Product Datasheet

36-port 10G Uplink L3 Managed Industrial Ethernet Switch
(ONV-IPS38036FM)

OVERVIEW

The ONV-IPS38036FM is a 10G uplink L3 managed industrial Ethernet fiber switch independently developed by ONV. It has 24*10/100/1000Base-T adaptive RJ45 ports and 8*100/1000Base-X uplink SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. Each port can support wire-speed forwarding.

The ONV-IPS38036FM has a L3 network management function to support IPV4/IPV6 management, dynamic routing full line-speed forwarding, complete security protection mechanism, perfect ACL/ QoS policy, and rich VLAN functions easy to manage and maintain. With industry-leading ring network technology. It supports industrial-grade redundant ring network protocols, and each port can form a ring network, supporting chain ring network, starring network, double starring network, ring network, tangent network ring network, intersecting ring network, coupled ring network, self-healing within 20ms of the ring network. The ONV-IPS38036FM has high reliability, high security, and high manageability, ensures reliable transmission of key data, supports remote management, and cooperates with ONV-NMS network management platform for cluster management to achieve no blind spot network management throughout the process. The ONV-IPS38036FM follows the industrial product design and materials. Galvanized steel metal shell enhances heat dissipation performance. It has excellent adaptability to the

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industrial environment (including mechanical stability, climate environment adaptability, electromagnetic environment adaptability, etc.). Protection level reaches IP40 and supports 2AC+DC dual redundant power supply, 5 years warranty. It is suitable for intelligent transportation, rail transit, power industry, mining, petroleum, and industrial scenes such as shipping, metallurgy, and green energy construction forming a cost-effective stable, and reliable communication network.

FEATURE

■ **Gigabit wire speed access, 10G uplink SFP+ port**

◇ Support non-blocking wire-speed forwarding.

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

◇ Support Gigabit Ethernet port and 10G uplink SFP+ port to meet the networking requirements of various scenarios.

■ **Strong business processing capability**

◇ Support ERPS ring network and STP/RSTP/MSTP to eliminate layer 2 loops and realize link backup.

◇ Support IEEE802.1Q VLAN, Users can flexibly divide VLAN, Voice VLAN, and QinQ configuration according to their needs.

◇ 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 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.

■ **Security**

◇ Port isolation, and storm control.

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

◇ 802.1X authentication provides authentication functions for LAN computers and controls 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 and Link.

◇ Adopt self-developed power supply and redundant design to provide long-term stable power output.

◇ Low power consumption, no fan, galvanized steel metal shell, and aluminum alloy heat sink combination for super heat dissipation to ensure the stable operation of the switch.

■ Easy O&M management

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

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

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

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

◇ Support Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3) and other diversified management and maintenance.

TECHNICAL SPECIFICATION

Model	ONV-IPS38036FM
Interface Characteristics	
Fixed Port	2*AC100-240V input ports Console port (115200, N, 8,1) Power off alarm switch port (FAULT) 4*1/10G uplink SFP+ fiber ports (Data) 24*10/100/1000Base-T RJ45 ports (Data) 8*100/1000Base-X uplink SFP fiber ports (Data) 2*DC12-48V power input ports (support anti-reverse protection)
Ethernet Port	Port 1-24 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)
Optical Fiber Port	1/10G SFP+ optical fiber port, default no include optical module (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
SFP Port Expansion	Turbo overclocking 2.5G optical module expansion and ring network
Optical Cable/ Distance	Multi-mode: 850nm/ 0~500m, 0~300M(10G) Single-mode: 1310nm/ 0~ 40km, 1550nm/ 0~120km.
Chip Parameter	
Network Management Type	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	176Gbps (non-blocking)

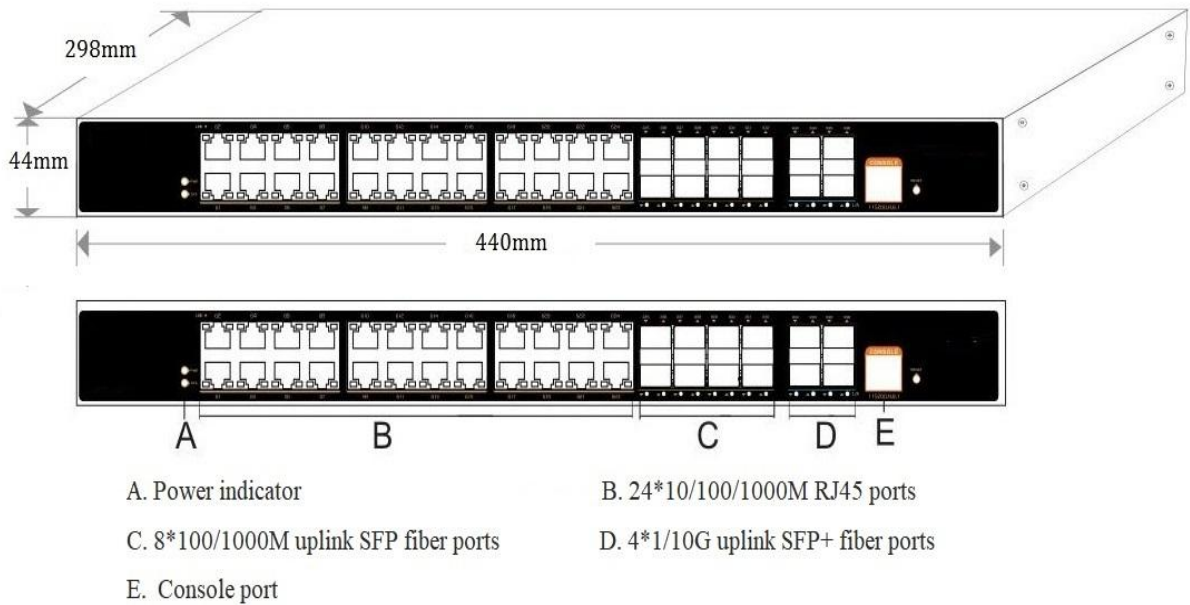|	
Forwarding Rate@64byte	107.14Mpps
CPU	500MHz
DRAM	2G
FLASH	128M
MAC	32K
Buffer Memory	32M
Jumbo Frame	9.6K
LED Indicator	Power: PWR (Yellow), System: SYS (Yellow) Network: Link/Act (Yellow), Fiber port: L/A (Green)
Reset Switch	Yes, Press and hold the reset switch for 10s and release it to restore the factory settings
Power Supply	
Total PWR / Input Voltage	60W (AC100-240V)
Power Consumption	Standby<35W, Full Load<45W
Power Input Interface	Built-in power supply, AC100~240V 50-60Hz, 0.65A
Power Input Port	Alarm switch port, 2*AC power input ports, 2*DC12-48V input ports Dual input power port design: AC power supply priority to support anti-reverse connection protection, and automatically switches to DC connection when power fails.
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	3.95kg / 4.75kg

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Installation	Desktop, 1U/19-inch cabinet

Certification & Warranty

Lightning Protection	Protection level: IP40
	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,1 to 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 Feature

Interface	IEEE802.3X (Full-duplex)
	Port temperature protection setting
	No connection port automatic sleep
	Port green Ethernet Energy-saving setting
	Broadcast storm control based on port speed
	SFP+ optical port DDMI real-time digital diagnosis
	The speed limit of the message flow in the access port, mini particle size

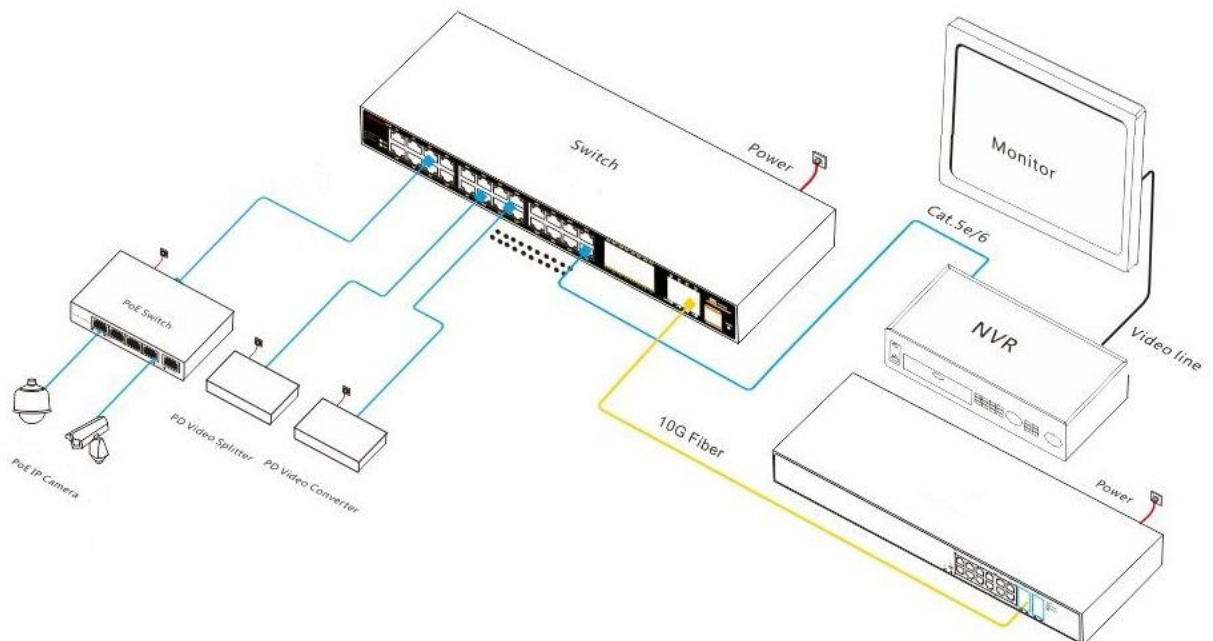|	
	is 64Kbps.
Layer 3 Features	IPV4 Equal Cost Routing
	NG protocol max 1000 entries
	ARP protocol max 1000 entries
	IPV4/IPV6 VRRP max group is 255
	Pingv6, Telnetv6, TFTPv6, DNSv6, ICMPv6
	IPV4/IPV6 VLANIF interface supports up to 128
	IPV4/IPV6 static route/ default route supports up to 128 entries
	IPV4 dynamic routing, RIPv1/v2, OSPFv2, BGP4+, 4000 routing entries
	IPV6 dynamic routing OSPFv3, BGP+, RIPng, IPV6 management, 1000 routing entries
	L3 network management function, IPV4/IPV6 dual-stack management
	L3 routing and forwarding, support communication between different network segments and different VLAN
VLAN	Voice VLAN, QinQ configuration, IEEE802.1q
	VLAN based on MAC, VLAN based on the protocol
	4K VLAN based on port, Port configuration of Access, Trunk, Hybrid.
Port Aggregation	LACP dynamic aggregation, static aggregation
	Max 18 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Industrial Ring Network Protocol	250 Ring at most, Max 250 devices per ring.
	G.8032 (ERPS), Recovery time less than 20ms
Multicast	MLD Snooping, 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)
	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	IP source address protection ARP intrusion detection function ARP message rate limiting function Port broadcast message suppression SSL ensures data transmission security AAA & RADIUS & TACACS+ certification Anti-DoS attack, MAC address black hole Limit the number of MAC addresses learned Port isolation, Host data backup mechanism Quadruple binding function of IP+MAC+VLAN+port User hierarchical management and password protection SSH 2.0 provides a secure encrypted channel for user login IEEE802.1X authentication/ centralized MAC address authentication
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	NTP clock, Cable length detection View CPU real-time utilization status One click recovery, SNMP V1/V2/V3 System work log, Link Layer Discovery Protocol Ping detection, Web network management (HTTPS) ONV-NMS platform cluster management (LLDP+SNMP) FTP, TFTP, Xmodem, SFTP file upload and download management Console/ AUX Modem/ Telnet/ SSH2.0 CLI command line configuration
System	Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable TCP/IP, network adapter, and network operating system (such as

Microsoft Windows, Linux, Mac OS X) installed on each computer in the network Cat5 and above Ethernet cable

DIMENSION

A. Power indicator

B. 24*10/100/1000M RJ45 ports

C. 8*100/1000M uplink SFP fiber ports

D. 4*1/10G uplink SFP+ fiber ports

E. Console port

APPLICATION

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ORDERING INFORMATION

Model	Description	Recommended Power Supply
ONV-IPS38036FM	L3 managed industrial Ethernet fiber switch with 24*10/100/1000M RJ45 ports and 8*100/1000Base-X uplink SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. It built-in redundant dual power supply and supports 2AC+DC power terminal input and 1U/19-inch cabinet installation.	2*60W

Note: The optical module is not included need to be purchased separately.

PACKING LIST

	Content	Qty	Unit
Packing List	36-port 10G uplink L3 managed industrial Ethernet switch	1	SET
	RJ45-DB9 Line	1	PC
	AC Power Cable	1	PC
	Mounting Kits (Hanging Ear)	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	PC

11		1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	
	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-SC-G	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-SC-G	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 TX1330nm/ RX1270nm , transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC
	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

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RELATED PRODUCT

Model	Description
ONV-IPS33018FM	L2+ managed industrial Ethernet fiber switch has 16*10/100/1000M RJ45 ports and 2*100/1000M uplink SFP fiber ports. It built-in redundant dual power supply and supports 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 4*100/1000M uplink SFP fiber ports (combo ports). It built-in redundant dual power supply and supports 2AC+DC power terminal input and 1U/19-inch cabinet installation.
ONV-IPS38028FM	L3 managed industrial Ethernet fiber switch with 24*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. It built-in redundant dual power supply and supports 2AC+DC power terminal input and 1U/19-inch
ONV-IPS38368FM	L3 managed industrial Ethernet fiber switch with 8*10/100/1000M RJ45 ports and 24*100/1000M uplink SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. It built-in redundant dual power supply and supports 2AC+DC power terminal input and 1U/19-inch cabinet installation.
ONV-IPS38448FM	L3 managed industrial Ethernet fiber switch with 12*10/100/1000M RJ45 ports and 28*100/1000M uplink SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. It built-in redundant dual power supply and supports 2AC+DC power terminal input and 1U/19-inch cabinet installation.
ONV-IPS38048FM	L3 managed industrial Ethernet fiber switch with 48*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. It built-in redundant dual power supply and supports 2AC+DC power terminal input and 1U/19-inch cabinet installation.

CONTACT US

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