

## Product Datasheet

# 38-port 10G Uplink Multioptical Port Core Routing Switch

(ONV58248-6TFM)



## OVERVIEW

ONV58248-6TFM is a high-performance multi-optical port L3 managed switch, which is a new generation convergence 10G switch for next-generation IP metropolitan area networks, large-scale campus networks, and enterprise networks. It has 8\*10/100/1000M RJ45 ports and 24\*100/1000M SFP ports and 6\*1/10G SFP+ fiber ports.

ONV58248-6TFM 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 advanced functions such as RIP, OSPF, BGP, 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 transmission speed, effectively expanding the 1G/10G network. In

In addition, ONV58248-6TFM has a switching capacity of up to 598Gbps, 6\*1/10G uplink SFP+ 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, powerful processing capabilities

- ◇ Adopting the industry's advanced hardware architecture design, the 1U machine can support 8\*100/1000M RJ45 ports and 24\*100/1000M SFP ports and 6\*1/10G SFP+ ports, meeting the high performance, high capacity, and high density of big data transmission and expandable requirements.

### ■ Strong data service guarantee

- ◇ Support virtualized reorganization switching technology, which can virtualize multiple physical devices into one logical device. The actual physical device is transparent to users, which simplifies the management of network equipment and network topology, greatly improves network operation efficiency, and The entire virtual system realizes unified management of a single IP, and the actual physical equipment is transparent to users, which simplifies the management of network equipment and network topology, greatly improves network operation efficiency, and effectively reduces operation and maintenance costs.
- ◇ Based on the HPS (Uninterrupted Protection System) uninterrupted protection system, the key power system adopts repeated design, can be hot-swappable, and supports seamless switching in the event of a failure without interrupting business.
- ◇ Support STP/RSTP/MSTP protocol, support VRRP protocol, and support ring network protection, dual-uplink active/standby connection protection, LACP aggregation, and

other simple and efficient redundancy protection mechanisms.

- ◇ Support ISSU (software upgrade in service) business uninterrupted system upgrades to ensure uninterrupted forwarding of user data during system upgrade and master control switching.
- ◇ Super-advanced BFD two-way interconnection detection mechanism, through the linkage with the second and third layer protocols, realizes dozens of levels of fault detection and business recovery, which greatly improves the reliability of the network system.
- ◇ Perfect Ethernet OAM mechanism, supporting 802.3ah, 802.1ag, and ITU-Y.1731, real-time monitoring of the network operating status, to achieve rapid detection and location of faults.

#### ■ Rich business features

- ◇ Complete Layer 2 and Layer 3 multicast routing protocols to meet the access requirements of IPTV, multi-terminal HD video surveillance, and HD video conferences;
- ◇ A complete three-layer routing protocol and large routing table capacity can meet various types of network interconnection requirements and can form large data center networks, campus networks, enterprise networks, and industrial user private networks.
- ◇ It fully supports Layer 2 and Layer 3 MPLS VPN and can build a large-scale MPLS VPN core network to meet the access needs of industry private network VPN users and enterprise network VPN users.
- ◇ Fully support IPv6 protocol suite, support 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.
- ◇ Support IPv6 multicast features such as MLD and MLD Snooping, and IPv6 three-layer routing protocols such as IPv6 static routing, RIPng, OSPFv3, BGP4+, etc.,

to provide users with complete IPv6 two- and three-layer solutions.

- ◇ Support rich IPv4 to IPv6 transition technologies, including IPv6 manual tunnel, automatic tunnel, 6to4 tunnel, ISATAP tunnel, and other tunnel technologies to ensure the smooth transition from IPv4 network to IPv6 network.

## ■ Security

- ◇ It adopts advanced hardware architecture design, realizing the hierarchical scheduling and protection of the packet. supports defense against DoS, TCP's SYN Flood, UDP Flood, broadcast storm, large traffic, etc. attacks on equipment; supports command line classification Protection, users of different levels have different management rights.
- ◇ support IEEE 802.1x, Radius, BDTacacs+, etc., and provide users with a complete security authentication mechanism.
- ◇ Support clear text or MD5 authentication of related routing protocols, support uRPF reverse routing search technology, which can effectively control illegal services; hardware-level message deep detection and filtering technology, support for control messages and data messages In-depth detection, 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 maintenance

- ◇ CPU monitoring, memory monitoring, Ping test, and cable diagnose.
- ◇ HTTPS, SSLV3, SSHV1 / V2, and other encryption methods make management more secure.
- ◇ RMON, system logs, and port traffic statistics facilitate network optimization and reconstruction.
- ◇ LLDP can facilitate the network management system to query and determine the communication status of the link.
- ◇ Web network management, CLI command line (Console, Telnet), SNMP (V1/V2 /V3), Telnet, and other diversified management and maintenance methods.

## TECHNICAL SPECIFICATION

| Model                            | ONV58248-6TFM  |
|----------------------------------|--|
| <b>Interface Characteristics</b> |  |
| Fixed Port                       | 8*10/100/1000M RJ45 ports (Data)<br>24*100/1000M SFP ports (Data)<br>6*1/10G SFP+ fiber ports(Data)<br>1* Mini USB console port  |
| 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 meter)<br>100BASE-TX: Cat5 or later UTP(≤100 meter)<br>1000BASE-T: Cat5e or later UTP(≤100 meter)  |
| Optical Fiber Port               | 1/10GSFP+ optical fiber interface, optical module is not included by default and needs to be purchased (Optional single-mode/multi-mode, single-fiber/dual-fiber optical module, LC) |
| Optical Cable/<br>Distance       | Multi-mode: 850nm / 0 ~ 500m, single mode: 1310nm/ 0 ~ 40km,<br>1550nm/ 0 ~ 120km.   |

| <b>Chip Parameter</b>               |  |
|-------------------------------------|--|
| Network Management Type             | L3   |
| Network Protocol                    | IEEE802.3u 100Base-TX , IEEE802.3ab 1000Base-T<br>IEEE802.3z 1000Base-X, IEEE802.3ae 10Gb/s Ethernet, IEEE802.3x |
| Forwarding Mode                     | Store and Forward(Full Wire Speed)   |
| Switching Capacity                  | 598Gbps (non-blocking)   |
| Forwarding Rate@64byte              | 222Mpps  |
| MAC                                 | 32K  |
| Buffer Memory                       | 32M  |
| Jumbo Frame                         | 9K   |
| LED Indicator                       | Power: PWR (Green), System: SYS (Green), Network:1-32 (Green),<br>Fiber port: TE1-6 (Green)                      |
| <b>Power Supply</b>                 |  |
| Total PWR / Input Voltage           | 75W (AC100-240V), Default AC input single power supply, expandable<br>AC/DC input dual power supply              |
| Power Consumption                   | Standby<35W, Full Load<70W   |
| Power Supply                        | Built-in power supply AC100~240V 50-60Hz 2A  |
| <b>Physical Parameter</b>           |  |
| 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)                   | 442.5*350*44.5mm   |
| Net /Gross Weight                   | <6.0kg / <6.3kg  |
| Installation                        | Desktop, 1U/19 inch cabinet installation   |
| <b>Certification &amp; Warranty</b> |  |

|                                    |  |
|------------------------------------|--|
| Lightning Protection               | Port lightning protection: 6KV 8/20us, Protection level: IP30  |
| Certification                      | CCC, CE mark, commercial, CE/LVD EN60950, FCC Part 15 Class B, RoHS  |
| Warranty                           | 3 years, lifelong maintenance.   |
| <b>Network Management Features</b> |  |
| Virtualization and Stacking        | <p>Virtualization</p> <p>Distributed equipment management, distributed link aggregation, distributed flexible routing</p> <p>Stacking via standard Ethernet interface</p> <p>Local stacking and remote stacking</p> <p>MAD stack split detection based on LACP, BFD, ARP</p>               |
| IPv4                               | <p>PBR, ECMP</p> <p>BFD for OSPF, BGP</p> <p>Static routing, RIP v1/v2, OSPF, BGP, IS-IS, BEIGRP</p>   |
| IPv6                               | <p>MLD V1/V2, MLD snooping</p> <p>ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet</p> <p>IPv6 Static Routing, RIPng, OSPFv3, BGP4+</p> <p>Manual tunnel, ISATAP tunnel, 6 to 4 tunnel</p> <p>IPv6 neighbor discovery, Path MTU Discovery</p>   |
| MAC Switching Capacity             | <p>Black-hole MAC items</p> <p>IEEE 802.1AE MacSec</p> <p>MAC address filtering function</p> <p>Check and delete MAC address</p> <p>Configuring MAC address aging time</p> <p>Limit on MAC address learning number</p> <p>Static configuration and dynamically learning of MAC address</p> |
| VLAN                               | <p>GVRP</p> <p>Private VLAN</p> <p>4K Active VLAN</p>  |

|                  |  |
|------------------|--|
|                  | QinQ & selective QinQ<br>1:1 and N:1 VLAN Mapping  |
| Link Aggregation | 10GE port aggregation, Static aggregation, Dynamic aggregation   |
| Flow Monitoring  | sFLOW  |
| DHCP             | DHCP server/relay/client/snooping<br>DHCP auto-config and CWMP-TR069<br>DHCP Snooping option82/DHCP Relay option82   |
| STP/ERPS         | ERPS(G.8032)<br>802.1D (STP), 802.1W (RSTP),802.1S (MSTP)<br>BPDU protection, root protection and ring protection  |
| Multicast        | IGMP V1/v2/v3<br>IGMP Snooping<br>IGMP Fast Leave<br>PIM-SM and PIM-DM<br>Multicast traffic cross VLAN duplication<br>Multicast group policy and multicast number limit  |
| ARP              | Free ARP, Static entry, ARP anti-attack<br>Standard proxy ARP and local proxy ARP<br>Dynamic ARP Inspection, ARP source suppression<br>ARP inspection (check according to DHCP Snooping, 802.1x table entry, or IP/MAC static binding) |
| Mirroring        | Flow mirroring, N:4 port mirroring, Local and remote port mirroring  |
| MPLS VPN         | MCE<br>MPLS TE<br>MPLS OAM<br>LDP protocol<br>P/PE of MPLS VPN   |
| QoS/ACL          | CAR flow limit<br>Tail-Drop and WRED   |

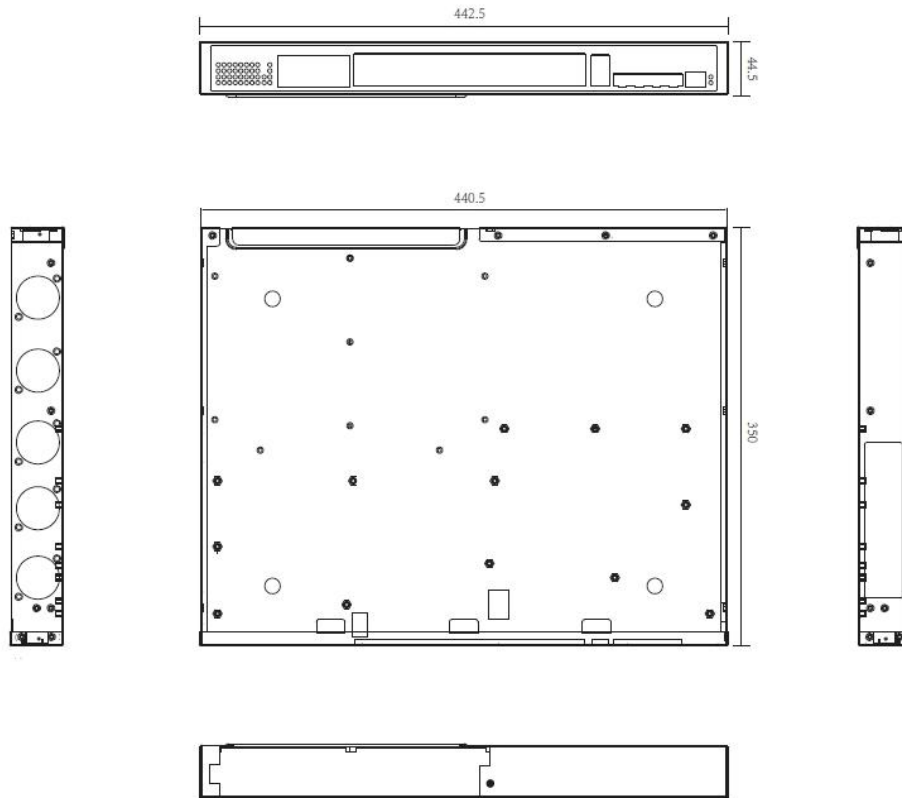


|             |  |
|-------------|--|
|             | <p>802.1p/DSCP priority mapping</p> <p>Traffic policing and traffic shaping</p> <p>DRR, SP, and DRR+SP queue scheduling algorithms</p> <p>Hash load balancing to ensure the integrity of the traffic output session</p> <p>Traffic classification based on each field of the L2/L3/L4 protocol header</p> <p>Ingress and Egress ACL, matching L2, L3, L4, and IP quintuple, copy, forward, and discard</p>                                     |
| Security    | <p>uRPF</p> <p>Port isolation</p> <p>Radius and BDTacacs+</p> <p>IEEE 8021x certification</p> <p>DHCP Snooping, DHCP Option 82</p> <p>Command line hierarchical protection</p> <p>Port security, IP + MAC + port binding</p> <p>Identification and filtering of L2/L3/L4 based ACL</p> <p>Suppression of broadcast, multicast, and unknown unicast packet</p> <p>Defend against DDoS attack, SYN Flood attack of TCP, and UDP Flood attack</p> |
| Reliability | <p>ISSU</p> <p>EAPS, ERPS</p> <p>HSRP, VRRP</p> <p>GR for OSPF and BGP</p> <p>BFD for OSPF and BGP</p> <p>Power supply 1+1 backup</p> <p>Static/LACP link aggregation and cross service card link aggregation</p>  |
| Management  | <p>NTP</p> <p>ISSU</p> <p>Track</p> <p>System logs</p>   |

|               |   |
|---------------|---|
|               | <p>Ping, Tracert</p> <p>Power alarm</p> <p>Graded alarm</p> <p>SNMP v1/v2/v3</p> <p>RMON event history</p> <p>802.1AG and 802.3AH</p> <p>Fan, temperature alarm</p> <p>Console, Telnet, SSH 2.0</p> <p>Debug information output</p> <p>Web browser management</p> <p>Telnet remote maintenance</p> <p>ZTP (Zero Touch Provisioning)</p> <p>sFLOW and other traffic statistics analysis</p> <p>SNMP (Simple Network Management Protocol)</p> <p>File upload and download management in TFTP mode</p> |
| Energy Saving | IEEE802.3az green energy Ethernet   |
| 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 Explorer 10 or higher</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

442.5\*350\*44.5mm



## ORDERING INFORMATION

| Model         | Description  | Power Supply |
|---------------|--|--------------|
| ONV58248-6TFM | L3 managed 10G uplink Ethernet core routing switch with 8*10/100/1000M RJ45 ports and 24*100/1000M SFP ports and 6*1/10G SFP+ fiber slot ports. Built-in power supply (supports extended dual AC/DC power supply). | 75W          |

**Note:** Optical module is not included by default and needs to be purchased

## PACKING LIST

|              | CONTENT   | QTY | UNIT |
|--------------|---|-----|------|
| PACKING LIST | 38-port 10G uplink multi-optical port core routing switch | 1   | SET  |
|              | AC Power Cable  | 1   | PC   |
|              | Mounting Kits(hanging ears)                               | 1   | SET  |
|              | Warranty Card   | 1   | PC   |

## OPTICAL MODULE INFORMATION

| Product                    | Model         | Description  | Unit |
|----------------------------|---------------|--|------|
| 1.25G<br>Optical<br>Module | ONV-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   |
|                            | ONV-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   |
|                            | ONV-2612-T    | SFP optical module, 1.25G, single-mode single fiber TX1310nm/RX1550nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull. | PC   |
|                            | ONV-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   |
|                            | ONV-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   |
|                            | ONV-2613-R-SC | SFP optical module, 1.25G, single-mode single fiber TX1550nm/RX1310nm, transmission distance: 20km, SC   | PC   |

|                    |             |  |    |
|--------------------|-------------|--|----|
|                    |             | interface, support DDM function, support hot plug and pull.  |    |
| Power Module       | ONV-2633    | 1.25G SFP optical module transfers to 10/100/1000M RJ45 port.  | PC |
| 10G Optical Module | ONV-6630    | SFP+ optical module, 10G Multi-mode dual fiber 850nm, transmission distance: 300m, LC interface, support DDM function, support hot plug and pull.                | PC |
|                    | ONV-7832    | SFP+ optical module, 10G Single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull.              | PC |
|                    | ONV-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 |
|                    | ONV-7832-27 | SFP+ optical module, 10G Single-mode single fiber TX1270nm/RX1330nm, transmission distance: 20km, LC interface, support DDM function, support hot plug and pull. | PC |

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