Product Datasheet

52-port 10G Uplink Managed Industrial Ethernet Switch

(ONV-IPS58052FM)

OVERVIEW

The ONV-IPS58052FM is a 10G uplink managed industrial Ethernet fiber switch independently developed by ONV. It has 48*10/100/1000Base-T adaptive RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Each port can support wire-speed forwarding.

The ONV-IPS58052FM has L3 network management functions, supports IPV4/IPV6 management, dynamic routing forwarding, complete security protection mechanism, perfect ACL/QoS strategy, and rich VLAN functions for easy management and maintenance. Supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS (<20ms) to improve link backup and network reliability. When a unidirectional network fails, communication can be quickly restored to ensure uninterrupted communication. According to application needs, port management, routing

address management, port flow control, VLAN division, IGMP, security policy, and other configurations can be performed through Web, CLI, SNMP, Telnet, and other methods. It is suitable for industrial scenarios such as intelligent transportation, rail transportation, power industry, mining, petroleum, shipping, metallurgy, and green energy construction to form an economical, efficient, stable, and reliable communication network.

FEATURE

■ Gigabit wire speed access, uplink 1/10G SFP+ fiber port

◇ Support non-blocking wire-speed forwarding.

◇ Support full-duplex based on IEEE 802.3x and half-duplex based on Backpressure.

◇ Support Gigabit RJ45 port and uplink 1/10G SFP+ fiber 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 IEEE 802.1Q VLAN, users can flexibly divide VLANs according to needs and support Voice VLAN and QinQ configuration.

◇ 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 port broadcast storm suppression.

◇ Port+MAC binding and IP+MAC+port binding functions.

◇ 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.

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

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

◇ Low power consumption, no fan, galvanized steel housing, and excellent heat dissipation to ensure stable operation of the switch.

■ Easy O&M management

◇ Support CPU monitoring, memory monitoring, Ping detection, and 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-IPS58052FM
Interface Characteristics	
Fixed Port	1*Console port (115200,N,8,1) Power-off alarm switch (FAULT) 2*AC100-240V power input ports 4*1/10G uplink SFP+ fiber ports (Data) 48*10/100/1000Base-T RJ45 ports (Data) 2*DC12-48V power input ports (support anti-reverse protection)
Ethernet Port	Port 1-48 can 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)
Optical Fiber Port Expansion	Turbo overclocking 2.5G optical module expansion and ring network
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m(1G), 0-300m(10G), Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km
Chip Parameter	
Network Management Type	L3
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3ae 10GBase-LR/SR, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	216Gbps (non-blocking)

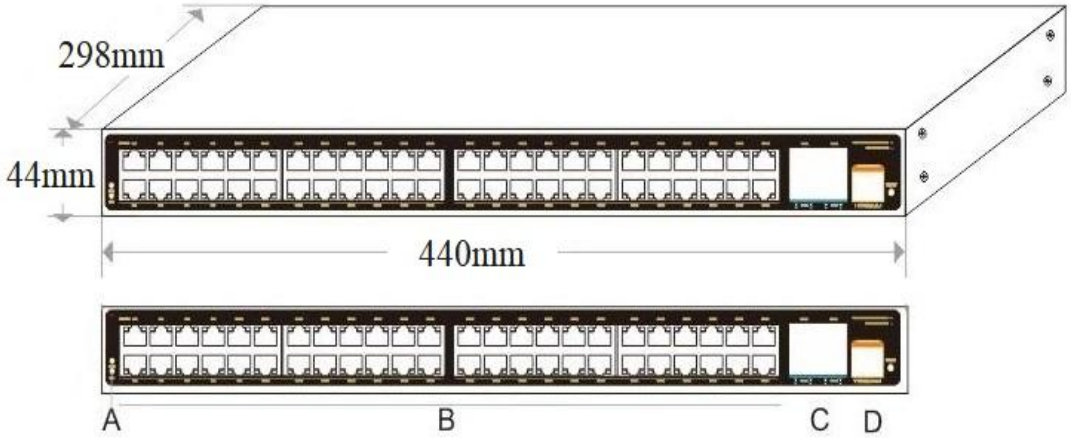
Forwarding Rate @64byte	131Mpps
CPU(Hz)	Dual-core 1G
DRAM	2G
FLASH	256M
MAC	32K
Buffer Memory	16M
Jumbo Frame	12K
LED Indicator	Power: PWR (Yellow), System: SYS (Green), Network: Link (Yellow), Fiber port: L/A (Green)
Reset Switch	Yes, Press and hold the reset switch for 10s and release it to restore the factory settings
Power Supply	
Total PWR/ Input Voltage	60W/ (AC100-240V)
Power Consumption	Standby<35W, Full load<60W
Power Supply	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~+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	4.3kg/ 5.1kg
Installation	Desktop, 1U/19” 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, 1-3s 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 flow control (Full duplex) Port exception protection mechanism Port real-time flow management (Flow Interval) Optical module DDMI real-time digital diagnosis Broadcast storm suppression based on port rate Port EEE Green Ethernet Energy-Saving configuration and status view Limit the rate of packet traffic on incoming and outgoing ports, the mini granularity 16Kbps and max 1Gbps
L3 Routing	ARP protocol, max 1000 entries

	IPV4/IPV6 VRRP, the max group is 255 Pingv6, Telnetv6, TFTPv6, DNSv6, ICMPv6 IPV4/IPV6 VLANIF interface supports up to 128 IPV4 Equal Cost Routing, NG protocol, max 1000 entries IPV4/IPV6 static route/default route supports up to 128 entries L3 network management function, IPV4/IPV6 dual-stack management IPV4 dynamic routing, RIPv1/v2, OSPFv2, BGP4+, 4000 routing entries IPV6 dynamic routing OSPFv3, BGP+, RIPng, IPV6 management, 1000 routing entries L3 routing and forwarding, support communication between different network segments and different VLAN
VLAN	Port configuration of Access, Trunk, Hybrid. Protocol-based VLAN, QinQ configuration, MAC address-based VLAN Port-based VLAN (4K), IEEE802.1q, Voice VLAN, GVRP VLAN protocol
Port Aggregation	LACP, static aggregation, Max 26 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	ERPS ring network, Recovery time less than 20ms, ITU-T G.8032
Multicast	MLD Snooping, User quick log out, MVR (Multicast VLAN Registration) Multicast VLAN, IGMP Snooping v1/v2/v3 and 1024 multicast groups at most
Mirroring	Bidirectional traffic mirroring for basic ports Supports 1-to-multiple mirroring, supports up to 4 port sessions
QoS	Queue Scheduling Algorithm (SP, WRR, SP+WRR) Flow-based Rate Limiting, Flow-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 is issued based on port and VLAN

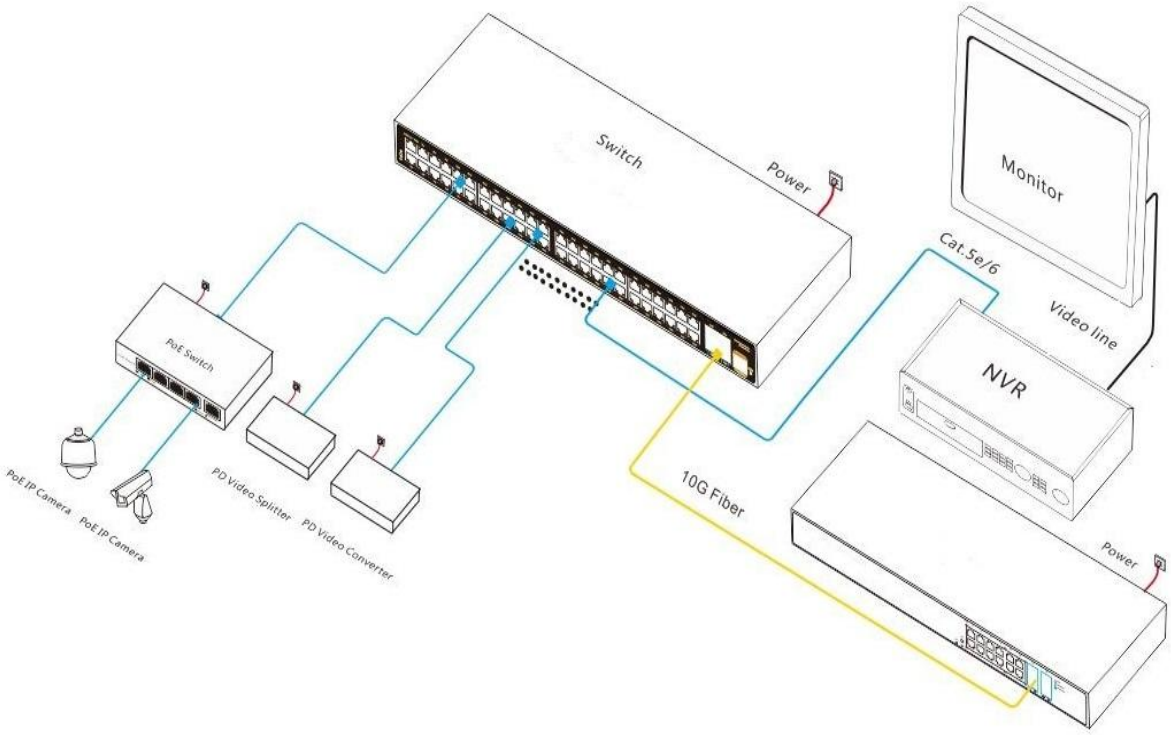
	L2-L4 packet filtering function can match the first 80 bytes of the message and provide ACL definition based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port range, VLAN, etc.
Security	Quad binding function of IP+MAC+VLAN+ports MAC address black hole, AAA&RADIUS certification Anti DoS attack, Port broadcast message suppression Hierarchical user management and password protection Port isolation, SSL guarantees data transmission security SSH 2.0 provides a secure encrypted channel for user login IP Source Guard function, ARP message speed limit function Host data backup mechanism, ARP intrusion detection function MAC address learning limit, Port based IEEE802.1X authentication
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	NMS platform cluster management (LLDP+SNMP) NTP clock, One click recovery, View CPU real-time utilization status FTP, TFTP, Xmodem, SFTP file upload and download management SNMP V1/V2/V3, Ping detection, Web network management (HTTPS) Console/ AUX Modem/ Telnet/ SSH2.0 CLI command line configuration System work log, Cable length detection, Link Layer Discovery Protocol
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. Working indicator
B. 48*10/100/1000M RJ45 ports
C. 4*1/10G uplink SFP+ fiber ports
D. Console port

APPLICATION



ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV-IPS58052FM	L3 managed industrial Ethernet switch with 48*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Built-in dual power supply. It supports dual AC+DC redundant power input (Phoenix terminal connection) and 1U/19" cabinet installation.	2*60W
Note: The optical module is not included and needs to be purchased.		

PACKING LIST

	Content	Qty	Unit
Packing List	52-port 10G uplink managed industrial Ethernet switch	1	Set
	AC Power Cable	1	PC
	RJ45-DB9 Adapter Cable	1	PC
	Mounting Kit	1	Set
	User Guide	1	PC
	Warranty Card and Certificate of Conformity	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. supports DDM function and hot plugging.	PC
	2632-G	Industrial SFP optical module, 1.25G single-mode dual fiber	PC

		1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	
	2612-T-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	2613-R-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	2612-T-G-SC	Industrial SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	PC
	2613-R-G-SC	Industrial SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	PC
10G Optical Module	6630-G	Industrial SFP+ optical module, 10G multi-mode dual fiber 850nm, transmission distance: 300m, LC interface. supports DDM function and hot plugging.	PC
	7832-G	Industrial SFP+ optical module, 10G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	7832-33-G	Industrial SFP+ optical module, 10G single-mode single fiber TX1330nm/ RX1270nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	7832-27-G	Industrial SFP+ optical module, 10G single-mode single fiber TX1270nm/ RX13300nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC

RELATED PRODUCT

Model	Description
ONV-IPS58028FM	L3 managed industrial Ethernet switch with 24*10/100/1000M RJ45 ports and 4*1/10G SFP+ fiber ports. Built-in 2*60W power supply. It supports dual AC+DC redundant power input (Phoenix terminal connection) and 1U/19" cabinet installation.
ONV-IPS58036FM	L3 managed industrial Ethernet switch with 16*10/100/1000M RJ45 ports and 8*10/100/1000Base-T RJ45 ports and 8*100/1000Base-X SFP fiber combo ports and 4*1/10G uplink SFP+ fiber ports. Built-in 2*60W power supply. It supports dual AC+DC redundant power input (Phoenix terminal connection) and 1U/19" cabinet installation.
ONV-IPS58368FM	L3 managed industrial Ethernet switch with 8*10/100/1000Base-T RJ45 ports and 8*100/1000Base-X SFP fiber combo ports and 16*100/1000M SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. Built-in 2*60W power supply. It supports dual AC+DC redundant power input (Phoenix terminal connection) and 1U/19" cabinet installation.

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