



## TNS5500 Series

1U Rack-mounted or Wall Mounting

12-port 100M/Gigabit Layer 2 Managed Rail Transit Dedicated Industrial Ethernet Switch

- Support 4 Gigabit M12 (Bypass function), 8 100M M12 (PoE optional)
- Adopt SW-Ring patent technology, support single ring, coupling ring, chain ring, Dual-homing ring network function, automatic recovery time of network failure < 20ms
- Support 110 VDC power supply input
- Support -40~75℃ wide operating temperature range



## Introduction

TNS5500 series are 12-port 100M/Gigabit layer 2 managed industrial Ethernet switches designed for rail transit. This series of products conform to EN50155 and EN50121 industrial standards. Ethernet interface adopts reliable M12, which can be used in scenes with strenuous vibration and shock. This series include four types of products and provide Gigabit M12 and 100M M12 interfaces. It adopts 1U rack-mounted or wall mounting to meet the requirements of different application scenes.

Network management system supports various network protocols and industrial standards, such as STP/RSTP, 802.1Q VLAN, QoS, DHCP Server, DHCP Client, IGMP Static Multicast, LLDP, Port Trunking, Port Mirroring and so on. It also possesses complete management functions, including Port Configuration, Port Statistics, Port IP Binding, Access Control, Network Diagnosis, Rapid Configuration, Online Upgrading, and supports CLI, WEB, Telnet, SNMP and other access methods. It can provide users with good experience with friendly design of network management system interface, simple and convenient operation.

When the port link failure occurs, ALARM indicator will be bright and send out alarm, meanwhile, alarm device connected to the relay will send out alarm for rapid scene troubleshooting. Hardware adopts fanless, low power consumption, wide temperature and voltage design and has passed rigorous industrial standard tests, which can suit for the industrial scene environment with harsh requirements for EMC. It's specially designed for rail transit industry and can be widely used in vehicle-mounted PIS, CCTV, Video Monitoring, Train Control and other systems.

## Features and Benefits

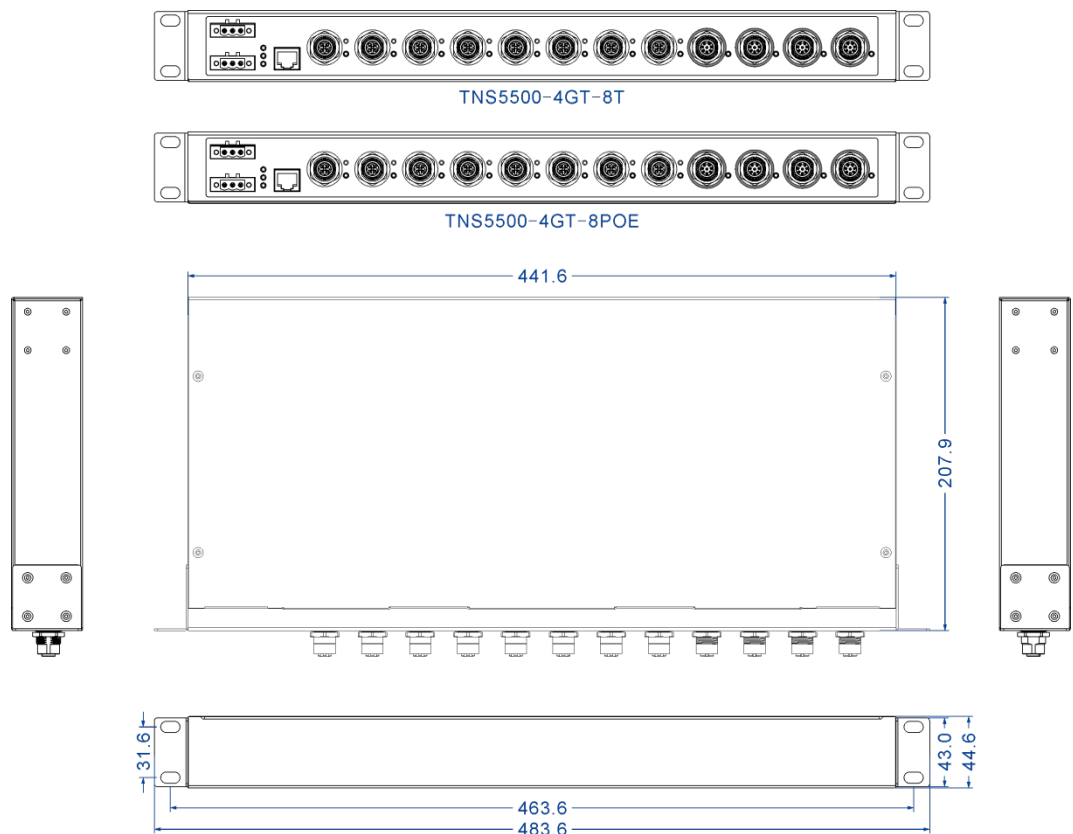
- ⦿ SNMPv1/v2c is used for network management of various levels
- ⦿ Port mirroring can conduct data analysis and monitoring, which is convenient for online debugging
- ⦿ QoS supports real-time traffic classification and priority setting.
- ⦿ LLDP can achieve automatic topology discovery, which is convenient for visual management
- ⦿ DHCP server and client can be used for distributing IP address
- ⦿ File management is convenient for the device rapid configuration and online upgrading
- ⦿ Log management has recorded booting, operation and connection information
- ⦿ Port statistics can be used for the port real-time traffic statistics
- ⦿ User password can conduct user hierarchical management, improving the device management security
- ⦿ MAC port lock can enhance the network flexibility and security
- ⦿ E-mail alarm is convenient for immediate fault discovery during remote management

- ◉ Relay alarm is convenient for troubleshooting of construction site
- ◉ Storm suppression can restrain broadcast, unknown multicast and unknown unicast
- ◉ VLAN can simplify the network planning
- ◉ Port Trunking can enhance network bandwidth and reliability of network connection to achieve optimum bandwidth utilization
- ◉ Bandwidth management can reasonably distribute network bandwidth, preventing unpredictable network status
- ◉ IGMP snooping, GMRP and static multicast can be used for filtering multicast traffic, which can save the network bandwidth
- ◉ SW-Ring and STP/RSTP can achieve network redundancy, preventing network storm
- ◉ Network diagnosis and troubleshooting can be conducted via Ping
- ◉ PoE provides power supply to Powered Device via Ethernet, which can reduce the cable connection of Powered Device

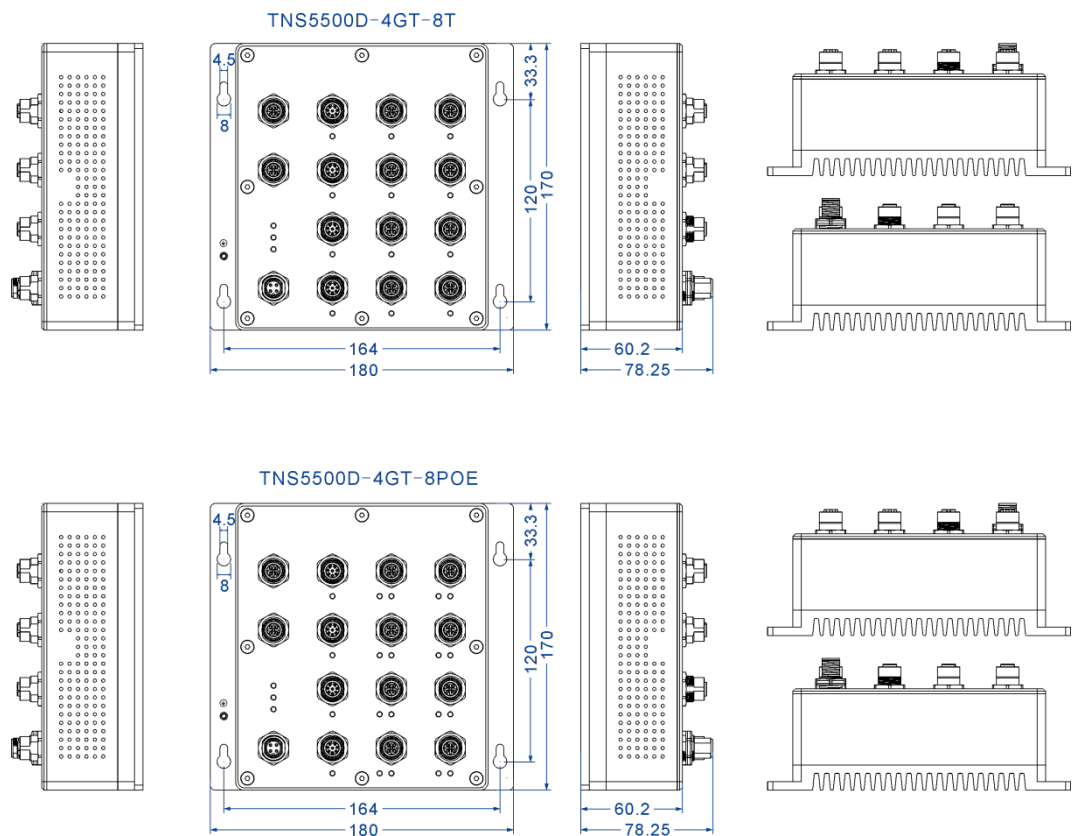
## Dimension

Unit:mm

- Rack-mounted



- Wall Mounting



# Specification

Standard & Protocol	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3ab for 1000Base-T IEEE 802.3x for Flow Control IEEE 802.1D for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1Q for VLAN IEEE 802.1p for CoS IEEE 802.1AB for LLDP IEEE 802.3af for PoE IEEE 802.3at for PoE+
Management	SNMP v1/v2c Centralized Management of Equipment, Port Mirroring, QoS, LLDP, DHCP Server, DHCP Client, File Management, Log Management, Port Statistics
Security	Classification of User Permissions, Port Alarm, E-mail Alarm, Storm Suppression
Switch Function	802.1Q Vlan, Static Port Aggregation, Bandwidth Management, Flow

	Control															
Unicast / Multicast	Static Multicast, GMRP, IGMP-Snooping															
Redundancy Protocol	SW-Ring, STP/RSTP															
Troubleshooting	Ping															
Time Management	SNTP															
PoE	PoE power supply pins: 1 and 2 are negative poles, 3 and 4 are positive poles															
Interface	100M M12: 10/100Base-T(X), M12 (Female), 4-Pin D-Coded, Automatic Flow Control, Full/half Duplex Mode, MDI/MDI-X Autotunning; PoE Output Optional PoE power supply pin: 1, 2 are negative pole; 3, 4 are positive pole Gigabit M12: 10/100/1000Base-T(X), M12 (Female), 8-Pin A-Coded, Automatic Flow Control, Full/Half Duplex Mode, MDI/MDI-X Autotunning Console port: CLI command line management port (RS-232), RJ45 (rack-mounted) or M12 (wall mounting) Alarm port: 3-pin 5.08mm pitch terminal blocks (rack-mounted) or M12 (wall mounting), support 1 relay alarm output, current carrying capacity 5A@30VDC or 10A@125VAC															
LED Indicator	Running Indicator, Port Indicator, Power Supply Indicator, Alarm Indicator															
Switch Property	Transmission mode: store and forward MAC address: 8K Packet buffer size: 3Mbit Backplane bandwidth: 12.8G Switch time delay: < 10μs															
Power Requirement	Rack-mounted: 110VAC/DC (100~240VAC/DC), 3-pin 5.08mm pitch terminal blocks; Wall mounting: 110VDC (70~160VDC), M12 (Male), 4-pin A-Coded;															
Power Consumption	<table><tr><th>Model</th><th>No-load (@110VDC)</th><th>Full-load (@110VDC)</th></tr><tr><td>TNS5500-4GT-8T</td><td>14.30W</td><td>14.85W</td></tr><tr><td>TNS5500-4GT-8POE</td><td>14.08W</td><td>100.54W</td></tr><tr><td>TNS5500D-4GT-8T</td><td>14.30W</td><td>14.85W</td></tr><tr><td>TNS5500D-4GT-8POE</td><td>26.73W</td><td>54.23W</td></tr></table>	Model	No-load (@110VDC)	Full-load (@110VDC)	TNS5500-4GT-8T	14.30W	14.85W	TNS5500-4GT-8POE	14.08W	100.54W	TNS5500D-4GT-8T	14.30W	14.85W	TNS5500D-4GT-8POE	26.73W	54.23W
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Environmental Limit	Operating temperature range: -40~75°C Storage temperature range: -40~75°C Relative humidity: 5% ~ 95% (no condensation)															

Physical Characteristic

- Rack-mounted
- Housing: IP30 protection, metal
  - Installation: 1U rack-mounted
  - Dimension (W x H x D): 441.6mm×44.6mm×207.9mm
  - Weight: 2.83kg

- Wall Mounting
- Housing: IP30 protection, metal
  - Installation: wall mounting
  - Dimension (W x H x D): 180mm×170mm×60.2mm
  - Weight: 2.06kg

Industrial Standard

- IEC 61000-4-2 (ESD) , Level 3
- Air discharge: ±8kV
  - Contact discharge: ±6kV
- IEC 61000-4-3 (RS), Level 3
- Test level: 20V/m
  - Frequency range: 80MHz-1GHz
- IEC 61000-4-4 (EFT), Level 3
- Power supply: ±2kV
  - Ethernet interface: ±1kV
  - Relay: ±2kV
- IEC 61000-4-5 (Surge), Level 3
- Power supply: common mode ±2kV, differential mode ±1kV
  - Ethernet interface: ±2kV
  - Relay: common mode ±2kV, differential mode ±1kV
- IEC 61000-4-6 (CS), Level 3
- Test level: 10V
  - Frequency range: 150kHz-80MHz
- IEC 61000-4-8 (PFMF), Level 4
- Power frequency: 50Hz
  - Continuous magnetic field strength: 30A/m
  - Short-term magnetic field strength: 300A/m
- Shock: IEC 61373
- Free fall: IEC 60068-2-32
- Vibration: IEC 61373

Certification

CE, FCC, RoHS, EN50155, EN50121-3-2

Warranty

5 years

## Ordering Information

Available Models	Gigabit M12	100M M12	100M PoE M12	Power Supply Range	Installation Method
TNS5500-4GT-8T	4	8	-	100~240VAC/DC	1U rack-mounted
TNS5500-4GT-8POE	4	-	8		
TNS5500D-4GT-8T	4	8	-	70~160VDC	wall mounting
TNS5500D-4GT-8POE	4	-	8		



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