TNS5800ECN-24T4GT-HV

Wall Mounting

28-Port 100M/Gigabit Layer 3 EN50155 Industrial Ethernet Switch

- Support 4 Gigabit M12 (with 2 groups of Bypass function), 24 100M M12
- Adopt Ring patented technology, support single ring, coupling ring, chain, Dual-homing function
- Support the TRDP protocol, ensuring real-time and reliable data in the train network
- Support 110VDC (66~156VDC) single power supply with double inputs
- Support IP67 protection grade
- Support -40~75℃ wide operating temperature range

Industrial Grade Fanless Desig EN 50155 EN 50121 Bypass IP67

ROBUST INDUSTRIAL CONNECTION

Introduction

TNS5800ECN-24T4GT-HV products are layer 3 industrial Ethernet switches. The product conforms to the requirements of industrial standard EN50155 and EN50121 Ethernet interfaces use firm and reliable M12 connectors which can adapt to usage scenario with vibration and shock. This product provides Gigabit Bypass M12 interface and 100M M12 interface, it supports 110VDC power supply, and it adopts wall mounting which can meet the requirements of different scenes.

The network management system supports various network protocols and industry standards, such as static routing, RIP, VRRP, TRDP, TTDP, NAT, STP/RSTP/MSTP, ERPS, 802.1Q VLAN, QoS function, DHCP Server, IGMP Snooping, LLDP, port trunking, port mirroring, etc. It also possesses complete management functions, supports port configuration, port statistics, port IP binding, access control, 802.1X authentication, network diagnosis, rapid configuration, online upgrade, etc.; CLI, WEB, Telnet, SNMP, SSH and other access methods can be supported. Network management system could bring you great user experience through its friendly interface design and easy and convenient operation.

When port has link failure, ALARM indicator will be bright and send out alarm, meanwhile, alarm device connected to the relay will send out alarm for rapid scene troubleshooting. The hardware adopts fanless, low power consumption and wide temperature design, and the external heat sink provides extraordinary heat dissipation performance. This devices have passed rigorous industrial standard tests, which can suit for the industrial scene environment with harsh requirements for EMC. It can be widely used in systems such as train network, signal, on-board PIS, CCTV.

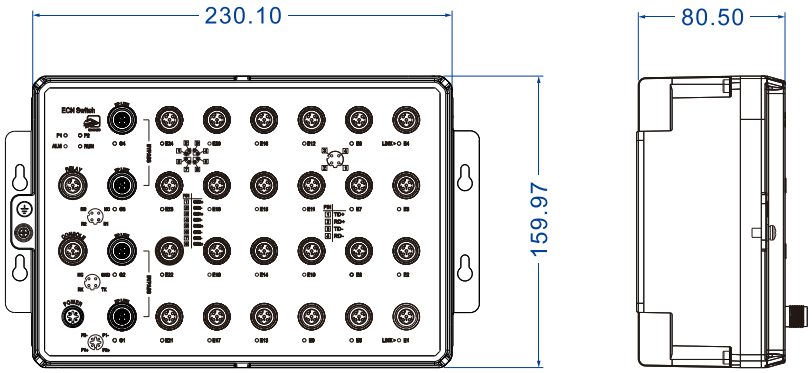
Features and Benefits

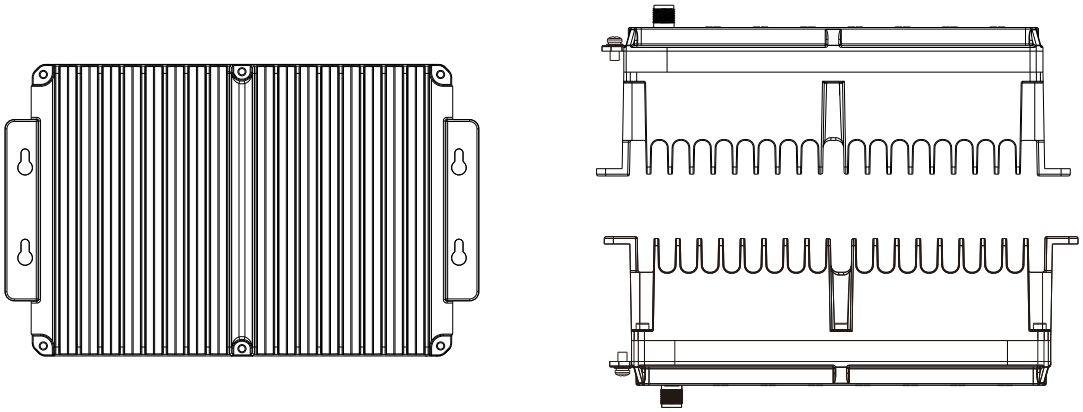
- SNMPv1/v2c/v3 is used for network management of various levels
- RMON can be used for efficient and flexible network monitoring
- Port mirroring can conduct data analysis and monitoring, which is convenient for online debugging
- QoS supports real-time traffic classification and priority setting
- LLDP can achieve automatic topology discovery, which is convenient for visual management
- DHCP server can be used for distributing IP address with different strategies
- File management is convenient for the device rapid configuration and online upgrading
- Port statistics can be used for the port real time traffic statistics
- ARP could be used for MAC address resolution
- User password can conduct user hierarchical management to improve the device management security
- Access Control can enhance network flexibility and security
- Storm suppression can restrain broadcast, unknown multicast and unicast

- SSHD configuration could encrypt transmitted data, prevent DNS and IP spoofing
- TELNET configuration and SSH configuration guarantee secure access to data
- VLAN can be set to simplify network planning
- Port Trunking can increase network bandwidth and enhance the reliability of network connection to achieve optimum bandwidth utilization
- Bandwidth management can reasonably distribute network bandwidth, preventing unpredictable network status
- Port isolation could achieve port isolation in the same VLAN and save VLAN resources
- PIM-DM/PIM-SM, IGMP Snooping, GMRP, MMRP, GVRP and static multicast can be used to filter multicast data to save network bandwidth
- Ring, ERPS, STP/RSTP/MSTP can achieve network redundancy, preventing network storm
- Ping, Traceroute, Port Loopback, Cable Diagnosis could achieve network diagnosis and troubleshooting
- VRRP, RIP, OSPF and PBR can be dynamically configured to achieve more flexible and reliable routing.
- Bypass function can prevent communication breakdown caused by power supply failure
- NAT maps private IP address to the legal IP address of external network, which can slow the consumption of IP address space
- Loop detection could efficiently eliminate the influence caused by port loopback by detecting the existence of loopback
- Support TTDP protocol, achieve automatic train network marshalling operation, and discover ETB network topology information
- IPDT can track IP device status and realize interaction with other applications
- QinQ can expand VLAN space and realize the transparent transmission of private network VLAN to public network.
- 802.1X authentication and Mac port lock could strengthen the flexibility and security of network

Dimension

Unit: mm





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 802.1s for Multiple Spanning Tree Protocol IEEE 802.1Q for VLAN IEEE802.1p for CoS IEEE 802.1X for 802.1X Authentication IEEE 802.1AB for LLDP ITU-T G.8032 for ERPS
Management	SNMP v1/v2c/v3 Centralized Management of Equipment, RMON, Port Mirroring, QoS, LLDP, DHCP Server, DHCP Relay, File Management, Port Statistics, Log Information, Static ARP, TTDP, TRDP
Security	Classification of User Permissions, ACL, NAT, 802.1X Authentication, DHCP Snooping, Port Alarm, Power Alarm, SSHD Configuration, Telnet

	Configuration, Loop Detection, Link Flapping Protection, Aggregation Protection
Switch Function	802.1Q VLAN, QinQ, Port Trunking, Bandwidth Management, Flow Control, Port Isolation, Storm Suppression
Unicast / Multicast	Static Multicast, Multicast Routing, Multicast Passthrough, IGMP-Snooping, IGMP, PIM-SM, PIM-DM, MVRP, MMRP
Redundancy Technology	Ring, STP/RSTP/MSTP, ERPS
Troubleshooting	Ping, Traceroute, Port Loopback
Routing Technique	VRRP, RIP, OSPF, BGP, PBR
Time Management	NTP Client, RTC
Interface	100M M12: 10/100Base-T(X), M12(Female), 4-Pin D-Coded, Automatic Flow Control, Full/half Duplex Mode, MDI/MDI-X Autotuning Gigabit M12: 10/100/1000Base-T(X), M12(Female), 8-Pin X-Coded, Automatic Flow Control, Full/half Duplex Mode, MDI/MDI-X Autotunning; it supports two groups of Bypass RELAY interface: M12(Female), 4-Pin D-Coded, support 1 relay alarm output, with current load capacity of 1A@30VDC or 0.3A@125VAC Console port: CLI command line management port (RS-232), M12(Female), 4-Pin D-Coded
Indicator	Power indicator, alarm indicator, running indicator, interface indicator
Switch Property	Transmission mode: store and forward MAC address: 16K Packet buffer size: 12Mbit Backplane bandwidth: 128G Switch time delay: <10μs
Power Supply	Power supply range: 110VDC (66~156VDC), single power supply dual input Connection method: M12(Male), 4-Pin A-Coded Connection protection: anti-reverse connection
Power Consumption	No-load: 18.6W@110VDC Full-load: 18.2W@110VDC

Working Environment	Operating temperature: -40~75℃ Storage temperature:-40~85℃ Relative humidity: 5%~95% (no condensation)
Mechanical Structure	Housing: IP67 protection, metal Installation: wall mounting Dimension (W x H x D): 230.10mm×80.50mm×159.97m Weight: 2.599kg
Industrial Standard	EN 50121-3-2: 2016 standard, Table 5.3 (Electrostatic Discharge), Class A ● Air discharge: ±8kV ● Contact discharge: ±6kV EN 50121-3-2: 2016 standard, Table 3.3 (Surge), Class A ● Power supply: common mode ±2kV, differential mode ±1kV EN 50121-3-2: 2016 standard, Table 3.2 (Electrical Fast Transient Pulses), Class A ● Power supply: ±2kV ● Signal: ±2kV EN 50121-3-2: 2016 standard, Table 5.1, 5.2 (Radio Frequency Electromagnetic), Class A ● 80MHz~800MHz, 20V/m ● 800MHz~1GHz, 20V/m ● 1.4GHz~2.0GHz, 10V/m ● 2.0GHz~2.7GHz, 5V/m ● 5.1GHz~6GHz, 3V/m EN 50121-3-2: 2016 standard, Table 3.1, 4.1 (Conducted Disturbance Induced by RF Fields), Class A ● Power supply: 0.15MHz~80MHz, 10V ● Signal: 0.15MHz~80MHz, 10V EN 50121-3-2: 2016 standard, table 3.1 (Power Supply Conducted Disturbance) ● 150kHz~500kHz, 79dBμV quasi-peak value ● 500kHz~30MHz, 73dBμV quasi-peak value EN 50121-3-2: 2016 standard, table 3.1 (Radiation Disturbance) ● 30MHz~230MHz, ＜40dBμV/m quasi-peak value ● 230MHz~1GHz, ＜47dBμV/m quasi-peak value

	Shock: IEC 61373 Free fall: IEC 60068-2-32 Vibration: IEC 61373

Ordering Information

Model	100M M12	Gigabit Bypass M12	Power Supply
TNS5800ECN-24T4GT-HV-N	24	4	110VDC (66~156VDC)