

Product Datasheet

16-port Full Gigabit Managed Industrial Ethernet Switch

ONV-IPS33016M



OVERVIEW

The ONV-IPS33016M is a full gigabit L2+ managed industrial Ethernet switch independently developed by ONV. It has 16*10/100/1000Base-T RJ45 ports. Each port can support wire-speed forwarding.

The ONV-IPS33016M has L2+ network management function, support IPV4/IPV6 management, static route full line-rate forwarding, security protection mechanism, ACL/QoS policy and rich VLAN functions, and is 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. When the 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. Industrial switches meet the needs of the industrial Ethernet application environment. It is suitable for intelligent transportation, rail transit, power industry, mining, petroleum, shipping, metallurgy, and green energy construction and other industrial scenarios to form a cost-effective, stable, and reliable network.

FEATURE

■ Full Gigabit access, wire-speed transmission

- ◇ Support line-speed full Gigabit Ethernet port, which facilitates flexible networking of users and meets networking requirements in 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

- ◇ 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, aluminum shell.
- ◇ The user-friendly panel, it can show the device status through the LED indicator of PWR, SYS, Link, L/A.
- ◇ The DIN rail industrial switch series products do not have a power supply by default and need to be purchased. Users can purchase a power supply independently developed by ONV.

■ 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-IPS33016M
Interface Characteristics	
Fixed Port	16*10/100/1000Base-T RJ45 ports (Data) 1*RS232 Console port (115200,N,8,1) Power-off alarm switch (FAULT) 2 set of V+, V- redundant DC power interface (6 Pin Phoenix terminal)
Ethernet Port	Port 1-16 support 10/100/1000Base-T, auto-sensing, Full/half duplex MDI/MDI-X self-adaption
Twisted Pair	10BASE-T: Cat3,4,5 UTP(≤100 meter)

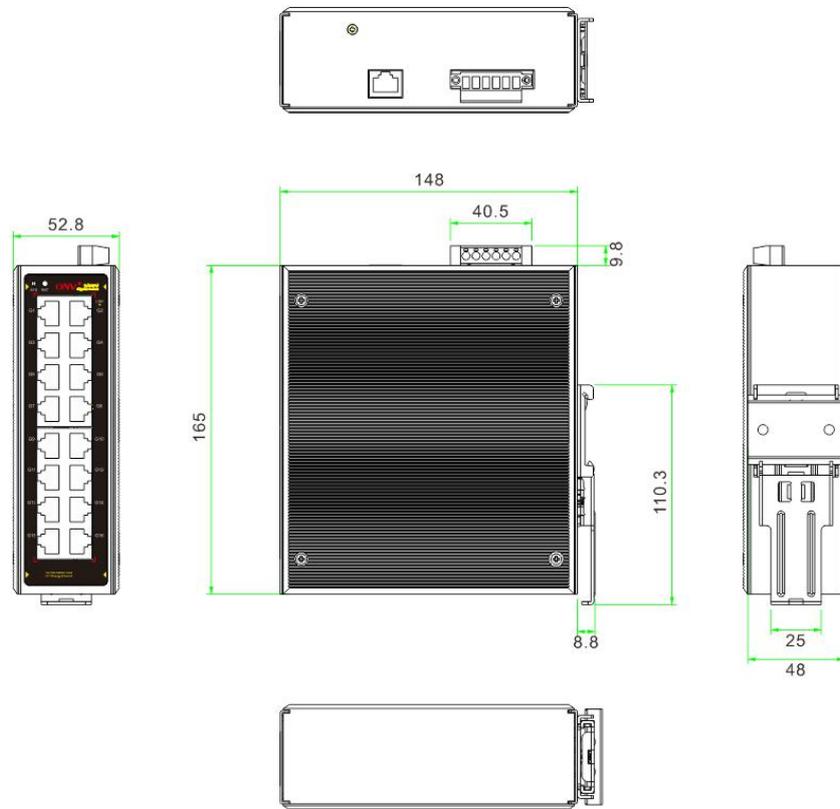
Transmission	100BASE-TX: Cat5 or later UTP(≤100 meter) 1000BASE-T: Cat5e or later UTP(≤100 meter)
Chip Parameter	
Network Management Type	L2+
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T IEEE802.3u 100Base-TX , IEEE802.3ab 1000Base-T IEEE802.3x
Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	256Gbps (Non-blocking)
Forwarding Rate@64byte	23.81Mpps
MAC	8K
Buffer Memory	6M
Jumbo Frame	9.6K
LED Indicator	Power: PWR(green), system: SYS(green), Network: Link (yellow)
Reset Switch	Yes. press and hold for 10 seconds and then release to restore factory settings
Power	
Total PWR / Input Voltage	24W/(DC12-48V)
Power Consumption	Standby<10W, Full Load<20W
Power Input Interface	12-48VDC, 6 Pin industrial Phoenix terminal, support anti-reverse protection.
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)	165*148*54mm
Net /Gross Weight	<1.2kg / <1.5kg
Installation	Desktop, DIN rail
Certification & Warranty	
Lightning protection / protection level	<p>Port lightning protection: 6KV 8/20us; Protection level: IP40</p> <p>IEC61000-4-2(ESD):±8kV contact discharge,±15kV air discharge</p> <p>IEC61000-4-3(RS):10V/m(80~1000MHz)</p> <p>IEC61000-4-4(EFT): power cable:±4kV; data cable:±2kV</p> <p>IEC61000-4-5(Surge):power cable:CM±4kV/DM±2kV; data cable:±4kV</p> <p>IEC61000-4-6(radio frequency transmission):10V(150kHz~80MHz)</p> <p>IEC61000-4-8(power frequency magnetic field):100A/m;1000A/m ,1s to 3s</p> <p>IEC61000-4-9(pulsed magnet field):1000A/m</p> <p>IEC61000-4-10(damped oscillation):30A/m 1MHz</p> <p>IEC61000-4-12/18(shockwave):CM 2.5kV,DM 1kV</p> <p>IEC61000-4-16(common-mode transmission):30V; 300V,1s</p> <p>FCC Part 15/CISPR22(EN55022):Class A</p> <p>IEC61000-6-2(Common Industrial Standard)</p>
Mechanical Properties	<p>IEC60068-2-6 (anti vibration)</p> <p>IEC60068-2-27 (anti shock)</p> <p>IEC60068-2-32 (free fall)</p>
Certification	CCC;CE mark, commercial; CE/LVD EN60950;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>

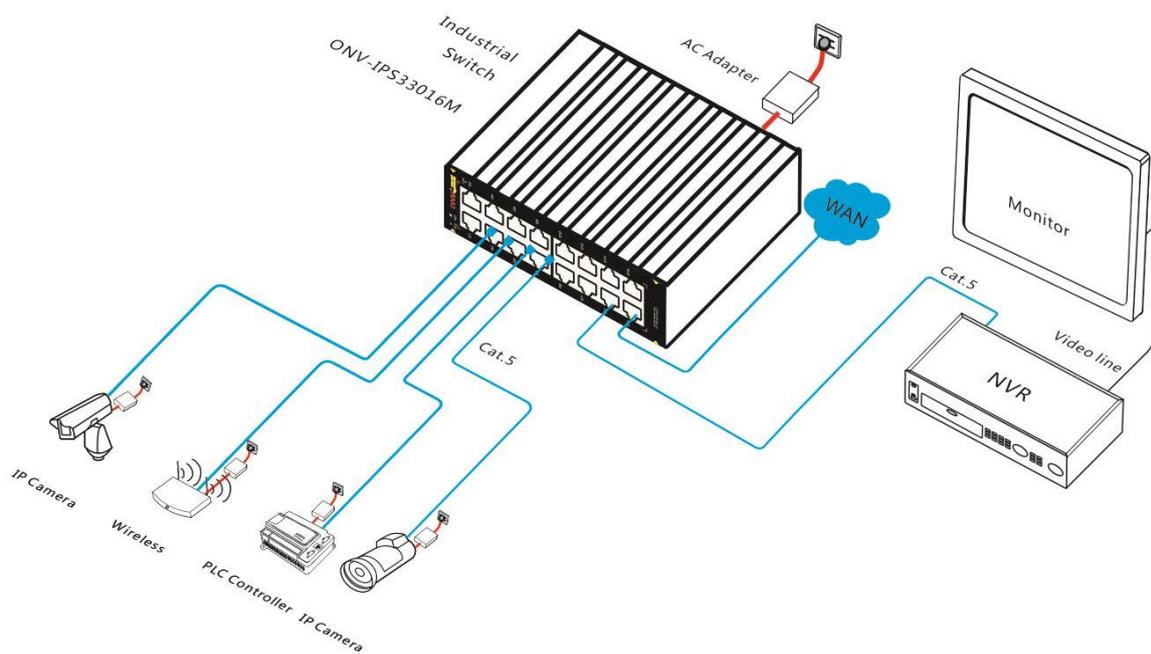
	<p>Port green Ethernet Energy-saving setting</p> <p>Broadcast storm control based on port speed</p> <p>The speed limit of the message flow in the access port.</p> <p>The minimum particle size is 64Kbps.</p>
Layer 3 Features	<p>L2+ network management ,IPV4/IPV6 management</p> <p>L3 soft routing forwarding,</p> <p>Static route, Default route @ 128 pcs, APR @ 1024 pcs</p>
VLAN	<p>4K VLAN based on port, IEEE802.1q</p> <p>VLAN based on the protocol</p> <p>VLAN based on MAC</p> <p>Voice VLAN, QinQ configuration</p> <p>Port configuration of Access, Trunk, Hybrid</p>
Port Aggregation	<p>LACP, Static aggregation</p> <p>Max 8 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>One-key recovery</p> <p>Cable Diagnose, LLDP</p> <p>Web Management (HTTPS)</p> <p>NTP, System work log, Ping Test</p> <p>CPU instant utilization status view</p> <p>Console/AUX Modem/Telnet/SSH2.0 CLI</p> <p>Download & Management on FTP, TFTP, Xmodem, SFTP, SNMP</p> <p>V1/V2C/V3</p> <p>ONV NMS - smart network management system platform(LLDP+SNMP)</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



APPLICATION



ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS33016M	L2+ managed industrial Ethernet switch with 16* 10/100/1000M RJ45 ports. It can support DC dual power supply input and DIN rail mounting.	24W

Note: The DIN rail industrial switch series products are not equipped with power supply by default and need to be purchased. Please refer to the accessory product information.

PACKING LIST

PACKING LIST	CONTENT	QTY	UNIT
	16-port full gigabit managed industrial Ethernet switch	1	SET
	RJ45-DB9 Line	1	PC
	User Guide	1	PC
	Warranty Card	1	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 50-60Hz,0.35A Output Voltage:DC 24V 1.0A 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. It can support DC dual 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. It can support DC dual 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. It can support DC dual 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 slot ports. It can support DC dual 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. It can support DC dual 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. It can support DC dual power supply input and DIN rail mounting.

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