

## TR-WGS-20G Series



### Gigabit Ethernet Switch

#### Product Overview

Techroutes TR-WGS-20G-24GT-4GX is a new-generation smart access switch designed for carrier's IP MAN and enterprise networks. Based on the new-generation high-performance hardware and TRROS platform, it supports functions such as ACL, QinQ and QoS.

#### Product Characteristics

##### Carrier-Class Ethernet Access Switch

Techroutes TR-WGS-20G-24GT-4GX supports the telecom-level Ethernet-ring protection protocol with a protection shift time of less than 50ms, STP/RSTP/MSTP, backup of active and standby uplinks, and LACP link aggregation to cater to the requirements of high reliability of carriers;

Techroutes TR-WGS-20G-24GT-4GX has powerful ACL functions to access and control L2-L3 data, providing carriers flexible and various policy control methods;

Techroutes TR-WGS-20G-24GT-4GX supports various L2 multicast function, including user fast-leave mechanism and cross VLAN multicast replication function.

##### Rich QOS Policies

Techroutes TR-WGS-20G-24GT-4GX supports complex traffic classification based on VLAN, MAC, source address, destination addresses, IP protocols and priorities. It also supports priority remark. These functions provide an effective way for users to optimize their businesses.

Techroutes TR-WGS-20G-24GT-4GX provides with flexible bandwidth control policies, supporting port-/flow-based flow limit and ensuring the line speed forwarding of each port to make sure the high quality of video, audio and data services.

Techroutes TR-WGS-20G-24GT-4GX also supports multiple queue grooming algorithms such as SP, WRR Or SP+WRR.

### Comprehensive IPv6 Solutions

Techroutes TR-WGS-20G-24GT-4GX supports the IPv6 protocol suite, IPv6 neighbor discovery and ICMPv6.

Techroutes TR-WGS-20G-24GT-4GX supports IPv6 based Ping, Traceroute, Telnet and SSH, meeting the need of IPv6 network equipment management and service control.

### Comprehensive Security Mechanism

Techroutes TR-WGS-20G-24GT-4GX adopts advanced hardware architecture design, realizing the hierarchical scheduling and protection of the packet. It provides multiple security measures to defend against attacks from broadcast storm and mass flow of TCP. It also supports command line authority control based on user levels.

Comprehensive Security Certification: Techroutes TR-WGS-20G-24GT-4GX complies with IEEE 802.1x, Radius & Tacacs+.

Techroutes TR-WGS-20G-24GT-4GX supports the suppression of broadcast, multicast and unknown unicast packet, ensuring the equipment can operate normally in harsh network conditions.

Techroutes TR-WGS-20G-24GT-4GX has the perfect loop detection mechanism.

Techroutes TR-WGS-20G-24GT-4GX supports the port isolation in a same VLAN, DHCP-Snooping and IP+MAC+ port binding.

### Convenient Management and Maintenance

Techroutes TR-WGS-20G-24GT-4GX supports multiple management styles such as Console, Telnet and SSH.

Techroutes TR-WGS-20G-24GT-4GX supports WEB based management. The management is more simple and effective.

Techroutes TR-WGS-20G-24GT-4GX supports upload and download of TFTP files.

Techroutes TR-WGS-20G-24GT-4GX supports SNMP.

## Technical Specifications

Model	TR-WGS-20G-24GT-4GX	
Fixed ports	24*10/100/1000Base-T RJ45 ports, 4*1G/2.5G SFP ports	
Management port	1*Console	
Switching capacity	56Gbps	
Packet forwarding rate	41Mpps	
MAC address table	16K	
Buffer	12M	
Total output BTU (1000BTU/H=293W)	1,459.48	
Fan number	Support fan speed control	
Noise@25°C(dBA)	<25db	
MTBF(H)	> 50,000	
Forwarding mode	Store and forward	
Flash	512	
DRAM	256	
Jumbo frame	10K	
Package	Dimension (WxDxH)mm	525*390*95
	Weight (KG) Empty	4.2
Chassis	Dimension (WxDxH)mm	440*245*44mm
	Weight (KG) Empty	3.6
Power Supply	AC: 100V-240V	Yes
	DC: -36V--75V	Yes
Power Consumption	≤40W	
Power Redundancy	Yes (Optional)	
Power surge protection	6KV, IEC 61000-4-5 Level X (8/20us)	
Ethernet ports surge protection	4KV, IEC 61000-4-5 Level 4 (10/700us)	
Working Temperature & Humidity	Operating temperature and humidity: 0°C~50°C, 5%-95% non-condensing	
Storage Temperature & Humidity	Storage temperature & humidity:-20°C~70°C, 5%-95% non-condensing	
Port aggregation	Static and dynamic aggregation	
Port features	IEEE802.3x flow control, Port traffic statistics, port isolation Network storm suppression based on port bandwidth percentage	
VLAN	Access, trunk and hybrid mode,4K VLANs	
VLAN Classification	Mac Based VLAN IP Based VLAN Protocal Based VLAN	

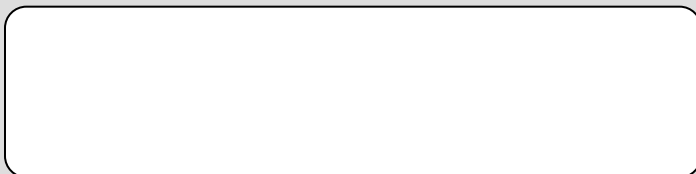
QinQ	Basic QinQ (Port-based QinQ) Flexible Q in Q(VLAN-based QinQ) QinQ(Flow-based QinQ)
Port mirroring	Many to one (Port Mirroring)
Layer 2 ring network protocol	STP,RSTP,MSTP, Spanning-tree root guard, Port Fast and BPDU Guard G.8032 ERPS protocol, single ring, sub ring and other ring
DHCP	DHCP Client DHCP Server DHCP Snooping
ARP	ARP table aging
Static routing	IPv4/IPv6 Static routing
IPV6	IPv6 Management ICMPv6 IPv6 Telnet IPv6 neighbor discovery
Multicast	IGMP V1,V2,V3 IGMP snooping IGMP Fast Leave IGMP Snooping Queried
ACL	IP Standard ACL MAC extend ACL IP extend ACL
QoS	QoS Class, Remarking Support SP, WRR queue scheduling Ingress Port-based Rate-limit Egress Port-based Rate-limit Policy-based QoS CoS based on, Switch port , 802.1p priority , VLAN ID and MAC address
Security	Dot1x, port authentication, MAC authentication, RADIUS, Tacacs+ Port-security IP source guard, IP/Port/MAC binding Arp-check and ARP packet filtering for illegal users Port isolation
Management and maintenance	LLDP User management and login authentication SNMPV1/V2C/V3 Web management, HTTP,HTTPS Syslog RMON (Remote Monitoring) alarm, event and history record NTP Temperature monitoring Ping,Traceroute

	TFTP Telnet SSH SSL FTP
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### Ordering Information

Techroutes TR-WGS-20G-24GT-4GX Series	
Item	Description
<b>TR-WGS-20G-24GT-4GX</b>	Ethernet switch with 24*10/100/1000Base-T RJ45 ports and 4*1G/2.5G SFP ports (1 Console port, 24*10/100/1000Base-T RJ45 ports & 4*1G/2.5G SFP ports; 220VAC power supply, cooling fan , 1U, standard 19-inch rack-mounted installation)
<b>TR-WGS-20G-24GT-4GX -2AC</b>	Ethernet switch with 24*10/100/1000Base-T RJ45 ports and 4*1G/2.5G SFP ports (1 Console port, 24*10/100/1000Base-T RJ45 ports & 4*1G/2.5G SFP ports; 220VAC dual power supply, cooling fan , 1U, standard 19-inch rack-mounted installation)
<b>TR-WGS-20G-24GT-4GX -DC</b>	Ethernet switch with 24*10/100/1000Base-T RJ45 ports and 4*1G/2.5G SFP ports (1 Console port, 24*10/100/1000Base-T RJ45 ports & 4*1G/2.5G SFP ports; 48VDC power supply, cooling fan , 1U, standard 19-inch rack-mounted installation)
<b>TR-WGS-20G-24GT-4GX -AC-DC</b>	Ethernet switch with 24*10/100/1000Base-T RJ45 ports and 4*1G/2.5G SFP ports (1 Console port, 24*10/100/1000Base-T RJ45 ports & 4*1G/2.5G SFP ports; 220VAC & 48VDC redundant power supply, cooling fan , 1U, standard 19-inch rack-mounted installation)

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