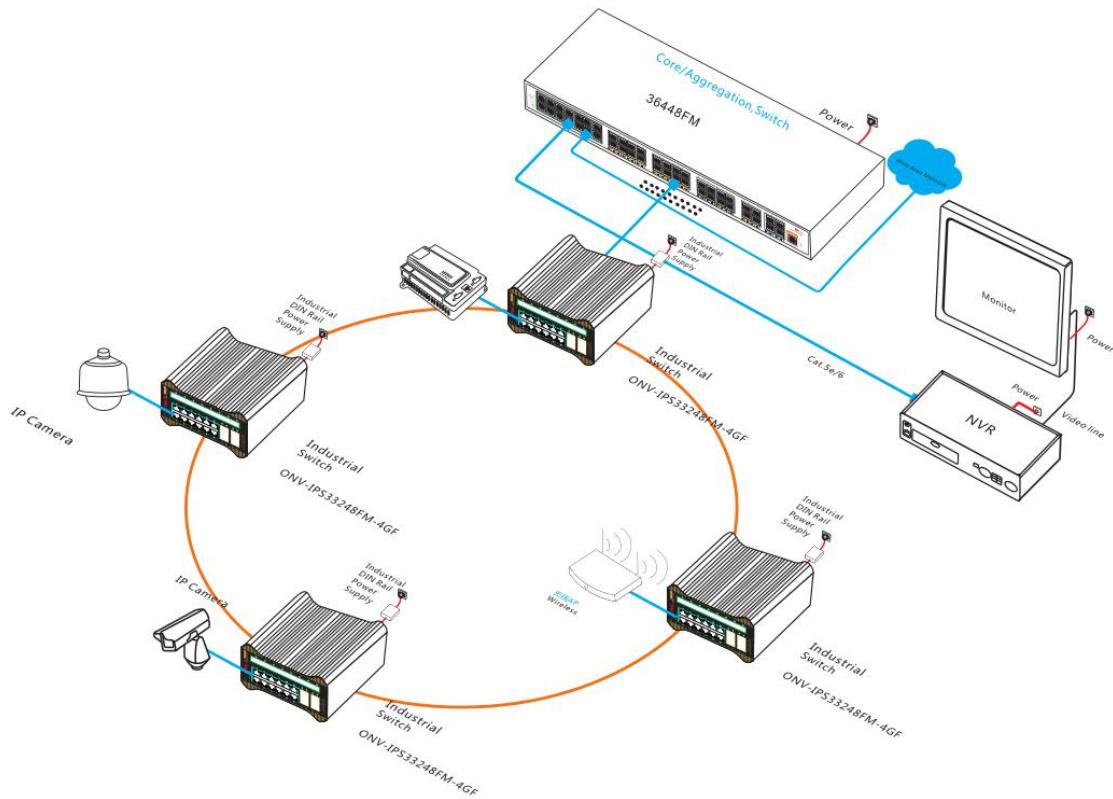
| | Flow-based Packet Filtering |
	8*Output queues of each port
	802.1p/DSCP priority mapping
	Diff-Serv QoS,Priority Mark/Remark
	Queue Scheduling Algorithm (SP, WRR, SP+WRR)
ACL	Port-based Issuing ACL,ACL based on port and VLAN
	L2 to L4 packet filtering, matching first 80 bytes message. Provide ACL based on MAC, Destination MAC address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range, and VLAN, etc.
Security	IP-MAC-VLAN-Port binding
	ARP inspection,Anti-DoS attack
	AAA & RADIUS,MAC learning limit
	Mac black holes,IP source protection
	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
DHCP	DHCP Client,DHCP Snooping, DHCP Server,DHCP Relay
Management	One-key recovery
	Cable Diagnose,LLDP
	Web Management (HTTPS)
	NTP,System work log,Ping Test
	CPU instant utilization status view
	Console/AUX Modem/Telnet/SSH2.0 CLI
	Download & Management on FTP, TFTP, Xmodem, SFTP,SNMP V1/V2C/V3
	ONV NMS - smart network management system platform(LLDP+SNMP)
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-IPS33248FM-4GF	L2+ managed industrial Ethernet fiber switch with 20*10/100/1000M RJ45 ports and 4*100/1000M SFP slot ports. Support dual DC power supply input and DIN rail mounting.	36W/60W
ONV-IPS33248FM	L2+ managed industrial Ethernet fiber switch with 12*10/100/1000M RJ45 ports and 12*100/1000M SFP slot ports. Support dual DC power supply input and DIN rail mounting.	36W/60W
Note: Industrial Ethernet switch does not match the SFP optical module and power supply.		

PACKING LIST

PACKING LIST	CONTENT	QTY	UNIT
	24-port full gigabit managed industrial Ethernet switch	1	SET
	RJ45-DB9 Line	1	PC
	User Guide	1	PC
	Warranty Card	1	PC

OPTICAL MODULE INFORMATION

Product	Model	Description	Unit
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 TX1310nm/RX1550nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	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
	2612-T-G	Industrial SFP optical module, 1.25G, single-mode single fiber TX1310nm/RX1550nm, transmission	PC

		distance: 20km, LC interface, support DDM function, support hot plug and pull.	
	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
	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
36W DIN Rail Industrial Power Supply	GWS-DP36-24	Din Rail type 36W single set of output power supply; Input Voltage:AC 100V~240V 50-60Hz, 0.56A Output Voltage:DC 24V 1.5A Operation Temperature:-40℃—+70℃	PC

60W DIN Rail Industrial Power Supply	GWS-DP60-24	Din Rail type 60W single set of output power supply; Input Voltage:AC 100V~240V 50-60Hz, 1.0A Output Voltage:DC 24V 2.5A Operation Temperature:-40℃—+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 SFP slot ports. Support dual DC power supply input and DIN rail mounting.
ONV-IPS33084FM	L2+ managed industrial Ethernet fiber switch with 4*10/100/1000M RJ45 ports and 4*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-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.
ONV-IPS33168FM-4GF	L2+ managed industrial Ethernet fiber switch with 12*10/100/1000M RJ45 ports and 4*100/1000M SFP slot ports. Support dual DC power supply input and DIN rail mounting.

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