

## TR-S3756-P



## High Performance 10G Ethernet POE Switch

### Product Overview

Techroutes TR-S3756-P is a new generation of aggregation 10G switches targeted for the IP MAN (metropolitan area network), campus networks and enterprise networks. It is developed on the basis of high performance hardware and software. It supports multiple services like IPv6, MPLS, VPN and network security based on L2/L3/L4 wire-speed switching service. It also supports nonstop upgrade, continuous forwarding, graceful restarting and redundancy protection.

**Innovative VSS (Virtual Switch System):** Virtualizes multiple physical devices into one. The performance, reliability and management of the virtual system are superior to the physical ones.

**Improved Performance:** VSS makes full use of each link in the physical devices, which avoids STP blocking the link and protects the original link to the maximum extent.

**Easy Management:** VSS realizes single IP management, greatly improving the networking efficiency and lowering the operating cost

### Varied Service Characteristics

- Supports layer2 and layer3 multicast routing protocol, which enable the device can access to IPTV, HD video surveillance and HD video conference.
- Supports layer3 routing protocol and super-large routing table capacity, which enables the device is available in large campus networks, enterprise networks and industry networks.
- Supports layer2 and layer3 MPLS VPN.

### Versatile IPv6 Solution

- Supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, DHCPv6, etc.
- Supports Ping, Traceroute, Telnet, SSH, ACL.
- Supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc.
- Supports IPv6 tunnel: manual tunnel, automatic tunnel, GRE tunnel, 6to4, ISATAP
- Supports IPv4 transits to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

### High Reliability

- Based on the advanced distribution mechanism and efficient cross physical link aggregation link function, the logic control plane, service control plane and service data plane are separated. Thus, the device can support continuous layer3 routing forwarding, avoiding service interruption as a result of a single point of failure.

### Complete POE Power Supply

- Supports 802.3af/802.3at, built-in hot-swap modularized power, built-in dual power, no need for external power supply and 48 ports POE+ power supply.
- Supports continuous POE power supply when the device performs a hot restart.
- Supports power port priority in condition of inadequate power. The higher priority is the priority in power supply.
- Supports thunder proof of POE port as high as 2KV and of the power supply as high as 4KV.

### Carrier-Level High Reliability

- Based on HPS (Hitless Protection System), the key components of TR-S3756-P such as the power module support dual back-up, hot-swap, seamless switching in the downtime without manual intervention.
- Supports STP/RSTP/MSTP, VRRP protocol, Ethernet ring protection, dual master-slave uplink protection and LACP link aggregation.
- Supports ISSU (In-Service Software Upgrade).
- Supports BFD mechanism.
- Supports Ethernet OAM mechanism, 802.3ah, 802.1ag and ITU-Y.1731

- High reliability (99.999%): MTTR of TR-S3756-P is 50ms, meeting the requirement of the carrier-level service.

### Complete Security Mechanism

- Equipment-Level Security: The advanced hardware infrastructure design realizes the level-based packet schedule and packet protection, prevents DoS-/TCP-related SYN Flood, UDP Flood, Broadcast Storm or large traffic attacks, and supports level-based command line protection, endowing different levels of users with different management permissions.
- Security Authentication Mechanism: IEEE 802.1x, Radius and TRTacacs+
- Enhanced Service Security Mechanism: supports the plaintext or MD5 authentication of relevant routing protocol, URPF, deep inspection of hardware packet, control packet and data packet and filtering technology.

### Innovative Energy-Saving Design

- Intelligent power management: The power system of TR-S3756-P supports real-time monitoring the device and the slow-start. It is also power-saving.
- Intelligent fan management system: The fan system of TR-S3756-P supports automatic speed regulation, which efficiently slow the fan speed and mitigate the noise.
- Comply with the international standard IEEE 802.3az

## Technical Specification

Item	TR-S3756-P
Backplane	256Gbps
Forwarding	192 Mpps
MAC table	32K/64K
Ports	48 Gigabit POE TX ports +8 10G SFP ports
POE/POE+	IEEE 802.af & IEEE 802.3at
Dimensions mm (W×D×H)	442×350×44
Power	AC: 100V-240V, 50Hz±10% Dual-power is optional
Environment	Operating temperature/humidity: 0°C-50°C; 10%-90% non-condensation Storage temperature/humidity: -20°C-70°C; 5%-95% non-condensation
MAC Exchange	Static configuration and dynamic MAC learning MAC browsing and removal Configurable aging time of the MAC address Limited number of learnable MAC addresses MAC filtration Black-hole MAC list
VLAN	4K VLAN, GVRP 1:1 VLAN mapping and N:1 VLAN mapping QinQ and flexible QinQ PVLAN
STP	802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP) BPDU protection, root protection, and loopback protection
Multicast	IGMP v1/v2/v3, IGMP Snooping , IGMP Fast Leave Multicast group strategy and quantity limitation Multicast flow copying over VLANs PIM-SM and PIM-DM
IPv4	Static routing, RIP v1/v2, OSPF, BGP Strategy routing Load balance by equivalent routing BFD for OSPF, BGP
IPv6	ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet IPv6 neighbour discovery Path MTU discovery MLD V1/V2 IGMP snooping IPv6 Static Routing, RIPng, OSPFv3, BGP4+ Manual tunnel, ISATAP tunnel, 6to4 tunnel
MCE	MCE

MPLS VPN	LDP protocol, MCE P/PE of MPLS VPN MPLS TE, MPLS OAM
QoS	Flow classification based on L2~4 protocols CAR flow limit 802.1P/DSCP priority re-labeling SP, WRR, and “SP+WRR” Congestion avoidance mechanisms like Tail-Drop and WRED Flow monitoring and flow shaping
Security features	L2/L3/L4 ACL flow identification and filtration DDoS attack prevention, TCP’s SYN Flood attack prevention, UDP Flood attack prevention, etc Broadcast/multicast/unknown unicast storm-control Port isolation, Port security, and “IP+MAC+port” binding DHCP snooping and DHCP option 82 IEEE 802.1x authentication Radius Tacacs+ authentication URPF, Level-based command line protection
Reliability	1+1 power backup Static/LACP link aggregation EAPS , VRRP GR for OSPF,BGP BFD for OSPF,BGP ISSU uninterrupted system upgrade
Management	Console, Telnet, SSH, Web SNMP v1/v2/v3 TFTP RMON, sFLOW
Energy saving	IEEE 802.3az

Order Information

Item	Description
TR-3756-P	Ethernet routing switch with 48 Gigabit TX POE Ports + 8 10G SFP+ Ports (1 Mini USB Console port,48Gigabit TX POE ports,8 10G/G auto-adaptation SFP+ ports; hot-swap AC 220V power, extensible dual power supply; the cooling fan,1U,standard 19 inch rack mounted installation)
<b>TR-S3756-P Switch POE Power Modules</b>	
POE-500-AC	POE Hot-swap AC Power (Max Power 500W,POE 370W, AC100~240V input, the independent cooling fan)
POE-1100-AC	POE Hot-swap AC Power (Max Power 1100W,POE 720W, AC100~240V input, the independent cooling fan)



**For More details:**  
 visit : [www.techroutes.com](http://www.techroutes.com)  
 Or contact  
[sales@techroutes.com](mailto:sales@techroutes.com)  
[info@techroutes.com](mailto:info@techroutes.com)