Product Datasheet

10-port Full Gigabit Managed Industrial Ethernet Switch

(ONV-IPS3010FM)

OVERVIEW

The ONV-IPS3010FM is a full Gigabit L2+ managed industrial Ethernet fiber switch independently developed by ONV. It has 8*10/100/1000Base-T adaptive RJ45 ports and 2*100/1000Base-X uplink SFP fiber ports. Each port can support wire-speed forwarding.

The ONV-IPS3010FM has L2+ network management function, supports IPV4 management, static route forwarding, complete security protection mechanism, complete ACL/QoS policy, and rich VLAN functions for easy management and maintenance. Supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) to improve link backup and network reliability. When a one-way network fails, communication can be quickly restored to ensure uninterrupted communication for important applications. According to the application needs, various application services configurations such as port management, routing address management, port flow control, VLAN division, IGMP, security policy, and other network management methods are carried out through Web, CLI, SNMP, Telnet and other network management methods. The ONV-IPS3010FM follows

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industrial product design and materials. The aluminum alloy shell has excellent industrial site environment adaptability (including mechanical stability, climate environment adaptability, electromagnetic environment adaptability, etc.). The protection level is IP40. It supports dual redundant power supply. Low power consumption, no fan, 5-year warranty. It is suitable for establishing cost-effective, stable, and reliable communication networks in industrial scenarios such as intelligent transportation, rail transportation, power industry, mining, petroleum, shipping, metallurgy, and green energy construction.

FEATURE

■ **Gigabit access, SFP fiber port uplink**

◇ Support non-blocking wire-speed forwarding.

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

◇ Support Gigabit Ethernet port and Gigabit SFP port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ **Strong business processing ability**

◇ Support STP/RSTP/MSTP production tree protocol to eliminate layer 2 loops and realize link backup.

◇ 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 IEEE 802.1Q VLAN Users can flexibly divide VLAN according to needs, and support three types of port configurations: Access, Trunk, and Hybrid.

◇ 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.

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■ Security

◇ Support port isolation.

◇ Support port broadcast storm suppression.

◇ Support IP+MAC+port+VLAN quadruple flexible combination binding function.

◇ Support 802.1X authentication to provide authentication functions for LAN computers, and control the authorization status of controlled ports according to the authentication results.

■ Stable and reliable

◇ CCC, CE, FCC, RoHS.

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

◇ Low power consumption, no fan, aluminum shell, and excellent heat dissipation ensure the stable operation of the switch.

■ Easy O&M management

◇ CPU monitoring, memory monitoring, Ping detection, cable length detection.

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

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

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

◇ Web network management, CLI (Console, Telnet), SNMP (V1/V2/V3), Telnet, and other diversified management and maintenance methods.
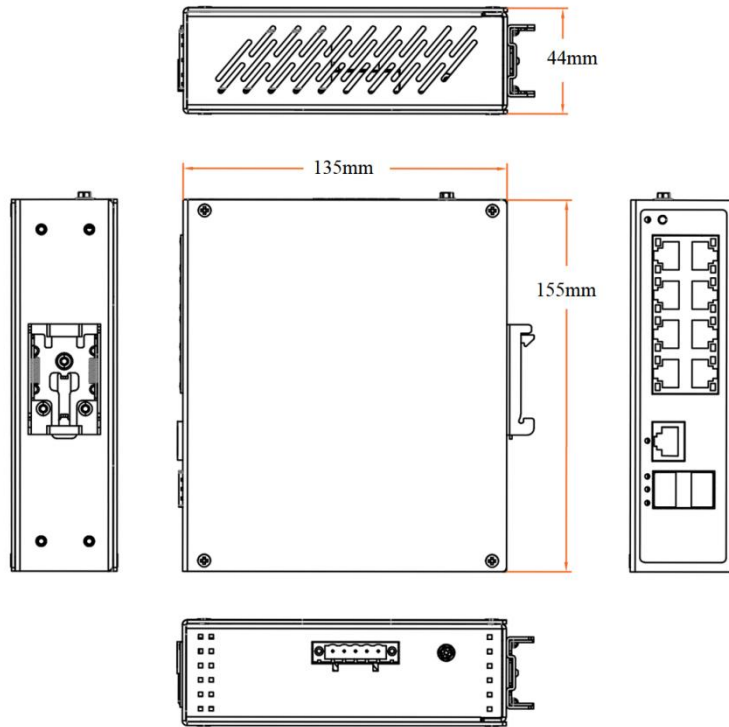
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TECHNICAL SPECIFICATION

Model	ONV-IPS3010FM
Interface Characteristics	
Fixed Port	1*RS232 console port (115200,N,8,1) 8*10/100/1000Base-T RJ45 ports (Data/Power) 2*100/1000Base-X uplink SFP fiber ports (Data) 2 set of V+, V- redundant DC power interface (5 Pin Phoenix terminal)
Ethernet Port	Port 1-8 support 10/100/1000Base-T 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)
Fiber Port	Gigabit optical fiber interface, default no include optical module (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC).
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
Chip Parameter	
Network Management	L2+
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-TX, IEEE802.3z 1000Base-X, IEEE802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	20Gbps
Forwarding Rate@64byte	14.88Mpps
MAC	8K
Buffer Memory	4.1Mb
Jumbo Frame	10KB

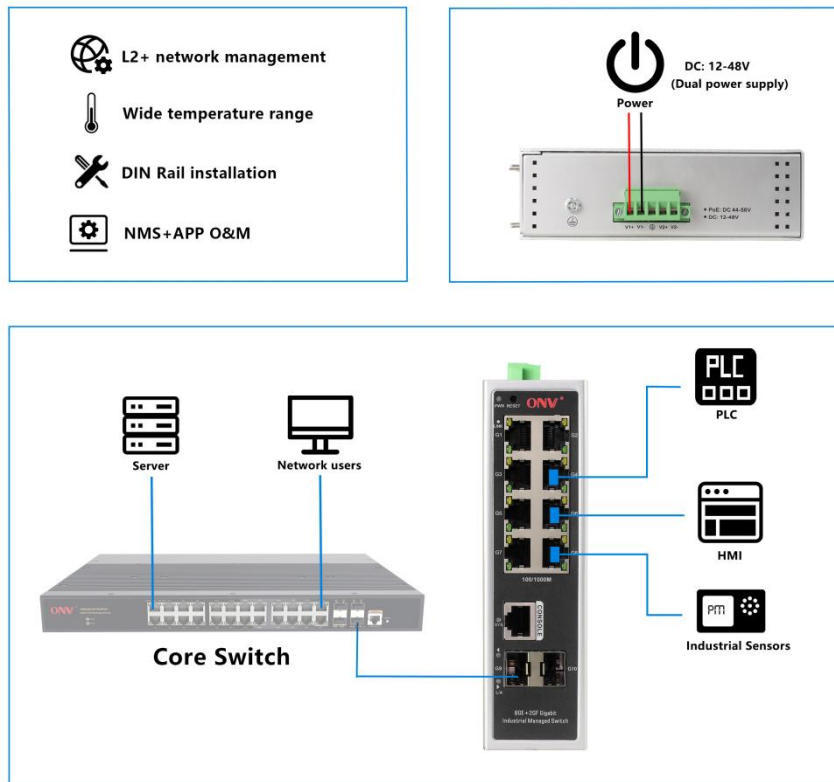| CPU(Hz)	500M
DRAM	1Gb
Flash	128Mb
LED Indicator	Power/ System: SYS (Green), Network: Link (Yellow), Fiber port: L/A (Green)
Reset Switch	Yes, Press and hold the reset switch for 10s and release it to restore the factory settings
Power Supply	
Working Voltage	DC12-48V, 5 Pin industrial Phoenix terminal, support anti-reverse protection.
Power Consumption	Standby<8W, Full load<15W
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)	155*135*44mm
Net /Gross Weight	<0.6kg / <0.75kg
Installation	Desktop, DIN rail
Certification & Warranty	
Lightning Protection	Protection level: IP30, 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 Features

Interface	IEEE802.3x flow control (Full duplex) Port real-time traffic management (Flow Interval) Broadcast storm suppression based on port rate Limit the rate of packet traffic on the incoming and outgoing ports to mini granularity of 16Kbps and max of 1Gbps
Layer 3 Features	IPV4 Static routing/ default routing max 128 entries L2+ network management, ARP protocol max 1024 entries
VLAN	Port configuration of Access, Trunk, Hybrid VLAN based on the protocol, 4K VLAN based on port, IEEE802.1q
Port Aggregation	LACP dynamic aggregation, Static aggregation Max 5 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Multicast	Multicast VLAN, Fast log out IGMP Snooping v1/v2, Max 1024 multicast groups
Port Mirroring	Bidirectional data mirroring based on port
QoS	Diff-Serv QoS, Priority Mark/Remark Queue Scheduling Algorithm (SP, WRR, SP+WRR)

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	Flow-based Rate Limiting, Flow-based Packet Filtering 8*Output queues of each port, 802.1p/ DSCP priority mapping
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	IEEE802.1X & MAC address authentication Broadcast storm control, Backup for host datum User hierarchical management and password protection SSH 2.0, SSL, Port isolation, IP-MAC-VLAN-Port binding Mac black holes, IP source protection , ARP message speed limit ARP inspection, Anti-DoS attack, AAA & RADIUS, MAC learning limit
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	ONV-NMS platform cluster management (LLDP+SNMP) Download & Management on FTP, TFTP, Xmodem, SFTP One-key recovery, Cable Diagnose, LLDP, SNMP V1/V2/V3 NTP, System work log, Ping Test, CPU instant utilization status view Web Management (HTTPS), Console/ AUX Modem/ Telnet/ SSH2.0 CLI
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

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DIMENSION

44mm

135mm

155mm

APPLICATION

L2+ network management

Wide temperature range

DIN Rail installation

NMS+APP O&M

DC: 12-48V
(Dual power supply)

Power

• PoE: DC 44-56V
• DC: 12-48V

Server

Network users

Core Switch

PLC

HMI

Industrial Sensors

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ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS3010FM	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 input and DIN rail mounting.	24W/24V

Note: The optical module and power supply are not included. need to be purchased separately.

PACKING LIST

	Content	Qty	Unit
Packing List	10-port full gigabit managed industrial Ethernet switch	1	SET
	RJ45-DB9 Line	1	PC
	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

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10	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
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

CONTACT US

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