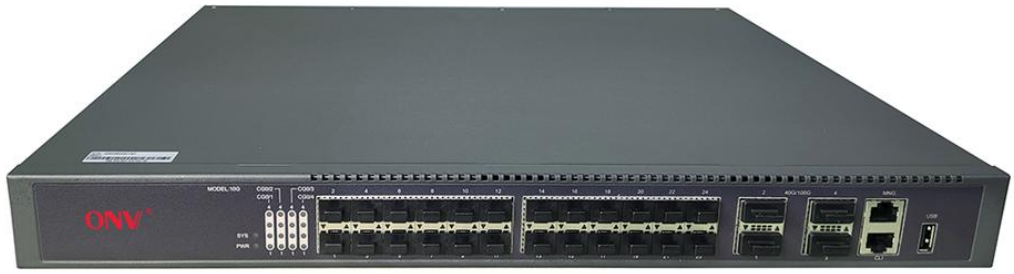
Product Datasheet

28-port 10G Core Routing Switch

(ONV68240-4QFM)



OVERVIEW

The ONV68240-4QFM is a high-performance 10G L3 managed aggregation switch launched by ONV, which is oriented to the next-generation metropolitan area networks, data centers, campus networks, and enterprise networks. It has 24*1/10G SFP+ ports and 4*40/100G (QSFP28) fiber ports. Use 1U/19-inch installation.

The ONV68240-4QFM is equipped with complete L3 management functions, with comprehensive protocols and applications. On the basis of providing high-performance L2/L3/L4 wire-speed switching service deployment and management, it further integrates IPv6, MPLS VPN, and network Multiple network services such as security, traffic analysis, virtualization, etc., combined with multiple data center high-reliability technologies such as uninterrupted upgrades, uninterrupted forwarding, graceful restart, redundancy protection, etc., to ensure the longest uninterrupted communication capability of the network. The switch supports functions such as RIP, OSPF, BGP, and PIM-DM/SM, and is ideal for traditional or fully virtualized data centers. Network application managers can flexibly select appropriate optical fiber connections based on transmission distance or required transmission speed to effectively expand 1G/10G/40G/100G networks. The ONV68240-4QFM has 1.28Tbps switching capacity, and key modules adopt 1:1 redundancy backup. It can handle very large amounts of data in a secure topology and is

very suitable for network cores, data centers, and metropolitan area network cores in various industries. and convergence, campus network core, and other places.

FEATURE

■ Advanced hardware architecture, powerful processing capabilities

◇ Standard data center switching between front-back mode and back -front mode deign and fan automatic speed regulation.

◇ Adopting advanced hardware architecture design, it supports 24*1/10G SFP+ ports and 4*40G/100G (QSFP28) fiber ports.

◇ Equipped with ASIC switching chip and multi-core processor, with switching capacity of 1.28Tbps, meeting the high performance, high capacity, high density, and scalability requirements of the data center.

■ Powerful data service guarantee

◇ Support ISSU (In-Service Software Upgrade) to ensure uninterrupted forwarding of user data during system upgrade and master switch.

◇ Complete Ethernet OAM mechanism, supporting 802.3ah, 802.1ag, and ITU-Y.1731, enabling rapid detection and location of faults through real-time monitoring of network operating status.

◇ Based on HPS (Hitless Protection System), the power system adopts a redundant design, modules support hot swapping and support seamless switching in case of failure without interrupting business.

◇ The ultra-high-precision BFD bidirectional link detection mechanism realizes millisecond-level fault detection and business recovery through linkage with L2/L3 protocols, greatly improving the reliability of the network system.

◇ Supports STP/RSTP/MSTP protocols, and VRRP protocols, and supports ring network protection, dual uplink primary and secondary link protection, LACP link aggregation, and other simple and efficient redundant protection mechanisms.

◇ Support virtual cluster switching technology, which can virtualize multiple physical

devices into one logical device. The performance, reliability, flexibility, and management of the virtual system have unparalleled advantages compared to independent physical devices. The entire virtual system realizes unified management of a single IP, and the actual physical equipment is transparent to users, simplifying the management of network equipment and network topology, greatly improving network operation efficiency, thereby effectively reducing operation and maintenance costs.

Rich business features

- ◇ Support IPv6 protocol family, IPv6 neighbor discovery, ICMPv6, Path MTU discovery, DHCPv6 and other IPv6 features.
- ◇ IPv6-based Ping, Traceroute, Telnet, SSH, ACL, etc., to meet the needs of pure IPv6 network equipment management and business control.
- ◇ Complete L2 and L3 multicast routing protocols to meet the access needs of IPTV, multi-terminal HD video surveillance, and HD video conferencing.
- ◇ L2 and L3 MPLS VPN can form a large-scale MPLS VPN core network to meet the access needs of industry private network VPN users and enterprise network VPN users.
- ◇ IPv4 to IPv6 transition technologies, including IPv6 manual tunnel, automatic tunnel, 6to4 tunnel, ISATAP tunnel, and other tunnel technologies to ensure smooth transition from IPv4 network to IPv6 network.
- ◇ Support IPv6 multicast features such as MLD and MLD Snooping, IPv6 static routing, RIPng, OSPFv3, BGP4+ and other IPv6 layer three routing protocols, providing users with complete IPv6 layer two and three solutions.
- ◇ L3 routing protocol and large routing table capacity meet various types of network interconnection needs and can build ultra-large data center networks, campus networks, enterprise networks, and industry user private networks.

Security

- ◇ Support IEEE 802.1x, Radius, BDTacacs+, etc., and provide users with a complete

security authentication mechanism.

◇ Advanced hardware architecture design, hardware realizes hierarchical scheduling and protection of messages, supports defense against DoS, TCP SYN Flood, UDP Flood, broadcast storm, large traffic, and other attacks on the device, and supports command line classification Protection, different levels of users have different management rights.

◇ Support plain text or MD5 authentication of related routing protocols, and uRPF reverse routing lookup technology to effectively control illegal services. Hardware-level packet in-depth detection and filtering technology support in-depth detection of control packets and data packets, thereby effectively isolating illegal data packets and improving the security of the network system.

■ Stable and reliable

◇ Supports Efficient Ethernet and complies with International standard IEEE 802.3az.

◇ Smart fan design supports switching between front-back mode and back -front mode and fan automatic speed regulation.

◇ It adopts an advanced redundant dual power supply system architecture design which can realize the function of efficient power switching, unique power monitoring, slow start, real-time monitoring of the whole machine operating status, intelligent adjustment, and deep energy-saving.

■ 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 (Console, Telnet), SNMP (V1/V2/V3) and

other diversified management and maintenance.

TECHNICAL SPECIFICATION

Model	ONV68240-4QFM
Interface Characteristics	
Fixed Port	1*USB 2.0 configuration port 24*1/10G SFP+ fiber ports (Data) 1*RS232 Console port (9600,8,N,1) 4*40G/100G QSFP28 fiber ports (Data) 1*10/100/1000M RJ45 management port(Data)
Ethernet Port	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	10G SFP+/ QSFP28 optical fiber ports, default no include optical modules (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
Optical Cable/ Distance	Multi-mode: 850nm / 0-500m Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
Chip Parameter	
Network Management Type	L3
Network Protocol	IEEE802.3u 100Base-TX , IEEE802.3ab 1000Base-T IEEE802.3z 1000Base-X, IEEE802.3ae 10Gb/s Ethernet, IEEE802.3x
Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	1.28Tbps (non-blocking)

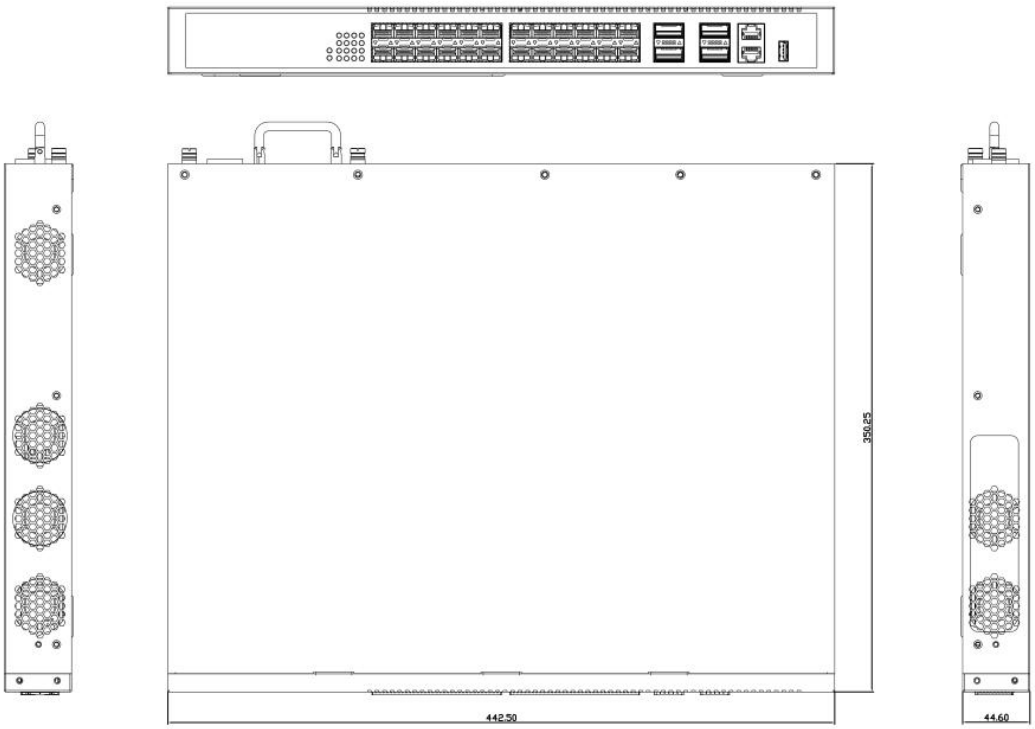
Forwarding Rate@64byte	952Mpps
MAC	32K
Buffer Memory	32M
Jumbo Frame	16K
LED Indicator	Power: PWRA, PWRB (Green), System: SYS (Green), Fiber port: CG0-4(Green)
Power Supply	
Total PWR / Input Voltage	75W*2/ (AC100-240V)
Power Consumption	Standby<30W, Full Load<70W
Power Supply	Built-in power supply AC100~240V 50-60Hz 1A*2
Physical Parameter	
Operation TEMP/ Humidity	-20°C~+55°C, 5%~90% RH Non condensing
Storage TEMP/ Humidity	-40°C~+75°C, 5%~95% RH Non condensing
Dimension (L*W*H)	442.5*315*44mm
Net /Gross Weight	<6.0kg / <6.3kg
Installation	Desktop, 19-inch 1U cabinet mount
Certification & Warranty	
Lightning Protection	Port lightning protection: 6KV 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	
Virtualization and Stacking	Stacking via standard Ethernet interface Virtualization, Local stacking and remote stacking

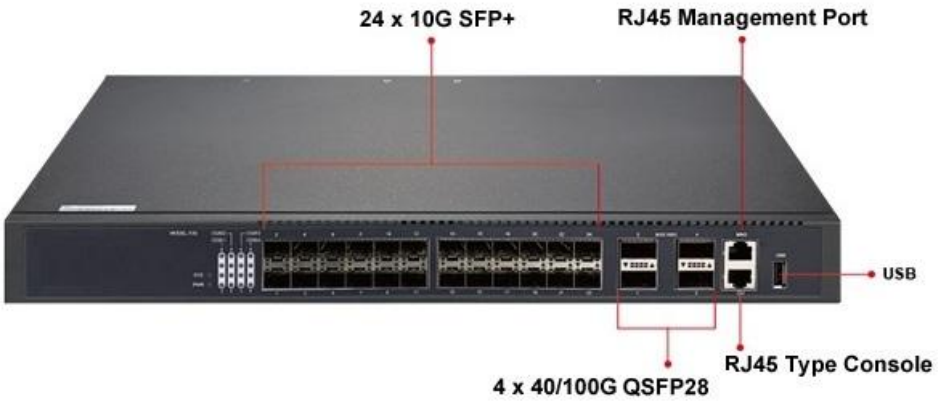
	MAD stack split detection mechanism based on LACP, BFD, and ARP Distributed device management, distributed link aggregation, and distributed elastic routing
IPv4	Policy routing, BFD for OSPF, BGP Equal-cost routing to achieve load balancing Static routing, RIP v1/v2, OSPF, BGP, IS-IS, BEIGRP
IPv6	MLD v1/v2, MLD Snooping ICMPv6, DHCPv6, ACLv6, IPv6 Telnet Manual tunnel, ISATAP tunnel, 6to4 tunnel IPv6 static routing, RIPng, OSPFv3, BGP4+ IPv6 neighbor discovery, Path MTU discovery
MAC Exchange	View and clear the MAC address MAC address aging time is configurable IEEE 802.1AE MacSec Security Control Limit the number of MAC address learning Black hole MAC table entry, MAC address filtering function Static configuration and dynamic learning of MAC addresses
VLAN	1:1 and N:1 VLAN Mapping Basic QinQ and flexible QinQ functions 4K VLAN entries, GVRP, Private VLAN
Link Aggregation	10GE port aggregation, Static aggregation, Dynamic aggregation
Flow Monitoring	sFLOW
DHCP	DHCP Snooping option82/ DHCP Relay option82 DHCP Client, DHCP Snooping, DHCP Relay, DHCP Server Zero configuration methods such as DHCP auto-config and CWMP-TR069
STP/ ERPS	BPDU protection, root protection, loop protection ERPS Ethernet Protection Protocol (G.8032) 802.1D (STP), 802.1W (RSTP), 802.1S (MSTP)

Multicast	Enhanced L3 multicast protocol Multicast traffic replicated across VLAN MFF, MVRP, PIM snooping, PIM-SM, PIM-DM Multicast group policy and multicast group number limit IGMP v1/v2/v3, IGMP Snooping v2/v3, IGMP Fast Leave
ARP	Free ARP, Dynamic ARP Inspection ARP source suppression, ARP anti-attack Static entries, standard proxy ARP and local proxy ARP ARP Detection function (check based on DHCP Snooping security entries, 802.1x entries, or IP/MAC static binding entries)
Mirroring	Flow mirroring, N: 4 port mirroring, Local and remote port mirroring
MPLS VPN	MCE, LDP protocol, MPLS TE, MPLS OAM P/PE Functional Requirements of MPLS VPN
QoS/ ACL	802.1P/DSCP priority remarking CAR traffic limit, Traffic policing and traffic shaping Queue scheduling methods such as SP, WRR, SP+WRR, etc. Congestion avoidance mechanisms such as Tail-Drop and WRED Traffic classification based on each field of the L2/L3/L4 protocol header Ingress and Egress ACL, match L2/L3/L4 and IP quintuple, copy, forward and discard Hash origin and same destination load balancing to ensure session integrity of traffic output
Security	Port security, IP+MAC+port binding DHCP Snooping, DHCP Option 82 Port isolation, command line hierarchical protection uRPF, IEEE 802.1x certified, Radius, BDTacacs+ certified Suppression of multicast, broadcast, and unknown unicast packets Prevent DDoS attacks, TCP SYN Flood attacks, UDP Flood attacks, etc. ACL flow identification and filtering security mechanism based on

	L2/L3/L4
Reliability	Optional power supply 1+1 backup HSRP, VRRP hot standby protocol ISSU (In-Service Software Upgrade) EAPS, ERPS ring network protection GR for OSPF, BGP, BFD for OSPF, BGP Static/ LACP link aggregation, cross-service card link aggregation
Management	ZTP(Zero Touch Provisioning) Management based on browser Web Traffic statistics analysis such as sFLOW Support USB for file upload and download NTP, Syslog, ISSU, 802.1AG and 802.3AH Power alarm function, Console, Telnet, SSH 2.0 Ping, Tracert, Track, Telnet remote maintenance SNMP (Simple Network Management Protocol) File upload and download management in TFTP mode Fan, temperature alarm, debugging information output Classified alarm, SNMP v1/v2/v3, RMON event history
Energy Saving	IEEE802.3az green energy Ethernet
System	Category 5 Ethernet network cable Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 or higher TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in a network

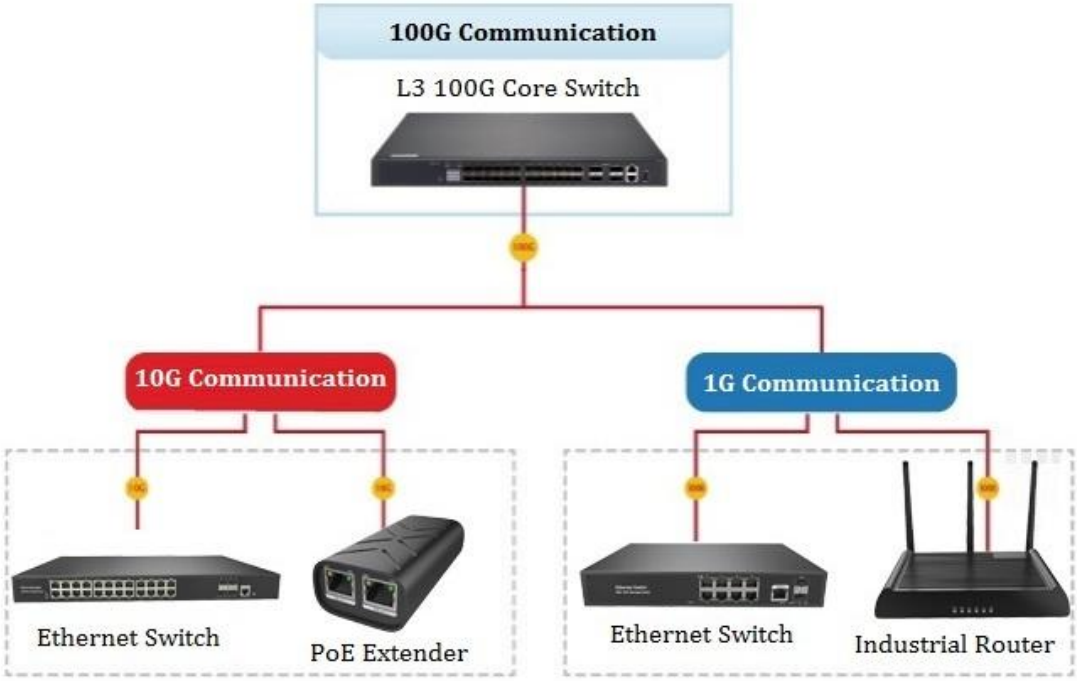
DIMENSION


350.25
442.50
44.60


24 x 10G SFP+
RJ45 Management Port
USB
RJ45 Type Console
4 x 40/100G QSFP28


2* Main/Backup Power

APPLICATION



ORDERING INFORMATION

Model	Description	Power Supply
ONV68240-4QFM	L3 managed 10G Ethernet core routing switch with 24*1/10G SFP+ fiber ports and 4*40/100G QSFP28 fiber ports. Redundant dual AC power supply and support 19-inch 1U cabinet mount.	75W*2
Note: The optical module is not included by default and needs to be purchased separately.		

PACKING LIST

	Content	Qty	Unit
Packing List	28-port 10G core routing switch	1	SET
	AC power cable	2	PC
	RJ45 to DB9 adapter cable	1	PC
	Mounting kits(hanging ears)	1	SET
	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 and hot plugging.	PC
	2632	SFP optical module, 1.25G, single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. support DDM function and hot plugging.	PC
	2612-T	SFP optical module, 1.25G, single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, LC interface. support DDM function and hot plugging.	PC
	2613-R	SFP optical module, 1.25G, single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, LC interface. support 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. support DDM function and hot plugging.	PC
	2613-R-SC	SFP optical module, 1.25G, single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, SC interface. support DDM function and hot plugging.	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 and hot plugging.	PC
	7832	SFP+ optical module,10G, Single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. support DDM function and hot plugging.	PC
	7832-33	SFP+ optical module,10G, Single-mode single fiber TX1330nm/ RX1270nm , transmission distance: 20km, LC interface. support DDM function and hot plugging.	PC
	7832-27	SFP+ optical module,10G, Single-mode single fiber TX1270nm/ RX13300nm , transmission distance: 20km, LC interface. support DDM function and hot plugging.	PC

CONTACT US

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, China

Factory Address: Floor 4-6, Building A, Senyutai Industrial Park, No. 111, Huaning Road, Xinshi Community, Dalang Street, Longhua District, Shenzhen, China