

Product Datasheet

28-port 10G Uplink Managed Ethernet Fiber Switch (ONV56028FM)



OVERVIEW

The ONV56028FM is a 10G uplink L2+ managed Ethernet fiber switch independently developed by ONV. It has 24*10/100/1000Base-T adaptive RJ45 ports and 4*1/10G SFP+ fiber slot ports. Each port can support wire-speed forwarding.

The ONV56028FM has L2+ full network management function, supports IPV4/ IPV6 management, static route full wire-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 a 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. It satisfies a high-density network application environment and is suitable for medium, large-scale scenes such as hotels, campuses, parks, shopping malls, scenic spots, hospitals, and banks to form an economical, efficient, and reliable communication network.

FEATURE

■ Full Gigabit access, 10G 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 10G SFP+ uplink port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ Strong business processing capability

- ◇ STP/ RSTP/ MSTP spanning tree to eliminate layer 2 loops and realize link backup.
- ◇ Support IEEE 802.1Q VLAN, users can flexibly divide VLAN according to needs, support Voice VLAN, QinQ configuration.
- ◇ Static and dynamic aggregation to effectively increase link bandwidth, realize load balancing, link backup, and improve link reliability.
- ◇ QoS, port-based, 802.1P-based and DSCP-based three priority modes and four queue scheduling algorithms: Equ, SP, WRR, and SP+WRR.
- ◇ 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 and IGMP Snooping to meet the needs of multi-terminal high-definition video surveillance and video conferencing access.

■ Security

- ◇ Port isolation.
- ◇ Port broadcast storm suppression.
- ◇ IP+MAC+port+VLAN quadruple flexible combination binding function.
- ◇ 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, L/A.
- ◇ Self-developed power supply high redundancy design, providing a long term and stable power output.
- ◇ Low power consumption, with fan, galvanized steel casing, 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 log, 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.

TECHNICAL SPECIFICATION

Model	ONV56028FM
Interface Characteristics	
Fixed Port	1*Console RS232 port (115200,N,8,1) 4*1/10G uplink SFP+ fiber ports (Data) 24*10/100/1000Base-T RJ45 ports (Data)
Ethernet Port	Port 1-24 support 10/100/1000Base-T auto-sensing, full/ half duplex MDI/MDI-X self-adaption

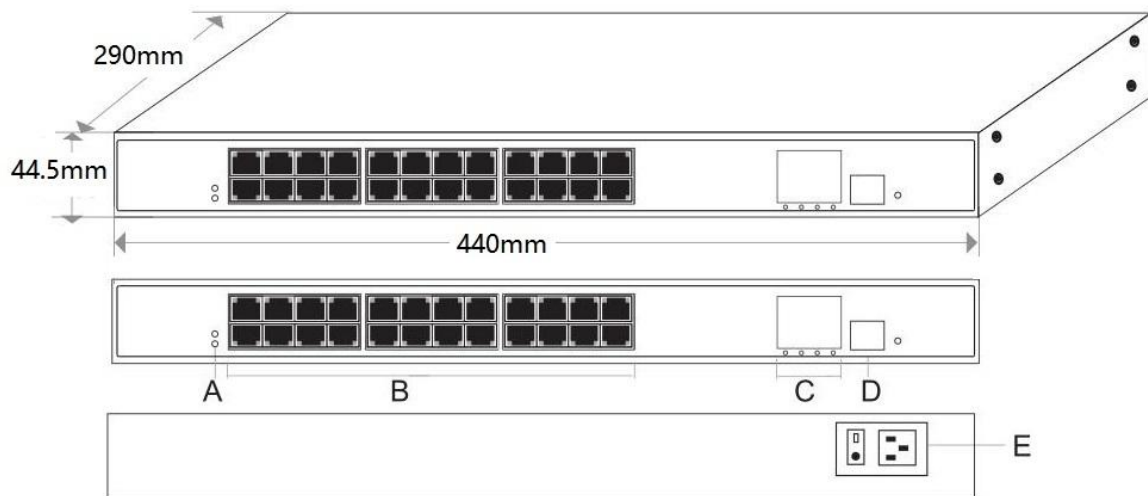
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP(≤100 meters) 100BASE-TX: Cat5 or later UTP(≤100 meters) 1000BASE-T: Cat5e or later UTP(≤100 meters)
Optical Fiber Port	Gigabit SFP optical fiber port and 10G SFP+ optical fiber port, default no include optical modules (optional order single-mode / multi-mode, single fiber / dual fiber optical module. LC)
Optical Fiber Port Expansion	Support Turbo overclocking 2.5G optical module expansion and ring network
Optical Cable/ Distance	Multi-mode:850nm/0-500M ,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	128Gbps (non-blocking)
Forwarding Rate@64byte	95.23Mpps
CPU	800MHz
DRAM	1Gbit
FLASH	128Mbit
MAC	16K
Buffer Memory	12Mbit
Jumbo Frame	12000byte
LED Indicator	Power: PWR (Yellow), System: SYS(Yellow) Network: Link/Act (Yellow), Fiber port: L/A (Green)

Reset Switch	Yes, press and hold the switch for 10 seconds and release it to restore the factory settings
Power Supply	
Total PWR / Input Voltage	60W/(AC100-240V)
Power Consumption	Standby<25W, Full Load<45W
Power Supply	Built-in power supply, AC 100~240V 50-60Hz 1.0A
Physical Parameter	
Operation TEMP / Humidity	-20~+55°C, 5%~90% RH Non condensing
Storage TEMP / Humidity	-40~+75°C, 5%~95% RH Non condensing
Dimension (L*W*H)	440*290*44.5mm
Net /Gross Weight	<4.8kg / <5.0kg
Installation	Desktop, 19 inch 1U cabinet installation
Certification & Warranty	
Lightning Protection	Lightning protection: 4KV 8/20us, Protection level: IP30
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
Warranty	3 years, lifelong maintenance.
Network Management Features	
Interface	<p>IEEE802.3x flow control (Full duplex)</p> <p>Port exception protection mechanism</p> <p>Port real-time flow management (Flow Interval)</p> <p>Broadcast storm suppression based on port rate</p> <p>Optical port SFP module DDMI real-time digital diagnosis</p> <p>Limit the rate of incoming and outgoing packet traffic, with a minimum granularity of 16Kbps and a maximum of 1Gbps</p> <p>Port EEE Green Ethernet Energy-Saving configuration and status view</p>

	Jumbo frame configuration, the largest 12000byte
Layer 3 Features	Support dual-stack management Support L2+ network management ARP protocol, 1024 entries at most RIPv1/v2, RIPng , OSPFv1/v2, OSPFv3 Support IPv4/IPv6 static routing, each supporting 128 entries
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 1-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.

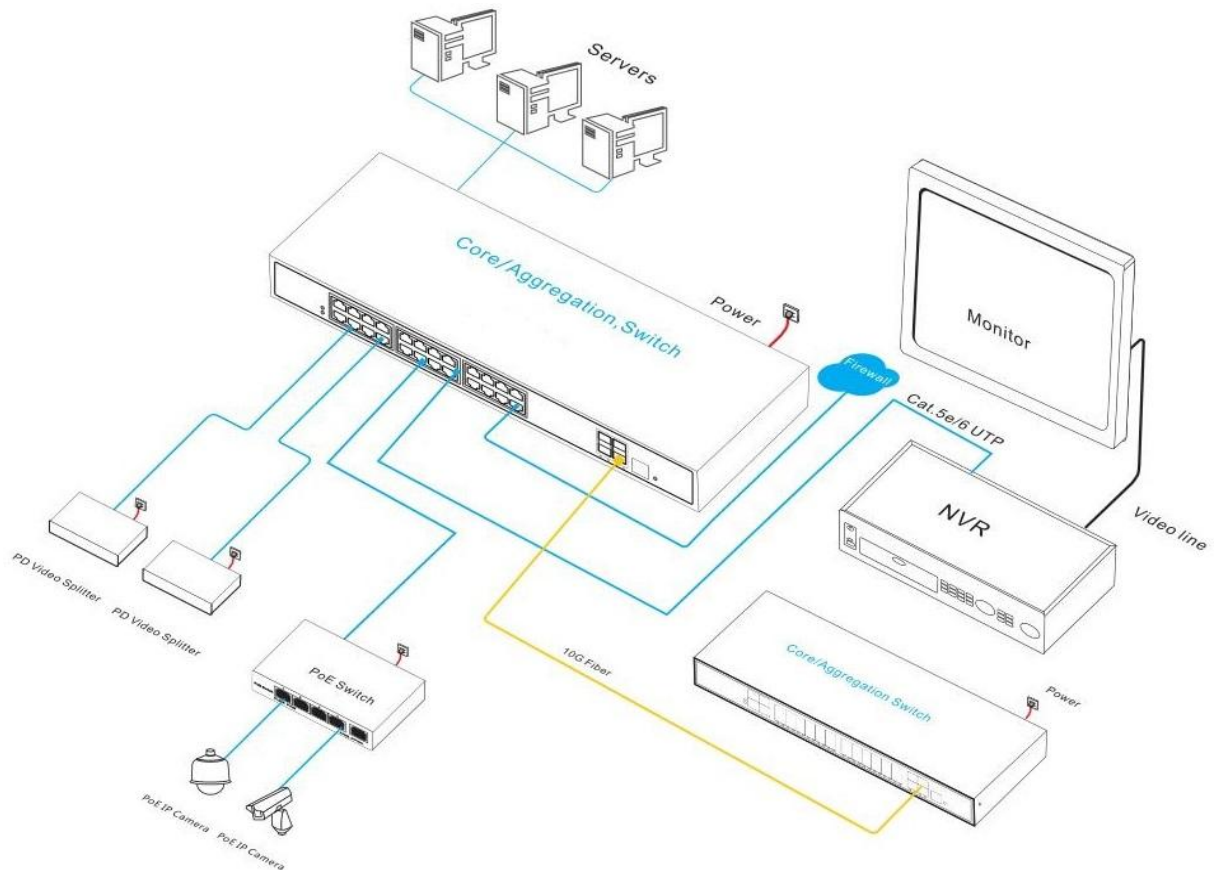
Security	<p>Port based IEEE802.1X authentication</p> <p>SSL guarantees data transmission security</p> <p>Quad binding function of IP+MAC+VLAN+ports</p> <p>MAC address learning limit, MAC address black hole</p> <p>Anti DoS attack, Port broadcast message suppression</p> <p>IP Source Guard function, AAA&RADIUS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



- A. Working indicator
- B. 24* 10/100/1000M RJ45 ports
- C. 4*1/10G SFP+ ports
- D. Console port
- E. Power input port AC100-240V,50/ 60Hz

APPLICATION



ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV56028FM	L2+ managed Ethernet aggregation /core fiber switch with 24*10/100/1000M RJ45 ports and 4*1/10G SFP+ fiber slot ports. Support 1U/19 inch rack installation.	60W

Note: The SFP optical module is not included by default and needs to be purchased separately.

PACKING LIST

	Content	Qty	Unit
Packing List	28-port 10G uplink managed Ethernet fiber switch	1	SET
	AC Power Cable	1	PC
	RJ45-DB9 Line	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	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	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	SFP optical module, 1.25G, single-mode single fiber	PC

		TX1310nm/ RX1550nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.	
	2613-R	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	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	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
10G Optical Module	6630	SFP+ optical module, 10G multi-mode dual fiber 850nm, transmission distance: 300m, LC interface, support DDM function, support hot plug and pull.	PC
	7832	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	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	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
ONV56368FM	L2+ managed Ethernet aggregation fiber switch with 24* 10/100/1000M RJ45 ports and 8*100/1000M RJ45/ SFP ports (Combo port) and 4*1/10G SFP+ fiber ports. Built-in 60W power supply. Support 1U/19 inch rack installation.
ONV56052FM	L2+ managed Ethernet aggregation fiber switch with 48*10/100/1000M RJ45 ports and 4*1/10G SFP+ fiber ports. Built-in 60W power supply. Support 1U/19 inch rack installation.

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