Product Datasheet

54-port 10G Core Routing Switch

(ONV68482-4QFM)

OVERVIEW

The ONV68482-4QFM is a high-performance L3 managed Ethernet switch that meets the requirements of metropolitan area networks, data centers, campus networks, and enterprise networks. It has 48*1/10G SFP+ fiber ports and 2*40G QSFP28 fiber ports and 4*100G QSFP28 fiber ports. Use 1U/19” installation.

The ONV68482-4QFM has complete L3 management functions and comprehensive protocols and applications. It integrates IPv6, MPLS VPN, network security, traffic analysis, virtualization, and other network services based on providing high-performance L2/L3/L4 line-speed switching service deployment and management, and combines various data center high-reliability technologies such as uninterrupted upgrades, uninterrupted forwarding, restart, and redundant protection to ensure the longest uninterrupted communication capability of the network. Supporting advanced functions such as RIP, OSPF, BGP, and PIM-DM/SM is the choice for traditional or fully virtualized data centers. Flexible selection of appropriate fiber connections according to transmission distance or

required transmission speed effectively expands 1G/10G/40G/100G networks. With a switching capacity of up to 1.96Tbps, key modules all use 1:1 redundant backup, which can handle very large amounts of data in a secure topology. Suitable for network cores, data centers, metropolitan area network cores and aggregations, campus network cores, and other places in various industries.

FEATURE

■ Advanced hardware architecture

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

◇ Adopting the industry's advanced hardware architecture design, the 1U machine can support 48*1/10G SFP+ fiber ports and 2*40G QSFP28 fiber ports and 4*100G QSFP28 fiber ports

◇ High-performance ASIC switch chip and multi-core processor support up to 1.96Tbps of switching capacity to meet the high performance, high capacity, high density and scalability requirements of the data center.

■ Strong data service guarantee

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

◇ The perfect Ethernet OAM mechanism supports 802.3ah, 802.1ag, and ITU-Y.1731, and realizes rapid detection and location of faults through real-time monitoring of network operation status.

◇ The key power supply system based on HPS (Hitless Protection System) adopts a redundant design, modular hot-swappable, and supports seamless switching in case of failure without interrupting business.

◇ Support simple and efficient redundant protection mechanisms such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink primary and backup link protection, LACP link aggregation, etc.

◇ The ultra-high-precision BFD bidirectional link detection mechanism realizes

millisecond-level fault detection and service recovery through linkage with the second and third-layer protocols, greatly improving the reliability of the network system.

◇ Support virtualization cluster switching technology, which can virtualize multiple physical devices into a logical device. The actual physical device is transparent to the user, which simplifies the management of network devices and network topology, improves network operation efficiency, and effectively reduces operation and maintenance costs. The performance, reliability, flexibility, and management of its virtual system are superior to those of independent physical devices.

■ Rich business feature

◇ Support IPv6 protocol family, IPv6 neighbor discovery, ICMPv6, Path MTU discovery, DHCPv6 and other IPv6 features.

◇ Support 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 requirements of IPTV, multi-terminal HD video surveillance, and HD video conferencing.

◇ Support L2 and L3 MPLS VPN can form large MPLS VPN core networks to meet the access requirements of industry private network VPN users and enterprise network VPN users.

◇ Support IPv6 multicast features such as MLD Snooping, IPv6 static routing, RIPng, OSPFv3, BGP4+ and other IPv6 L3 routing protocols to provide users with complete IPv6 L2 and L3 solutions.

◇ Support a variety of IPv4 to IPv6 transition technologies, including IPv6 manual tunnel, automatic tunnel, 6to4 tunnel, ISATAP tunnel, and other tunnel technologies to ensure a smooth transition from IPv4 network to IPv6 network.

◇ Complete L3 routing protocols and large routing table capacity to meet the needs of various types of network interconnection, and can form ultra-large data center networks, campus networks, enterprise networks, and industry user networks.

■ Security

- ◇ Support IEEE 802.1x, Radius, and Tacacs+, to provide users with a complete security authentication mechanism.
- ◇ Advanced hardware architecture design, hardware-implemented hierarchical scheduling, and protection of messages, support for preventing DoS, TCP SYN Flood, UDP Flood, broadcast storm, large traffic, and other attacks on the device. support command line hierarchical protection, different levels of users have different management permissions.
- ◇ Support plain text or MD5 authentication of related routing protocols, support uRPF reverse routing lookup technology, which can effectively control illegal business. Hardware-level message deep detection and filtering technology, supports deep detection of control messages and data messages, to effectively isolate illegal data messages and improve the security of the network system.

■ Stable and reliable

- ◇ Support energy-efficient Ethernet function, and complies with IEEE 802.3az to effectively reduce energy consumption.
- ◇ The intelligent fan design supports a flexible selection of front and back/back and front air ducts and supports automatic fan speed regulation to effectively reduce the speed, reduce noise, and extend the use of the fan.
- ◇ The advanced power system architecture design realizes efficient power conversion, unique power monitoring, slow start, other functions, real-time monitoring of the whole machine operation status, and intelligent adjustment for deep energy saving.

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

TECHNICAL SPECIFICATION

Model	ONV68482-4QFM
Interface Characteristics	
Fixed Port	1*USB 2.0 configuration port 1*RS232 Console port (9600,8,N,1) 48*1/10G SFP+ fiber ports (Data) 2*40G QSFP28 uplink fiber ports (Data) 4*100G QSFP28 uplink fiber ports (Data)
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) 10G SFP+ optical fiber port can be backward compatible with 1G optical fiber module.
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
Chip Parameter	
Network Management Type	L3
Network Protocol	IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3ae 10Gb/s Ethernet, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	1.96Tbps (non-blocking)
Forwarding Rate@64byte	1428Mpps
MAC	64K

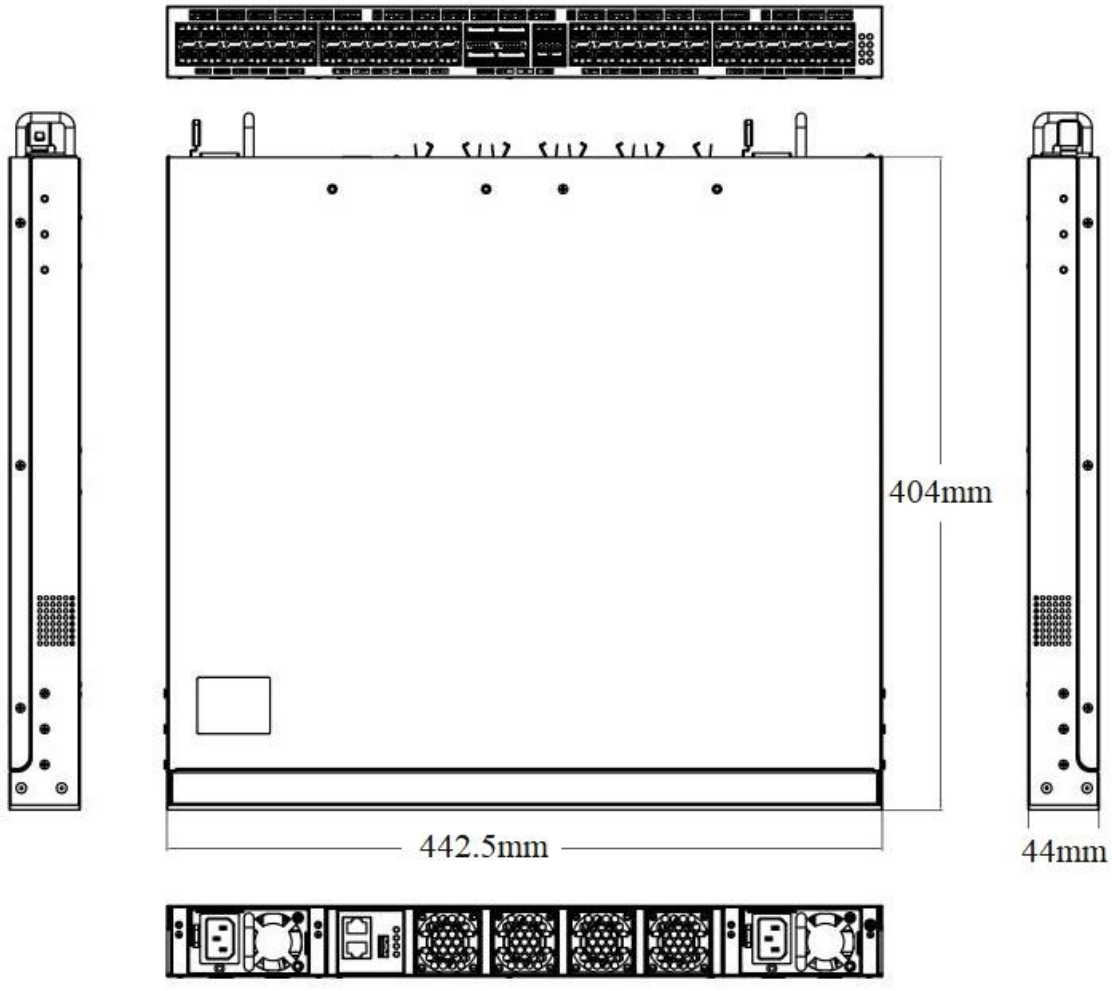
Buffer Memory	64M
Jumbo Frame	16K
LED Indicator	Power: PWRA, PWRB (Green), System: SYS (Green), Network management: MNG (Green)
Power Supply	
Total PWR/ Input Voltage	2*480W/ (AC100-240V)
Power Consumption	Standby<50W, Full Load<160W
Power Supply	Built-in power supply, AC100~240V 50-60Hz, 2*5.0A
Physical 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*404*44mm
Net /Gross Weight	<6.8kg / <7.0kg
Installation	Desktop, 1U/19” cabinet
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 Feature	
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 Switching	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	Basic QinQ and flexible QinQ function 4K VLAN entries, GVRP, Private VLAN, 1:1 and N:1 VLAN Mapping
Link Aggregation	10GE port aggregation, Static aggregation, Dynamic aggregation
Flow Monitoring	sFLOW
DHCP	DHCP Snooping option82/ DHCP Relay option82 HCP Client, DHCP Snooping, DHCP Relay, DHCP Server Zero configuration methods such as DHCP auto-config and CWMP-TR069
STP/ERPS	802.1D (STP), 802.1W (RSTP), 802.1S (MSTP) BPDU protection, Root protection, Loop protection ERPS Ethernet Ring Protection Protocol (G.8032)
Multicast	Multicast group policy and multicast number limit IGMP V1/v2/v3, IGMP Snooping, IGMP Fast Leave PIM-SM.PIM-DM, Multicast traffic cross VLAN duplication
ARP	Static entries, ARP source suppression Standard proxy ARP and local proxy ARP Free ARP, Dynamic ARP Inspection, ARP anti-attack ARP Detection (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, MPLS TE, MPLS OAM, LDP protocol, P/PE of MPLS VPN
QoS/ACL	Traffic supervision and traffic shaping SP, WRR, SP+WRR scheduling mode CAR traffic restriction, 802.1P/DSCP priority re-marking Tail-Drop, WRED, and other congestion avoidance mechanisms Traffic classification based on each field of the L2/L3/L4 protocol header Ingress and Egress ACL, matching L2, L3, L4 and IP five-tuple, copying, forwarding, and discarding Hash same-source and same-destination load balancing to ensure session integrity of traffic output
Security	Identification and filtering of L2/L3/L4 based ACL Urpf, Port isolation, Port security, IP + MAC + port binding IEEE 8021x certification, DHCP Snooping, DHCP Option 82 Radius and BDTacacs+, Command line hierarchical protection Suppression of broadcast, multicast, and unknown unicast packet Defend against DDoS attack, SYN Flood attack of TCP, and UDP Flood attack
Reliability	EAPS, ERPS ring network protection ISSU service without interruption system upgrade HSRP, VRRP hot standby protocol, GR for OSPF, BGP Optional power supply 1+1 backup, BFD for OSPF, BGP Static/LACP link aggregation, support cross-service card link aggregation
Management	File upload and download management in TFTP mode Telnet remote maintenance, ZTP(Zero Touch Provisioning) Power alarm, Fan, temperature alarm, Console,Telnet, SSH 2.0 ISSU, Track, Tracert, sFLOW and other traffic statistics analysis

	NTP, Ping, Debug information output, Web browser management System logs, Graded alarm, SNMP v1/v2/v3, 802.1AG and 802.3AH RMON event history, SNMP (Simple Network Management Protocol)
Energy Saving	IEEE802.3az green energy Ethernet
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



ORDERING INFORMATION

Model	Description	Power Supply
ONV68482-4QFM	L3 managed Ethernet core routing switch with 48*1/10G SFP+ fiber ports and 2*40G QSFP28 fiber ports and 4*100G QSFP28 fiber ports. It can support redundant dual AC power supply and standard 1U/19” cabinet installation.	2*480W
Note: The optical module is not included and needs to be purchased.		

PACKING LIST

	Content	Qty	Unit
Packing List	54-port 10G core routing switch	1	Set
	AC Power Cable	1	PC
	Mounting Kit	1	Set
	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	PC

		DDM function and hot plugging.	
	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 TX1550nm/ RX1310nm, transmission distance: 20km, SC interface. supports 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. 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/ RX13300nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC

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