

**54-port 10G-100G uplink Core Routing Switch**  
**(TNC54P10G100GUL)**  
**2\*480W/(AC100-240V)**



## OVERVIEW

The TNC54P10G100GUL 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 TNC54P10G100GUL 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, IS-IS, BGP, MBGP 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 design 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/VSTP/DHCP/ARP protocol, BPDV VRRP protocol, ring network protection, Loop protect, Root protect, 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. Routed VLAN
- Interface (RVI), Port-based VLAN, MAC address filtering. 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, systemlog, 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 commandline (Console, Telnet), SNMP (V1/V2/V3), Telnet, etc.

## TECHNICAL SPECIFICATION

Model	TNC54P10G100GUL
<b>Interface Characteristics</b>	
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.
<b>Chip Parameter</b>	
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 Switching Mode	Cut- through, 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)
<b>Power Supply</b>	
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
<b>Physical Parameter</b>	
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
<b>Certification &amp; Warranty</b>	
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.