

Product Datasheet

52-port 10G Uplink Managed Industrial Ethernet Switch

(ONV-IPS36048FM)



OVERVIEW

The ONV-IPS36048FM is a 10G uplink managed industrial Ethernet switch independently developed by ONV. It has 48*10/100/1000Base-T RJ45 ports and 4*1/10G SFP+ fiber slot ports. Each port can support wire-speed forwarding.

The ONV-IPS36048FM has L2+ full network management function, supports IPV4/IPV6 management, supports static route full line rate forwarding, supports 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) 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 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 wire speed access, 10G 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 10G uplink SFP+ port to meet the networking requirements of various scenarios.

■ Security

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

■ Strong business processing capability

- ◇ ERPS/STP/RSTP/MSTP.
- ◇ Static and dynamic aggregation.
- ◇ IGMP V1/V2 and IGMP Snooping.
- ◇ 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.

■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ Low power consumption, No fan, galvanized steel case.
- ◇ Self-developed power supply, high redundancy design, providing a long term and stable power output.

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

■ 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-IPS36048FM	ONV-IPS38048FM
Interface Characteristics		
Fixed Port	2*AC100-240V input ports Alarm switch port (FAULT) 1*Console port (115200, N, 8,1) 4*1/10G uplink SFP+ ports (Data) 48*10/100/1000Base-T RJ45 ports (Data) 1 group of DC12-48V input ports (Support reverse polarity protection function)	
Ethernet Port	Port 1-48 support 10/100/1000Base-T(x) auto-sensing, Full/half duplex MDI/MDI-X self-adaption	
Optical Fiber Port	1/10G SFP+ optical fiber port, default no include optical modules (optional order single-mode / multi-mode, single fiber / dual fiber optical module. LC)	
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 Port Expansion	Turbo overclocking 2.5G optical module and ring	

Optical Cable/ Distance	Multi-mode: 850nm / 0-500M, 0-300M(10G), Single-mode: 1310nm / 0-40KM, 1550nm / 0-120KM.	
Chip Parameter		
Network Management Type	L2+	L3
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T, IEEE802.3z 1000Base-X, IEEE802.3ae 10GBase-LR/SR, IEEE802.3x	
Forwarding Mode	Store and Forward(Full Wire Speed)	
Switching Capacity	598Gbps	
Forwarding Rate@64byte	131Mpps	
CPU	500MHz	
DRAM	4G	
FLASH	256M	
MAC	32K	
Buffer Memory	32M	
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	
Power		
Total PWR / Input Voltage	60W (AC100-240V)	
Power Consumption	Standby:<30W, Full load:<50W	
Power Input Interface	Built-in power supply, AC 100~240V 50-60Hz 0.65A	
Power Supply	1 group of DC12-48V input port, Alarm switch port, 2 group of AC power	

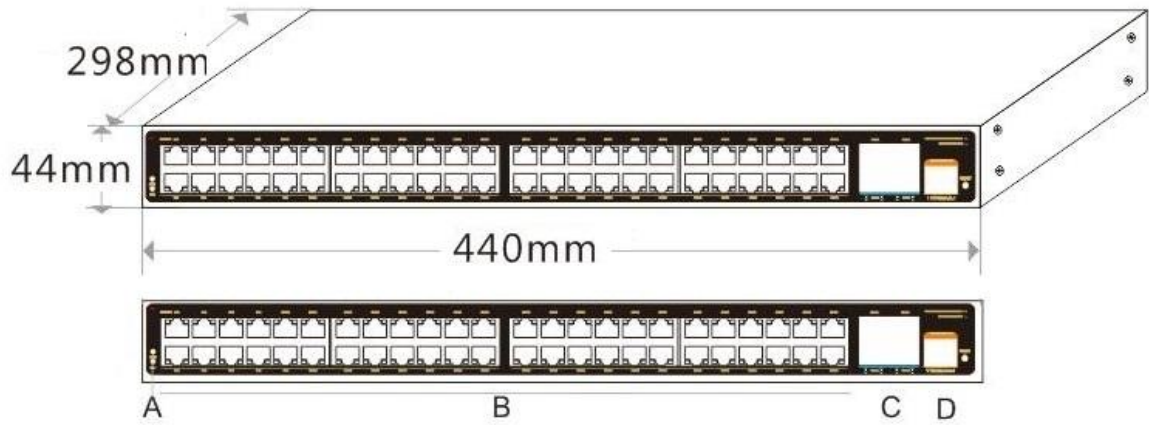
	input ports Dual input power port design: AC power supply priority, support anti-reverse protection, power-off automatic switching DC connection.
Physical Parameter	
Operation TEMP / Humidity	-40~+80°C, 5%~90% RH Non condensing
Storage TEMP / Humidity	-40~+85°C, 5%~95% RH Non condensing
Dimension (L*W*H)	440*298*44mm
Net /Gross Weight	<5.0kg / <5.8kg
Installation	Desktop, 19 inch 1U cabinet
Certification & Warranty	
Lightning Protection	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 EN62368-1, FCC Part 15 Class B, RoHS	
Warranty	5 years, lifelong maintenance.	
Network Management Features		
Interface	<p>IEEE802.3X (Full-duplex)</p> <p>Port temperature protection setting</p> <p>No connection port automatic sleep</p> <p>Port green Ethernet Energy-saving setting</p> <p>Broadcast storm control based on port speed</p> <p>SFP+ optical port DDMI real-time digital diagnosis</p> <p>The speed limit of the message flow in the access port, minimum particle size is 64Kbps.</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>	<p>IPV4 Equal Cost Routing</p> <p>NG protocol, maximum 1000 entries</p> <p>ARP protocol, maximum 1000 entries</p> <p>Pingv6, Telnetv6, TFTPv6, DNSv6, ICMPv6</p> <p>IPV4/IPV6 VRRP, the maximum group is 255</p> <p>IPV4/IPV6 VLANIF interface supports up to 128</p> <p>IPV4/IPV6 static route/default route supports up to 128 entries</p> <p>L3 network management function, IPV4/IPV6 dual-stack management</p> <p>IPV4 dynamic routing, RIPv1/v2,</p>

	<p>OSPFv2, BGP4+, 4000 routing entries</p> <p>IPV6 dynamic routing OSPFv3, BGP+, RIPng, IPV6 management, 1000 routing entries</p> <p>Layer 3 routing and forwarding, support communication between different network segments and different VLANs</p>
VLAN	<p>Voice VLAN, QinQ configuration, IEEE802.1q</p> <p>VLAN based on MAC, VLAN based on the protocol</p> <p>4K VLAN based on port, Port configuration of Access, Trunk, Hybrid.</p>
Port Aggregation	<p>LACP, Static aggregation</p> <p>Max 26 aggregation groups and 8 ports per group.</p>
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Industrial Ring	G.8032 (ERPS), Recovery time less than 20ms
Network Protocol	250 Ring at most, Max 250 devices per ring.
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</p>

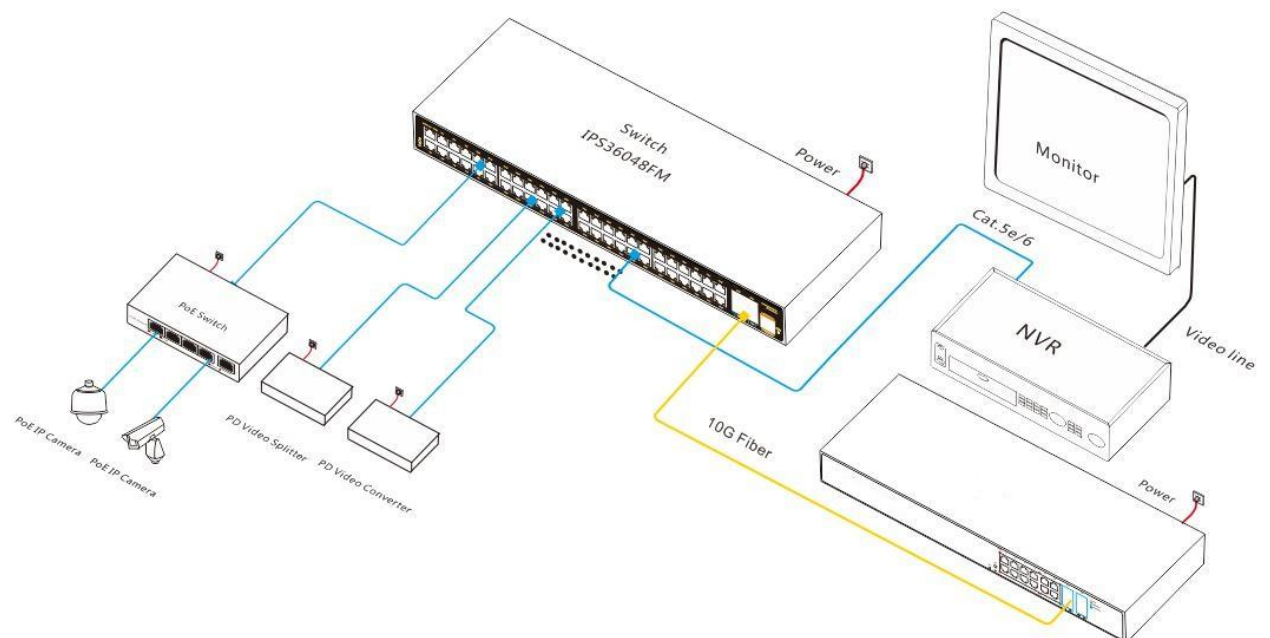
	Protocol Type, TCP/UDP Port, TCP/UDP Port Range, and VLAN, etc.
Security	<p>IP-MAC-VLAN-Port binding</p> <p>ARP inspection, Anti-DoS attack</p> <p>AAA & RADIUS, MAC learning limit</p> <p>Mac black holes, IP source protection</p> <p>IEEE802.1X & MAC address authentication</p> <p>Broadcast storm control, 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>
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	<p>CPU instant utilization status view</p> <p>Console/AUX Modem/Telnet/SSH2.0 CLI</p> <p>One-key recovery, Cable Diagnose, LLDP</p> <p>Web Management (HTTPS), NTP, System work log, Ping Test</p> <p>ONV NMS- Smart Network Management System Platform (LLDP+SNMP)</p> <p>Download & Management on FTP, TFTP, Xmodem, SFTP, SNMP</p> <p>V1/V2C/V3</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. 48*10/100/1000M RJ45 ports
- C. 4*1/10G SFP+ ports
- D. Console port

APPLICATION



ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV-IPS36048FM	L2+ managed industrial Ethernet fiber switch with 48*10/100/1000M RJ45 ports and 4*1/10G SFP+ ports. Built-in redundant dual power supply. Support 2AC+DC power terminal input and 1U/19-inch cabinet installation.	2*60W
ONV-IPS38048FM	L3 managed industrial Ethernet fiber switch with 48*10/100/1000M RJ45 ports and 4*1/10G SFP+ ports. Built-in redundant dual power supply. Support 2AC+DC power terminal input and 1U/19-inch cabinet installation.	2*60W

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

PACKING LIST

	CONTENT	QTY	UNIT
Packing List	52-port 10G uplink managed industrial Ethernet switch	1	SET
	AC Power Cable	1	PC
	Mounting Kits	1	SET
	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, 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 fiber TX1310nm/RX1550nm, transmission distance: 20km, SC interface, support DDM function, support hot plug and pull.	PC
	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
10G Optical Module	6630-G	Industrial SFP+ optical module, 10G, Multi-mode dual fiber 850nm, transmission distance: 300m, LC interface, support DDM function, support hot plug and pull.	PC
	7832-G	Industrial SFP+ optical module, 10G, Single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	7832-33-G	Industrial SFP+ optical module, 10G, Single-mode single fiber	PC

		TX1330nm/RX1270nm , transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	
	7832-27-G	Industrial SFP+ optical module, 10G, Single-mode single fiber TX1270nm/RX13300nm , transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	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 ports. Built-in redundant dual power supply. support 2AC+DC power terminal input and 1U/19-inch cabinet installation.
ONV-IPS33026FM	L2+ managed industrial Ethernet fiber switch with 24*10/100/1000M RJ45 ports and 2*100/1000M SFP ports (Combo port). Built-in redundant dual power supply. support 2AC+DC power terminal input and 1U/19-inch cabinet installation.
ONV-IPS36028FM	L2+ managed industrial Ethernet fiber switch with 24*10/100/1000M RJ45 ports and 4*1/10G SFP+ ports. Built-in redundant dual power supply. support 1U/19-inch cabinet installation and 2AC+DC power terminal input (Phoenix terminal connection).
ONV-IPS36036FM	L2+ managed industrial Ethernet fiber switch with 24*10/100/1000M RJ45 ports and 8*100/1000M SFP ports and 4*1/10G SFP+ 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 fiber switch with 8*10/100/1000M RJ45 ports and 24*100/1000M SFP ports and 4*1/10G SFP+ 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 fiber switch with 12*10/100/1000M RJ45 ports and 28*100/1000M SFP ports and 4*1/10G SFP+ 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

WeChat: ONV-PoE-IoT

Email: onv@onv.com.cn

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

Website: 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

