3onedata
Reliable Connections



TNS5800D 20-Port Series

Wall Mounting

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

- Support 4 Gigabit M12 interfaces (with 2 groups of Bypass function)
- Support 16 100M M12 interfaces or Gigabit M12 interface, PoE function (optional)
- Adopt Ring patented technology, support single ring, coupling ring, chain, Dual-homing function
- Support PoE power supply, the maximum output power of single port PoE is 30W, and the maximum output power of whole device is 90W.
- Support optional 2 24VDC (18~36VDC) or 110VDC (66~156VDC) power supply inputs
- Support IP67 protection grade
- Support -40~75℃ wide operating temperature range

Industrial Grade EN 50155 EN 50121 Bypass

Introduction

TNS5800D 20-Port series are layer 3 managed 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. PoE power supply conforms to IEEE802.3af/at protocol standard, and it can power device over Ethernet, thus decreasing the cable connection of powered devices. This product supports 24VDC or 110VDC power supply input and adopts wall mounting, which can meet the needs of different application sites.

Network management system supports various network protocols and industrial standards, such as Static Routing, RIP, VRRP, NAT, STP/RSTP/MSTP, GMRP, EPRS, 802.1Q VLAN, QoS, DHCP Server, DHCP Client, IGMP Static Multicast, LLDP, Port Trunking, Port Mirroring, etc. It also possesses complete management functions, including Port Configuration, Port Statistics, Port IP Binding, Access Control, 802.1X Authentication, Network Diagnosis, Rapid Configuration, Online Upgrading and so on; and supports CLI, HTTP, HTTPS, Telnet, SSH and other access methods, 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 device has 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
- QoS supports real-time traffic classification and priority setting
- LLDP can achieve automatic topology discovery, which is convenient for visual management
- DHCP server and DHCP client could be used for allocating IP address of different strategies
- DHCP Snooping can ensure DHCP client gets IP address from legal DHCP server
- DHCP relay function can realize IP address, gateway, DNS configuration cross network segment
- File management is convenient for the device rapid configuration and online upgrading
- User privilege classification configuration can set user privilege level
- ACL can enhance the flexibility and security of the network, supporting bidirectional

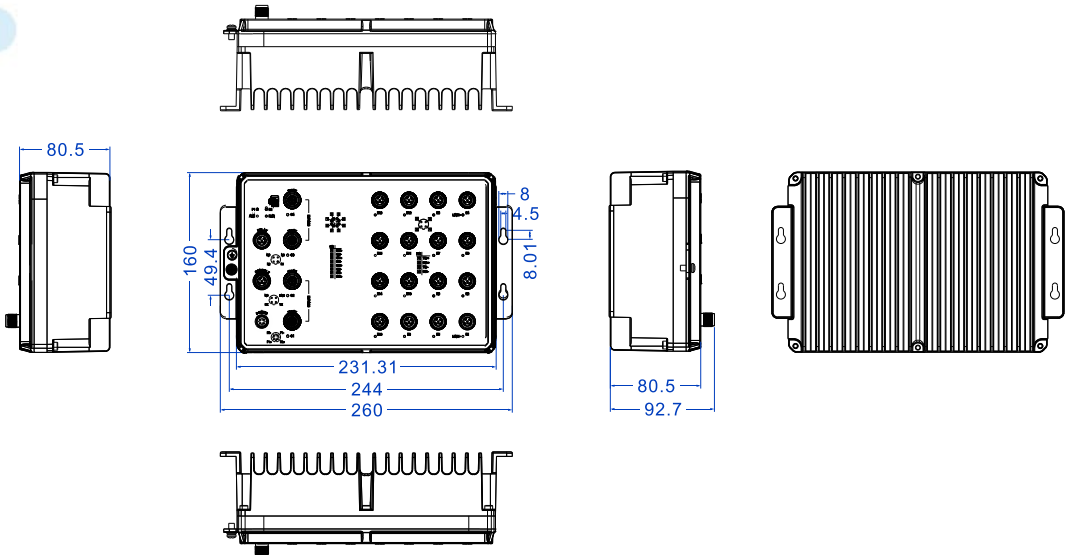
ACL IN and OUT.

- SSH configuration and HTTPS configuration can improve device's management security and guarantee data access security
- Support NAS network access service and provide security assurance for multiple services
- Ring, MRP, STP/RSTP/MSTP can achieve network redundancy, preventing network storm
- EPRS function can realize link backup and improve the reliability of network
- Relay alarm is convenient for troubleshooting of construction site
- Storm suppression can restrain broadcast, unknown multicast and unicast
- VLAN is used for simplifying network planning
- Port Trunking and LACP can increase network bandwidth and enhance the reliability of network connection to achieve optimum bandwidth utilization
- IGMP/MLD Snooping/GMRP can be used for filtering multicast traffic to save the network bandwidth
- IGMP/MLD can be used to manage and maintain multicast members
- ARP could be used for MAC address resolution
- VRRP, RIP/RIPng, ISIS, OSPF/OSPFv3 and BGP can realize dynamic routing configuration
- PIM-DM and PIM-SM can be used to create and maintain multicast routing table entries and realize multicast routing forwarding
- 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
- IPDT can track IP device status and realize interaction with other applications
- Bypass function can prevent communication breakdown caused by power supply failure
- PoE could power device via Ethernet, which has greatly saved the cost of device power supply
- Smart Link link backup, providing reliable and efficient backup and fast switching mechanism
- Conduct network diagnosis and troubleshooting via Ping, Traceroute and cable diagnosis
- Port mirroring can conduct data analysis and monitoring, which is convenient for online debugging

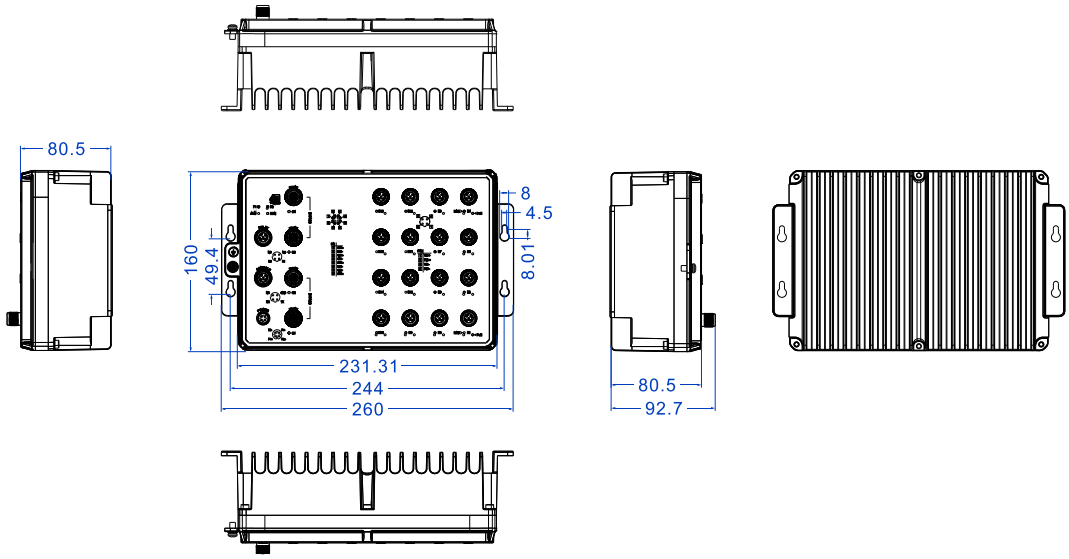
Dimension

Unit: mm

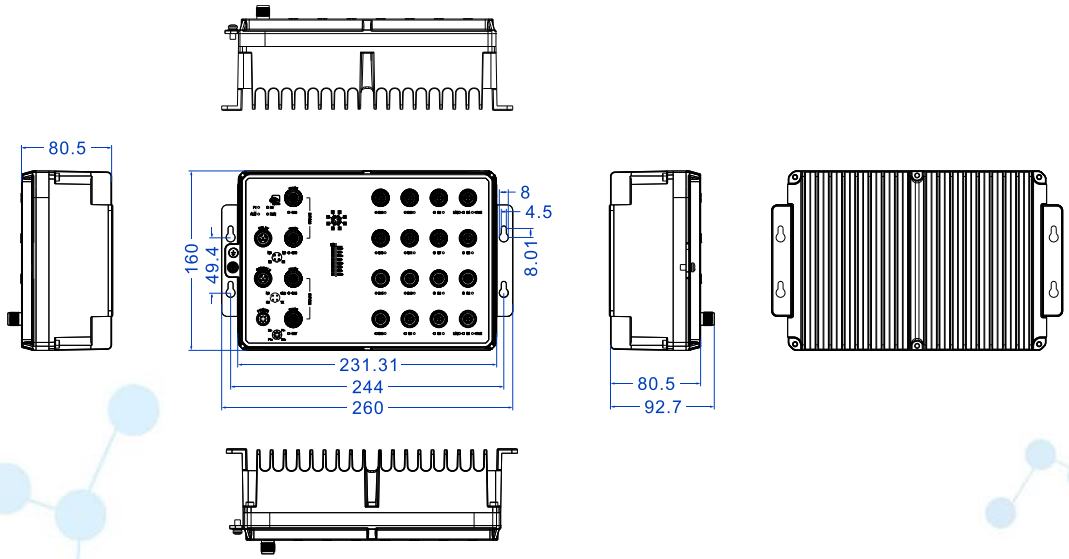
- TNS5800D-16T4GT-P24 and TNS5800D-16T4GT-P110



- TNS5800D-16P4GT-P24 and TNS5800D-16P4GT-P110



- TNS5800D-16GP4GT-P24 和 TNS5800D-16GP4GT-P110



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 802.3af for PoE IEEE 802.3at for PoE+ ITU-T G.8032 for ERPS IEEE 802.1Q for VLAN IEEE 802.1p for CoS IEEE 802.1AB for LLDP IEEE 802.3ad for LACP
Management	SNMP v1/v2c/v3 Centralized Management of Equipment, QoS, DHCP Server, DHCP Snooping, DHCP Relay, Static MAC Address, LLDP, Storm Suppression, User Password, Login Method, File Management, Log Management, Port Statistics, PoE Management
Security	User privilege classification, ACL, SSH/HTTPS protocol authorization, link flapping protection, port loopback detection, access control, SNMP, RMON, IPDT, IPv6DT, Smart-Link, NAT, port alarm, temperature alarm, power alarm, network load alarm
Switch Function	802.1Q VLAN, MAC, static aggregation, LACP, ARP, storm suppression
Unicast / Multicast	IGMP-Snooping, MLD-Snooping, GMRP, IGMP, MLD, PIM-SM, PIM-DM, IPv6-PIM-SM, IPv6-PIM-DM
Redundancy Technology	Ring, MRP, STP/RSTP/MSTP, ERPS
Routing Technique	RIP, RIPng, OSPF, OSPFv3, ISIS, VRRP, IPv6 VRRP, BGP
Troubleshooting	Ping, Traceroute, Network Cable Diagnosis
Time Management	NTP, Time Zone Configuration
Interface	Gigabit PoE M12:10/100/1000base-T (X), M12 (Female), 8-Pin X-Coded, automatic flow rate control, full/half duplex

	mode, MDI/MDI-X automatic detection; The maximum capacity of a single port is 30W PoE power supply output. Pin 1 and 2 of PoE power supply are positive, while Pin 3 and 4 are negative Gigabit M12: 10/100/1000Base-T(X), M12(Female), 8-Pin X-Coded, Automatic Flow Control, Full/half Duplex Mode, MDI/MDI-X Autotuning; it supports two groups of Bypass 100M PoE M12: 10/100Base-T(X), M12 (Female), 4-Pin D-Coded, automatic flow control, full/half duplex mode, MDI/MDI-X automatic detection; The single port supports up to 30W PoE power supply output. Pin 1 and 3 of PoE power supply are positive, while pin 2 and 4 are negative 100M M12: 10/100Base-T(X), M12(Female), 4-Pin D-Code, Automatic Flow Control, Full/half Duplex Mode, MDI/MDI-X Autotuning Alarm 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, PoE indicator
Switch Property	Transmission mode: store and forward MAC address: 16K Cache: 12Mbit Backplane bandwidth: 128Gbps Switch time delay: <10μs
Power Supply	Power supply range: 2 110VDC (66~156VDC) or 24VDC (18~36VDC) Connection method: M12(Male), 4-Pin A-Coded Connection protection: anti-reverse connection
Power Consumption	TNS5800D-16T4GT-P24: ● No-load at normal temperature 25℃: 7.17W@24VDC ● Full-load at normal temperature 25℃: 10.82W@24VDC ● Full-load at high temperature 75℃: 11.54W@24VDC TNS5800D-16T4GT-P110: ● No-load at normal temperature 25℃: 8.86W@110VDC ● Full-load at normal temperature 25℃: 12.17W@110VDC ● Full-load at high temperature 75℃: 13.28W@110VDC

	TNS5800D-16P4GT-P24: ● No-load at normal temperature 25℃: 10.56W@24VDC ● Full-load at normal temperature 25℃: 14.88W@24VDC ● Full-load at high temperature 75℃: 116.4W@24VDC (with PoE load) TNS5800D-16P4GT-P110: ● No-load at normal temperature 25℃: 9.905W@110VDC ● Full-load at normal temperature 25℃: 13.20W@110VDC ● Full-load at high temperature 75℃: 101.2W@110VDC (with PoE load) TNS5800D-16GP4GT-P24: ● No-load at normal temperature 25℃: 10.08W@24VDC ● Full-load at normal temperature 25℃: 18.48W@24VDC ● Full-load at high temperature 75℃: 112.5W@24VDC (with PoE load) TNS5800D-16GP4GT-P110: ● No-load at normal temperature 25℃: 9.906W@110VDC ● Full-load at normal temperature 25℃: 18.70W@110VDC ● Full-load at high temperature 75℃: 117.7W@110VDC (with PoE load)
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): 260mm×160mm×92.7mm Weight: ● TNS5800D-16T4GT-P24: 2.486kg ● TNS5800D-16T4GT-P110: 2.490kg ● TNS5800D-16P4GT-P24: 2.586kg ● TNS5800D-16P4GT-P110: 2.621kg ● TNS5800D-16GP4GT-P24: 2.579kg ● TNS5800D-16GP4GT-P110: 2.563kg
Industrial Standard	IEC 61000-4-2 (ESD), Level 4 ● Air discharge: ±15kV ● Contact discharge: ±8kV

	IEC 61000-4-4 (EFT), Level 4 ● Power supply: ±4kV ● Ethernet port: ±2kV ● Relay: ±4kV IEC 61000-4-5 (Surge), Level 4 ● Power supply: common mode ±4kV, differential mode ±2kV ● Ethernet port: common mode ±4kV, differential mode ±2kV ● Relay: common mode ±4kV, differential mode ±2kV Shock: IEC 61373 Free fall: IEC 60068-2-31 Vibration: IEC 61373
Authentication	CE, FCC, RoHS, EN50155, EN50121-3-2, IEC61373, EN45545
Warranty	5 years

Ordering Information

Model	100M M12	100M PoE M12	Gigabit PoE M12	Gigabit M12 With 2 Sets of Bypass	Power Supply
TNS5800D-16T4GT-P24	16	—	—	4	2 24VDC (18~36VDC)
TNS5800D-16P4GT-P24	—	16	—	4	
TNS5800D-16GP4GT-P24	—	—	16	4	
TNS5800D-16T4GT-P110	16	—	—	4	2 110VDC (66~156VDC)
TNS5800D-16P4GT-P110	—	16	—	4	
TNS5800D-16GP4GT-P110	—	—	16	4	

Optional Accesorry

Model	PN	Type	Cable Clamping Range	Cable Outlet Diameter	Remarks
M12(Male), 8-Pin X-Coded	2015010025	Gigabit connector	24-26AWG	6-8mm	Optional
M12(Male), 4-Pin D-Coded	2015010024	100M connector	18-26AWG	6-8mm	Optional
M12(Female), 4-Pin A-Coded	2015020052	Power connector	18-20AWG	6-8mm	Optional

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