Product Datasheet

36-port 10G Uplink Managed Industrial Ethernet Switch
(ONV-IPS58036FM)

OVERVIEW

The ONV-IPS58036FM is a 10G uplink L3 managed industrial Ethernet fiber switch independently developed by ONV. It has 16*10/100/1000Base-T RJ45 ports and 8*10/100/1000Base-T or 8*100/1000Base-X SFP combo ports and 4*1/10G SFP+ fiber slot ports. Each port can support wire-speed forwarding.

The ONV-IPS58036FM has L3 network management function, supports IPV4/IPV6 management, dynamic routing full line-speed forwarding, 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 needs, port management, routing address management, port flow control, VLAN division, IGMP, security policy and other application services are configured through network management methods such as Web, CLI, SNMP, Telnet, etc. It is suitable for intelligent transportation, rail transit, electric power, mining, metallurgy, and green energy. industrial scenes such as construction set up a cost-effective and stable communication network.

FEATURE

■ Gigabit access, 10G uplink

◇ Support non-blocking wire-speed forwarding.

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

◇ Supports Gigabit Ethernet port and 10G SFP+ uplink port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ 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.

■ 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.

■ Stable and reliable

◇ CCC, CE, FCC, RoHS.

◇ Low power consumption, No fan, aluminum shell.

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

◇ Self-developed power supply, high redundancy design, providing a long term and stable power output.

■ Easy operation and maintenance management

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

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

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

◇ 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-IPS58036FM
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) 16*10/100/1000Base-T RJ45 ports (Data) 8*10/100/1000Base-T RJ45 or 8*100/1000Base-X SFP combo ports (Data)

	2 group of DC12-48V input ports (Support reverse polarity protection function)
Ethernet Port	Port 1-24 support 10/100/1000Base-T(X) 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/6 or later UTP(≤100 meters)
Optical Fiber Port	Gigabit SFP optical fiber port and 10G SFP+ optical fiber port, default no include 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(1G), 850nm /0-300M(10G), 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 IEEE802.3ae 10GBase-LR/SR, IEEE802.3x
Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	216Gbps (non-blocking)
Forwarding Rate@64byte	95.23Mpps
CPU	800MHz
DRAM	1GB
FLASH	128MB
MAC	16K
Buffer Memory	12MB

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Jumbo Frame	12KB
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 Supply	
Total PWR / Input Voltage	60W (AC100-240V)
Power Consumption	Standby<35W, Full Load<45W
Power Input Interface	Built-in power supply, AC 100~240V 50-60Hz 0.65A
Power Supply	2 group of DC12-48V input port Alarm switch port, 1 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~+75°C, 5%~90% RH Non condensing
Storage TEMP / Humidity	-40~+80°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 installation
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

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6	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 B
	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	IEEE802.3x flow control (full duplex)
	Port exception protection mechanism
	Port real-time flow management (Flow Interval)
	Broadcast storm suppression based on port rate
	Optical port SFP module DDMI real-time digital diagnosis
	Limit the rate of incoming and outgoing packet traffic, with a minimum granularity of 16Kbps and a maximum of 1Gbps
	Port EEE Green Ethernet Energy-Saving configuration and status view
	Jumbo frame configuration, the largest 12000byte
Layer 3 Features	NG protocol maximum entries 1000
	ARP protocol maximum entries 1000
	IPV6 management routing entries 1000
	Pingv6, Telnetv6, TFTPv6, DNSv6, ICMPv6

	IPV6 dynamic routing OSPFv3, BGP+, RIPng
	VRRP supporting IPV4/IPV6 each support maximum of 255 groups
	VLANIF interfaces of IPV4/IPV6, each support maximum entries 128
	IPV4 dynamic routing, RIPv1/v2, OSPFv2, BGP4+, 4000 routing entries
	IPV4/IPV6 static routing/default routing each supports maximum entries 128
	Support L3 network management function, IPV4/IPV6 dual-stack management, IPV4 equivalent routing
	Layer 3 routing and forwarding, and support communication between different network segments and different VLAN
VLAN	VLAN based on MAC, VLAN based on the protocol
	Port configuration of Access, Trunk, Hybrid, GVRP VLAN protocol (4K) VLAN based on port, IEEE802.1q, Voice VLAN, QinQ configuration
Port Aggregation	LACP, Static aggregation
	Max 14 aggregation groups and 8 ports per group.
Spanning Tree	STP BPDU Guard, BPDU filtering and BPDU forwarding
	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
ERPS Ring Network	Support ERPS ring network, ring network self-healing time is less than 20ms, ITU-T G.8032
Multicast	MLD Snooping, IGMP Snooping, Multicast VLAN
	User quick log out, MVR (Multicast VLAN Registration)
	IGMP Snooping v1/v2/v3 and 1024 multicast groups at most
Mirroring	Bidirectional traffic mirroring for basic ports
	Supports one-to-multiple mirroring, supports up to 4 port sessions
QoS	Queue Scheduling Algorithm (SP, WRR, SP+WRR)
	Flow-based Rate Limiting, Stream based redirection
	Flow-based Packet Filtering, 8*Output queues of each port
	802.1p/DSCP priority mapping, Diff-Serv QoS, Priority Mark/Remark
ACL	ACL distribution based on port and VLAN

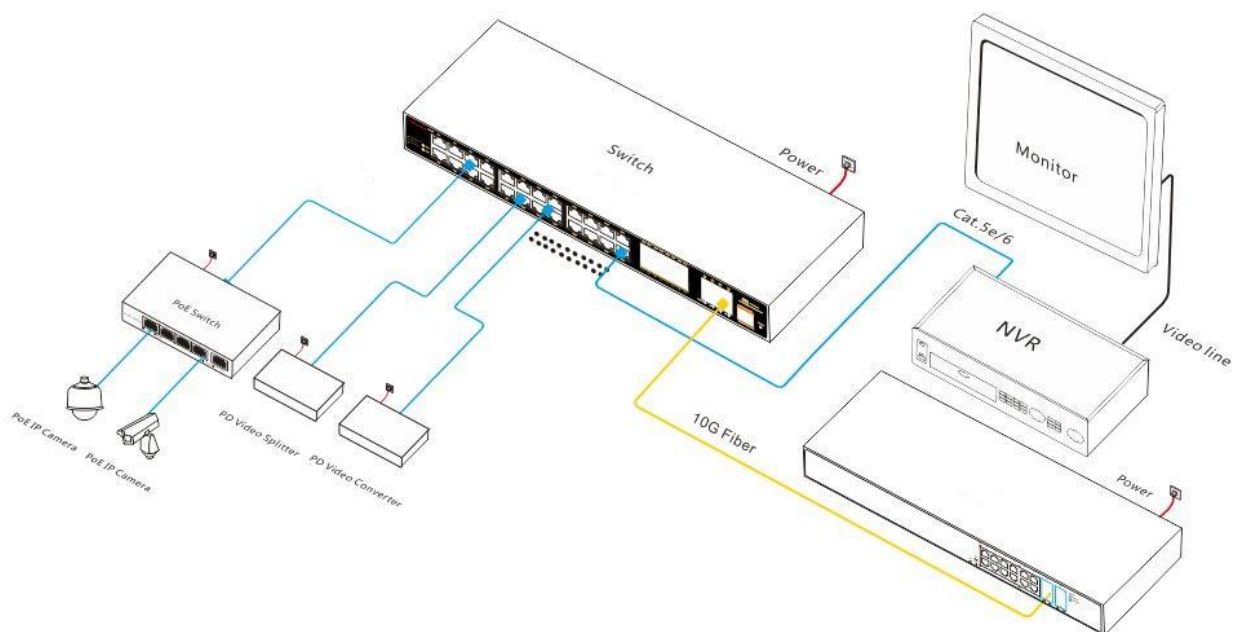|	
	L2-L4 packet filtering function, matching the first 80 bytes message, and provides ACL definitions based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN, etc.
Security	Port based IEEE802.1X authentication SSL guarantees data transmission security Quad binding function of IP+MAC+VLAN+ports MAC address learning limit, MAC address black hole Anti DoS attack, Port broadcast message suppression IP Source Guard function, AAA&RADIUS certification Hierarchical user management and password protection SSH 2.0 provides a secure encrypted channel for user login Host data backup mechanism, ARP intrusion detection function Port isolation, IP Source Guard, ARP message speed limit function
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	Web network management (https) Link Layer Discovery Protocol(LLDP) Viewing CPU Instant Utilization Status NTP clock, One click restore, SNMP V1/V2/V3 Cable status check, Ping detection, System work log ONV NMS platform cluster management (LLDP+SNMP) Console/AUX Modem/Telnet/CLI command line configuration FTP, TFTP, Xmodem, SFTP file upload and download management
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
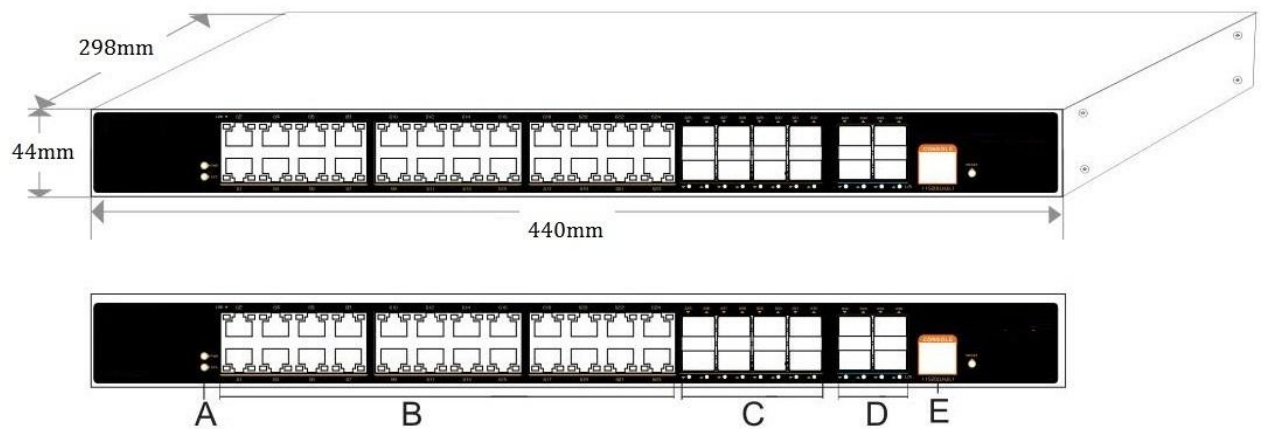
A. Power indicator

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

C. 8*100/1000M SFP ports

D. 4*1/10G SFP+ Ports

E. Console port

APPLICATION

ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV-IPS58036FM	L3 managed industrial Ethernet fiber switch with 16*10/100/1000M RJ45 ports and 8*10/100/1000Base-T RJ45 or 8*100/1000Base-X SFP combo 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	36-port 10G uplink L3 managed industrial Ethernet fiber switch	1	SET
	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

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	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 TX1330nm/RX1270nm , transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	PC

12	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-IPS58028FM	L3 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 2AC+DC power terminal input and 1U/19-inch cabinet installation.
ONV-IPS58368FM	L3 managed industrial Ethernet fiber switch with 8*10/100/1000Base-T RJ45 or 8*100/1000Base-X SFP combo ports and 16*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-IPS58048FM	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.

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