Product Datasheet

44-port 10G Uplink Managed Ethernet Switch
(ONV38448FM)

OVERVIEW

The ONV38448FM is a 10G uplink managed Ethernet switch independently developed by ONV. It has 12*10/100/1000Base-T adaptive RJ45 ports and 28*100/1000Base-X SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. Each port can support wire-speed forwarding.

The ONV38448FM has L3 network management function, supports IPV4/ IPV6 management, dynamic routing line-speed 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) and (ITU-T G.8032) ERPS (<20ms) to improve link backup and network reliability, and can quickly recover when a one-way network failure occurs. Communication ensures uninterrupted communication for important applications. Port management, routing address management, port flow control, VLAN division, IGMP, security policy, and other application business configurations are performed according to application needs through network management methods such as Web, CLI, SNMP, and Telnet. It meets high-density network application environments and is suitable for establishing economical, efficient, and reliable communication networks in medium and large-scale scenarios such as hotels, campuses, parks, supermarkets, scenic spots, hospitals, and banks.

+86 755 33376606

Optical Network Video Technologies (Shenzhen) Co., Ltd.

FEATURE

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

◇ Support non-blocking wire-speed forwarding.

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

◇ Support Gigabit RJ45 port and 1/10G uplink SFP+ fiber port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ **Strong business processing ability**

◇ 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**

◇ Support port isolation and port broadcast storm suppression.

◇ Support 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.

+86 755 33376606

Optical Network Video Technologies (Shenzhen) Co., Ltd. ONV

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

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

◇ Low power consumption, no fan, galvanized steel metal 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.

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

◇ RMON, system log, and port traffic statistics are convenient for network optimization and transformation.

◇ LLDP is convenient for the network management system to query and judge the communication status of the link.

◇ Various management and maintenance methods such as Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), Telnet, etc.

TECHNICAL SPECIFICATION

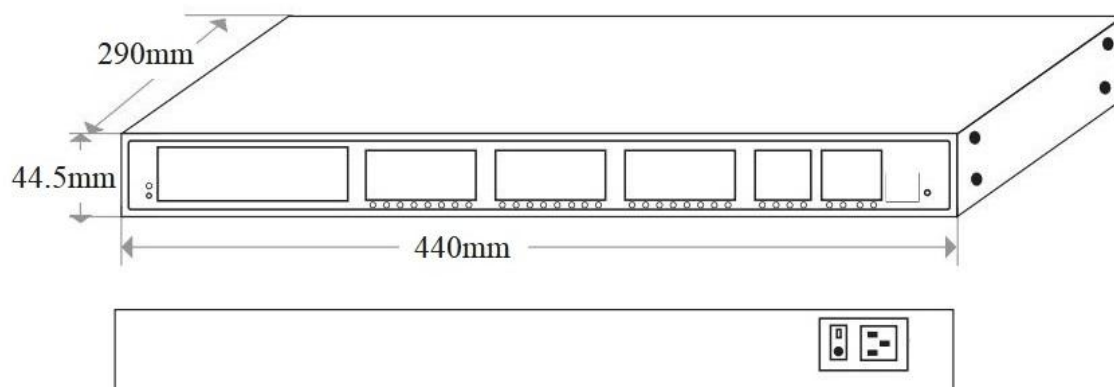| Model	ONV38448FM
Interface Characteristics	
Fixed Port	1*Console port (115200,N,8,1) 12*10/100/1000M RJ45 ports (Data) 28*100/1000M SFP fiber ports (Data) 4*1/10G uplink SFP+ fiber ports (Data)
Ethernet Port	Port 1-12 support 10/100/1000Base-T(X) auto-sensing, full/ half duplex MDI/ MDI-X self-adaption
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP (≤100 meters)

+86 755 33376606
Optical Network Video Technologies (Shenzhen) Co., Ltd.
ONV

	100BASE-TX: Cat5 or later UTP (≤100 meters)
	1000BASE-T: Cat5e or later UTP (≤100 meters)
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(1.25G), 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-SR/LR, IEEE 802.3x
Forwarding Mode	Store and forward (Full wire speed)
Switching Capacity	176Gbps (non-blocking)
Forwarding Rate@64byte	119Mpps
CPU(Hz)	500M
DRAM	2G
Flash	256M
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 switch for 10 seconds and release it to restore the factory settings

Power Supply

Total PWR/ Input Voltage	60W/(AC100-240V)

+86 755 33376606

Optical Network Video Technologies (Shenzhen) Co., Ltd.

ONV

Power Consumption	Standby<20W, full load<55W
Power Supply	Built-in power adapter, AC100~240V 50-60Hz, 1.0A
Physical Parameter	
Operation Temp/ Humidity	-20~+55°C, 5%~90% RH non condensing
Storage Temp/ Humidity	-40~+80°C, 5%~95% RH non condensing
Dimension (L*W*H)	440*290*44.5mm
Net /Gross Weight	3.5kg/ 4.35kg
Installation	Desktop, 1U/19" cabinet
Certification& Warranty	
Lightning Protection	Lightning protection: 4KV 8/20us, Protection level: IP30
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15, RoHS
Warranty	3 years, lifelong maintenance.
Network Management Feature	
Interface	Port temperature protection setting No connection port automatic sleep IEEE 802.3X flow control (Full duplex) 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.
L3 Routing	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 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

+86 755 33376606
Optical Network Video Technologies (Shenzhen) Co., Ltd.

ONV

6	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	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 22 aggregation groups and 8 ports per group
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Ring Network Protocol	G.8032 (ERPS), Recovery time less than 20ms 250 Ring at most, Max 250 devices per ring.
Multicast	MLD Snooping, Multicast VLAN, Fast log out IGMP Snooping v1/v2/v3 max 1024 multicast groups
Port Mirroring	Bidirectional data mirroring based on port
QoS	Flow-based redirection, Flow-based rate limiting Queue Scheduling Algorithm (SP, WRR, SP+WRR) 8*Output queues of each port, 802.1p/DSCP priority mapping Flow-based packet filtering, Priority Mark/ Remark, Diff-Serv QoS
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	ARP message rate limiting function Port broadcast message suppression SSL ensures data transmission security AAA& RADIUS& TACACS+ certification Limit the number of MAC addresses learned Port isolation, Host data backup mechanism

+86 755 33376606
Optical Network Video Technologies (Shenzhen) Co., Ltd. ONV

7	Anti-DoS attack, ARP intrusion detection function
	Quadruple binding function of IP+MAC+VLAN+port
	IP source address protection, MAC address black hole
	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	System work log, Link Layer Discovery Protocol
	NTP clock, Cable length detection, SNMP V1/V2/V3
	Ping detection, Web network management (HTTPS)
	ONV-NMS platform cluster management (LLDP+SNMP)
	One click recovery, View CPU real-time utilization status
	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

+86 755 33376606

Optical Network Video Technologies (Shenzhen) Co., Ltd.

APPLICATION
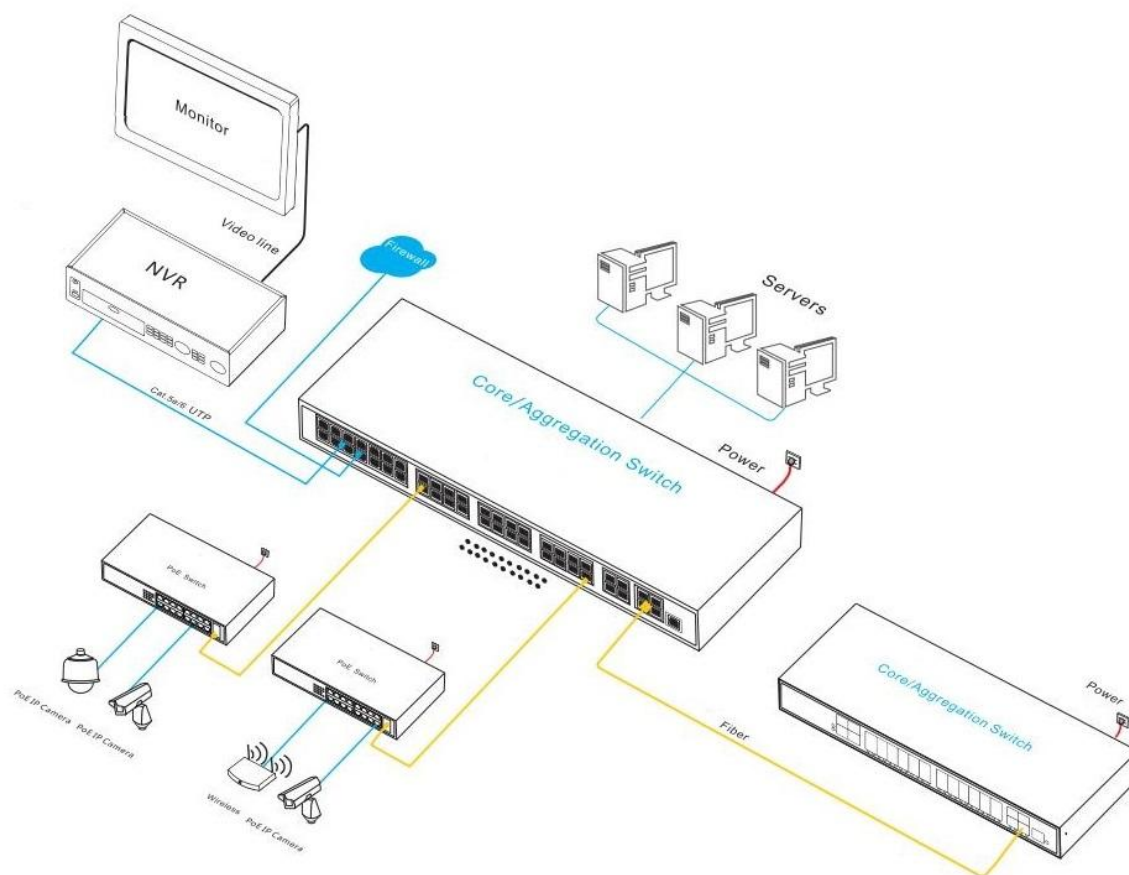
ORDERING INFORMATION

Model	Description	Built-in Power Supply
ONV38448FM	L3 managed Ethernet switch with 12*10/100/1000M RJ45 ports and 28*100/1000M SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. It built-in power supply and 1U/19" cabinet installation.	60W
Note: The optical module is not included and needs to be purchased.		

PACKING LIST

	Content	Qty	Unit
Packing List	44-port 10G uplink managed Ethernet switch	1	Set
	RJ45-DB9 Adapter Cable	1	PC
	AC Power 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	SFP optical module, 1.25G multi-mode dual fiber 850nm, transmission distance: 550m, LC interface. supports DDM function and hot plugging.	PC
	2632	SFP optical module, 1.25G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	2612-T	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	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-SC	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-SC	SFP optical module, 1.25G single-mode single fiber	PC

+86 755 33376606
Optical Network Video Technologies (Shenzhen) Co., Ltd. ONV

		TX1550nm/ RX1310nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	
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. supports DDM function and hot plugging.	PC
	7832	SFP+ optical module,10G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	7832-33	SFP+ optical module,10G single-mode single fiber TX1330nm/ RX1270nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	7832-27	SFP+ optical module,10G single-mode single fiber TX1270nm/ RX1330nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC

RELATED PRODUCT

Model	Description
ONV38168FM	L3 managed Ethernet switch with 12*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. It built-in 30W power supply and 1U/19" cabinet installation.
ONV38028FM	L3 managed Ethernet switch with 24*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. It built-in 60W power supply and 1U/19" cabinet installation.
ONV38036FM	L3 managed Ethernet switch with 24*10/100/1000M RJ45 ports and 8*100/1000M SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. It built-in 60W power supply and 1U/19" cabinet installation.

+86 755 33376606
Optical Network Video Technologies (Shenzhen) Co., Ltd.

ONV38368FM	L3 managed Ethernet switch with 8*10/100/1000M RJ45 ports and 24*100/1000M SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. It built-in 60W power supply and 1U/19" cabinet installation.
ONV38048FM	L3 managed Ethernet switch with 48*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. It built-in 60W power supply and 1U/19" cabinet installation.

CONTACT US

ONV **Optical Network Video Technologies (Shenzhen) Co., Ltd.**

Tel: 0086-755-33376606

Fax: 0086-755-33376608

WeChat: ONV-PoE-IoT

Email: onv@onv.com.cn

Skype: onv@onv.com.cn

Website: www.onvcom.com

Headquarter Address: Room 1003, Block D, Terra Building, Futian District, Shenzhen

Factory Address: Building B3, Galaxy Artificial Intelligence Industrial Park, No. 333, Zhongkai 6th Road, Chenjiang Street, Zhongkai High-tech Zone, Huizhou