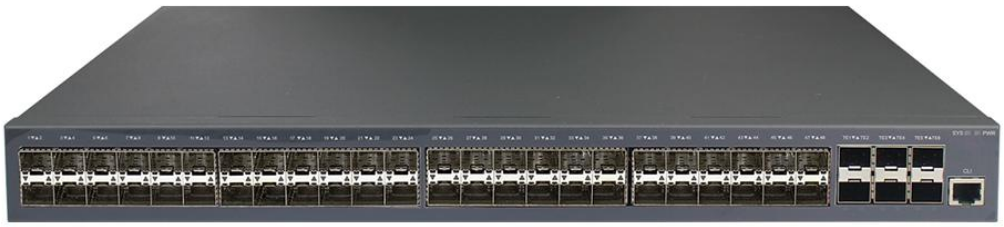
Product Datasheet

# 54-port 10G Uplink Core Routing Switch

## (ONV58480-6TFM)



## OVERVIEW

The ONV58480-6TFM is a high-performance managed Ethernet switch oriented to the next generation of IP metropolitan area networks, large campus networks, and enterprise networks. It has 48*100/1000M SFP fiber ports and 6*1/10G uplink SFP+ fiber ports. Use 1U/19” installation.

The ONV58480-6TFM has complete L3 management functions, with comprehensive protocols and applications. Based on 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 advanced functions such as RIP, OSPF, BGP, and PIM-DM/SM, and is ideal for

traditional or fully virtualized big data transmission. Network application managers can flexibly choose the appropriate optical fiber connection according to the transmission distance or required speed, effectively expanding the 1/10G network. The ONV58480-6TFM has a switching capacity of up to 598Gbps, 6*1/10G uplink SFP+ fiber ports, greatly increasing the network bandwidth converged to the core, meeting the high bandwidth requirements of users' voice, video, and data triple play, suitable for application requirements for smart campuses, large smart communities, smart cities, smart transportation, and other fields.

# FEATURE

## ■ Advanced hardware architecture

◇ Adopt advanced hardware architecture design, support 48*100/1000M SFP fiber ports and 6*1/10G uplink SFP+ fiber ports. Meet the high performance, high capacity, high density, and scalability of large data transmission expanded requirements.

## ■ 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 | ONV58480-6TFM |
|---|---|
| **Interface Characteristics** | |
| Fixed Port | 1*Console port (9600,8,N,1)<br>6*1/10G uplink SFP+ fiber ports (Data)<br>48*100/1000M SFP fiber ports (Data) |
| Optical Fiber Port | Default no include optical modules (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC) |
| 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 802.3z 1000Base-X, IEEE 802.3ae 10Gb/s Ethernet, IEEE 802.3x |
| Forwarding Mode | Store and forward (Full wire speed) |
| Switching Capacity | 598Gbps (non-blocking) |
| Forwarding Rate@64byte | 136.7Mpps |
| CPU(Hz) | Dual core 1G |
| DRAM | 2G |
| FLASH | 256M |
| MAC | 32K |
| Buffer Memory | 32M |
| Jumbo Frame | 12K |
| LED Indicator | Power: PWR (Green), System: SYS (Green), Fiber port: 1-48 (Green), 10G |

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| | SFP+ port: TE1-TE6 (Green) |
| **Power Supply** | |
| Total PWR/ Input Voltage | 75W/ (AC100-240V) |
| Power Consumption | Standby<35W, full load<70W |
| Power Supply | Built-in power supply, AC100~240V 50-60Hz, 1.0A |
| **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) | 440*350*44mm |
| Net /Gross Weight | <6.0kg/ <6.3kg |
| 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, RoHS |
| Warranty | 3 years, lifelong maintenance. |
| **Network Management Feature** | |
| Virtualization and Stacking | Stacking via standard Ethernet interface<br>Virtualization, Local stacking and remote stacking<br>MAD stack split detection mechanism based on LACP, BFD, and ARP<br>Distributed device management, distributed link aggregation, and distributed elastic routing |
| IPv4 | Policy routing, BFD for OSPF, BGP<br>Equal-cost routing to achieve load balancing<br>Static routing, RIP v1/v2, OSPF, BGP, IS-IS, BEIGRP |
| IPv6 | MLD v1/v2, MLD Snooping<br>ICMPv6, DHCPv6, ACLv6, IPv6 Telnet<br>Manual tunnel, ISATAP tunnel, 6to4 tunnel<br>IPv6 static routing, RIPng, OSPFv3, BGP4+<br>IPv6 neighbor discovery, Path MTU discovery |

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| MAC Switching | View and clear the MAC address<br>MAC address aging time is configurable<br>IEEE 802.1AE MacSec Security Control<br>Limit the number of MAC address learning<br>Black hole MAC table entry, MAC address filtering function<br>Static configuration and dynamic learning of MAC addresses |
| VLAN | Basic QinQ and flexible QinQ function<br>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<br>HCP Client, DHCP Snooping, DHCP Relay, DHCP Server<br>Zero configuration methods such as DHCP auto-config and CWMP-TR069 |
| STP/ERPS | 802.1D (STP), 802.1W (RSTP), 802.1S (MSTP)<br>BPDU protection, Root protection, Loop protection<br>ERPS Ethernet Ring Protection Protocol (G.8032) |
| Multicast | Multicast group policy and multicast number limit<br>IGMP V1/v2/v3, IGMP Snooping, IGMP Fast Leave<br>PIM-SM.PIM-DM, Multicast traffic cross VLAN duplication |
| ARP | Static entries, ARP source suppression<br>Standard proxy ARP and local proxy ARP<br>Free ARP, Dynamic ARP Inspection, ARP anti-attack<br>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<br>SP, WRR, SP+WRR scheduling mode<br>CAR traffic restriction, 802.1P/DSCP priority re-marking |

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| | Tail-Drop, WRED, and other congestion avoidance mechanisms<br>Traffic classification based on each field of the L2/L3/L4 protocol header<br>Ingress and Egress ACL, matching L2, L3, L4 and IP five-tuple, copying, forwarding, and discarding<br>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<br>Urpf, Port isolation, Port security, IP + MAC + port binding<br>IEEE 8021x certification, DHCP Snooping, DHCP Option 82<br>Radius and BDTacacs+, Command line hierarchical protection<br>Suppression of broadcast, multicast, and unknown unicast packet<br>Defend against DDoS attack, SYN Flood attack of TCP, and UDP Flood attack |
| Reliability | EAPS, ERPS ring network protection<br>ISSU service without interruption system upgrade<br>HSRP, VRRP hot standby protocol, GR for OSPF, BGP<br>Optional power supply 1+1 backup, BFD for OSPF, BGP<br>Static/LACP link aggregation, support cross-service card link aggregation |
| Management | File upload and download management in TFTP mode<br>Telnet remote maintenance, ZTP(Zero Touch Provisioning)<br>Power alarm, Fan, temperature alarm, Console,Telnet, SSH 2.0<br>ISSU, Track, Tracert, sFLOW and other traffic statistics analysis<br>NTP, Ping, Debug information output, Web browser management<br>System logs, Graded alarm, SNMP v1/v2/v3, 802.1AG and 802.3AH<br>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<br>TCP/IP, network adapter, and network operating system (such as Microsoft |

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| | Windows, Linux, Mac OS X) installed on each computer in the network Cat5 and above Ethernet cable |

## ORDERING INFORMATION

| Model | Description | Built-in Power Supply |
|---|---|---|
| ONV58480-6TFM | L3 managed Ethernet core routing switch with 6*1/10G uplink SFP+ fiber ports and 48*100/1000M SFP ports. Built-in power supply and supports 1U/19” cabinet installation. | 75W |
| **Note:** The optical module is not included and needs to be purchased. | | |

## PACKING LIST

| | Content | Qty | Unit |
|---|---|---|---|
| Packing List | 54-port 10G uplink 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 | PC |

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| | | function and hot plugging. | |
| | 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 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/ RX1330nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging. | PC |

# CONTACT US

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

Tel: 0086-755-33376606

Fax: 0086-755-33376608

Email:onv@onv.com.cn

Skype: onv@onv.com.cn

Teams: onv@onv.com.cn

WeChat ID: ONV-PoE-IoT

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