3onedata
Reliable Connections



TNS5800D 12-Port Series

Wall Mounting

12-port Layer 3 EN50155 Industrial Ethernet Switch

- Support 4 Gigabit M12 interfaces (with 2 groups of Bypass function)
- Support 8 100M M12 interfaces or Gigabit M12 interface, PoE function (optional)
- Adopt Ring patented technology, support single ring, coupling ring, chain, Dual-homing function
- Support optional 24VDC (18~36VDC) or 110VDC(66~156VDC) power supply input
- Supports PoE power supply, with a maximum PoE output power of 30W per port and a total PoE output power of 90W for the entire device
- Support IP67 protection grade
- Support -40~75℃ wide operating temperature range

Industrial Grade EN 50155 EN 50121 Bypass

CONNECTING FOR A BETTER FUTURE

3onedata Co.,Ltd.

Introduction

TNS5800D 12-Port series 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. 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 a port has a link failure, the ALM indicator will light up for rapid on-site troubleshooting. The hardware adopts fanless, low power consumption and wide temperature design, and the external heat sink provides extraordinary heat dissipation performance. These 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

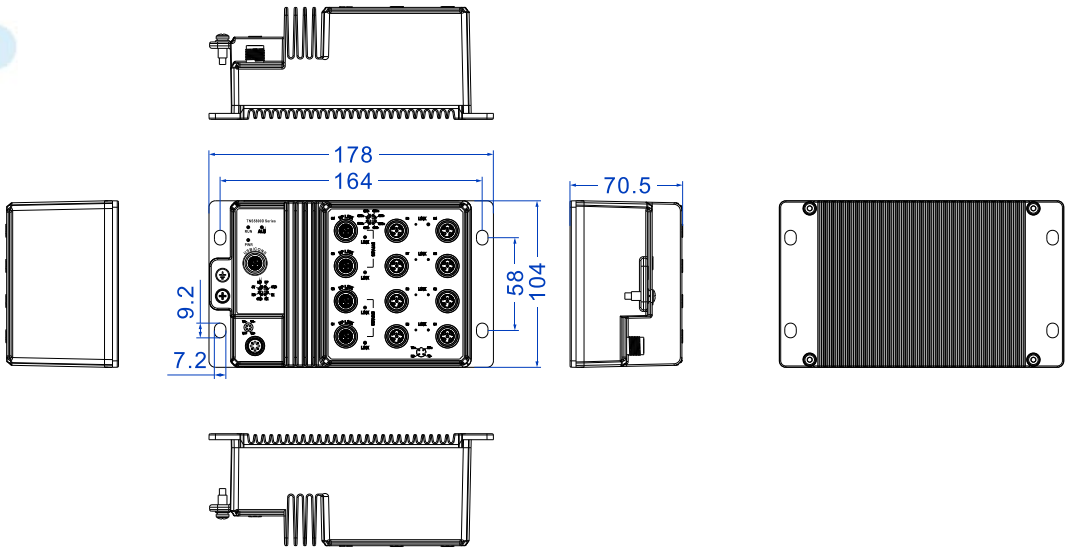
- SNMPv1/v2c/v3 is used for network management of various levels
- RMON can be used for efficient and flexible network monitoring
- QoS supports real-time traffic classification and priority setting
- LLDP can achieve automatic topology discovery, which is convenient for visual management
- DHCP server 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, support ACL IN direction
- 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
- 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
- IPDT can monitor the power supply status of the specified PoE port, and can perform power supply, power off or restart operations to realize automatic fault recovery of the device
- 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

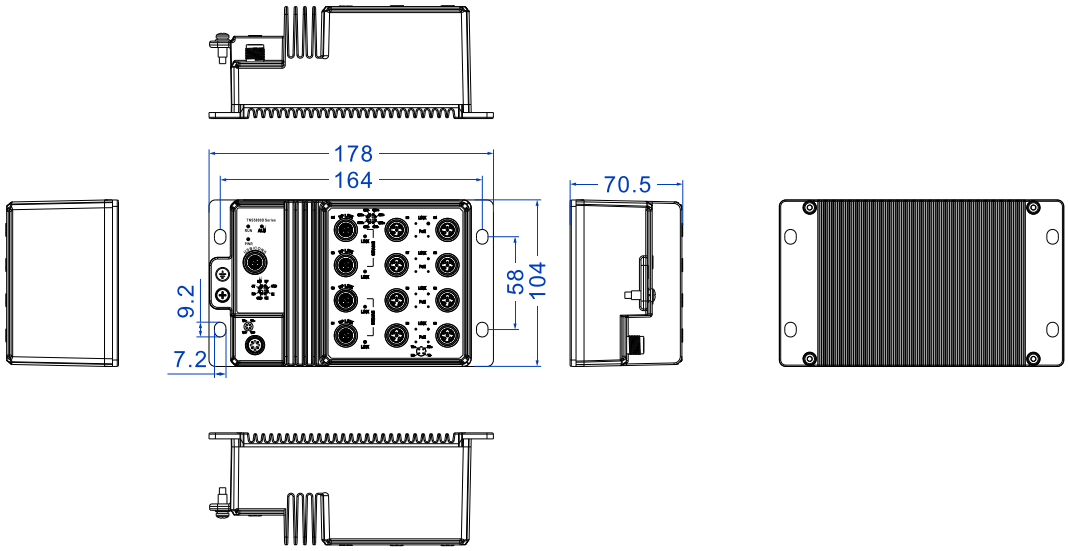
Dimension

Unit: mm

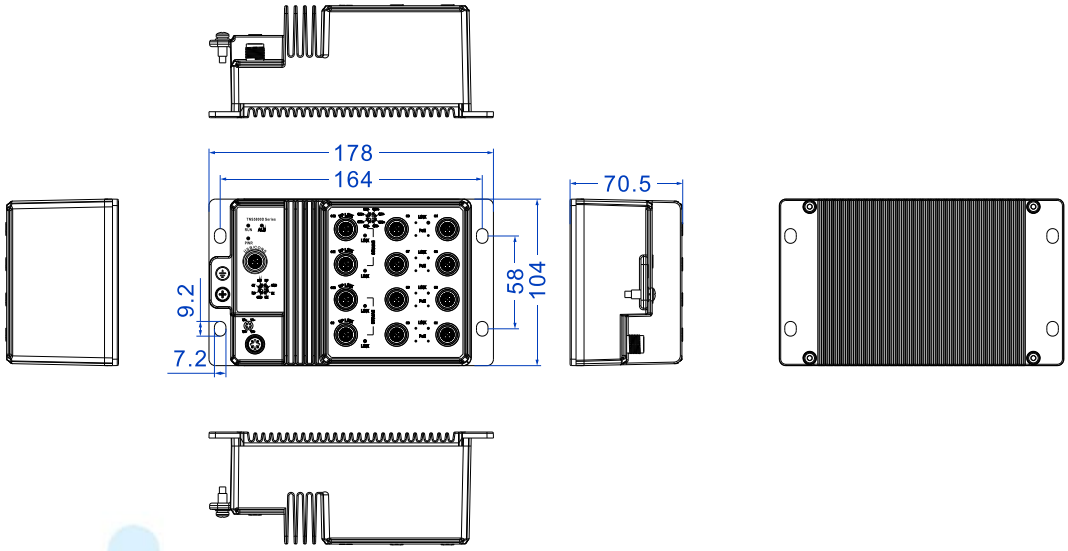
- TNS5800D-8T4GT-P24, TNS5800D-8T4GT-P110



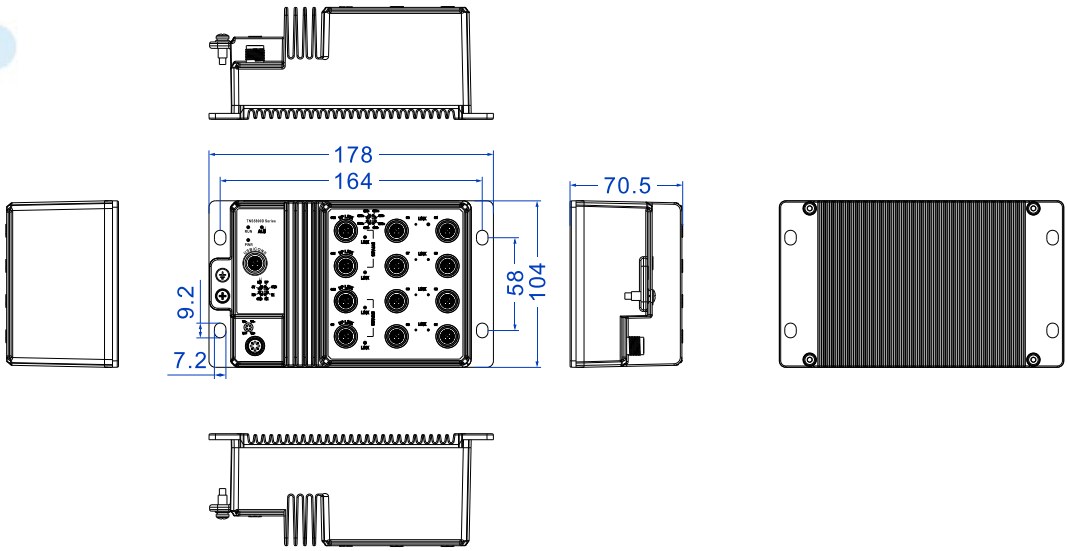
- TNS5800D-8P4GT-P24, TNS5800D-8P4GT-P110



- TNS5800D-8GP4GT-P24, TNS5800D-8GP4GT-P110



- TNS5800D-12GT-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 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 IEEE 802.3af for PoE IEEE 802.3at for PoE+
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 (for PoE version)
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, 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
Troubleshooting	Ping, Traceroute, Network Cable Diagnosis
Routing Technique	RIP, RIPng, OSPF, OSPFv3, ISIS, VRRP, IPv6 VRRP, BGP
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 pairs of Bypass functions 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 2 of PoE power supply are positive, while pin 3 and 4 are negative 100M M12: 10/100Base-T(X), M12(Female), 4-Pin D-Coded, Automatic Flow Control, Full/half Duplex Mode, MDI/MDI-X Autotuning USB/CONSOLE port: USB and CONSOLE port can be integrated. Console port can be connected with PC for CLI command management of device. Adopt M12(Female), 8-pin x-coded. USB occupies 4Pin, and Console port occupies 4Pin.
Indicator	Power indicator, running indicator, alarm indicator, interface indicator, PoE indicator
Switch Property	Transmission mode: store and forward MAC address: 16K Buffer: 12Mbit Backplane bandwidth: 128Gbps Switch time delay: <10μs

Power Supply	Power supply range: ● TNS5800D-8T4GT-P24: 24VDC (18~36VDC) ● TNS5800D-8T4GT-P110: 110VDC (66~156VDC) ● TNS5800D-8P4GT-P24: 24VDC (18~36VDC) ● TNS5800D-8P4GT-P110: 110VDC (66~156VDC) ● TNS5800D-8GP4GT-P24: 24VDC (18~36VDC) ● TNS5800D-8GP4GT-P110: 110VDC (66~156VDC) ● TNS5800D-12GT-P110: 110VDC (66~156VDC) Connection method: M12(Male), 4-Pin A-Coded Connection protection: anti-reverse connection

Power Consumption

Model	No-load	Full-load
TNS5800D-8T4GT-P24	25°C: 9.6W@24VDC	25°C: 11.76W@24VDC 75°C: 11.96W@24VDC
TNS5800D-8T4GT-P110	25°C: 11.01W@110VDC	25°C: 13.21W@110VDC 75°C: 13.29W@110VDC
TNS5800D-8P4GT-P24	25°C: 9.6W@24VDC	25°C: 11.76W@24VDC 75°C: 11.96W@24VDC
TNS5800D-8P4GT-P110	25°C: 12.18W@110VDC	25°C: 13.21W@110VDC 75°C: 13.29W@110VDC
TNS5800D-8GP4GT-P24	25°C: 9.44W@24VDC	25°C: 12.19W@24VDC 75°C: 13.05W@24VDC
TNS5800D-8GP4GT-P110	25°C: 9.87W@110VDC	25°C: 14.23W@110VDC 75°C: 14.74W@110VDC
TNS5800D-12GT-P110	25°C: 9.87W@110VDC	25°C: 14.23W@110VDC 75°C: 14.74W@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): 178mm×104mm×70.5mm Weight: ● TNS5800D-8T4GT-P24：1.250kg ● TNS5800D-8T4GT-P110：1.260kg ● TNS5800D-8P4GT-P24: 1.252kg ● TNS5800D-8P4GT-P110: 1.260kg ● TNS5800D-8GP4GT-P24: 1.264kg ● TNS5800D-8GP4GT-P110: 1.189kg ● TNS5800D-12GT-P110: 1.189kg
Industrial	IEC 61000-4-2 (ESD, electrostatic discharge), Level 4

Standard	• Air discharge: ±15kV • Contact discharge: ±8kV IEC 61000-4-4 (EFT, electrical fast transient pulses), Level 4 • Power supply: ±4kV • Ethernet port: ±2kV IEC 61000-4-5 (Surge), Level 4 • Power supply: common mode ±4kV, differential mode ±2kV • Ethernet interface: common mode±4kV Shock: IEC 61373 Free fall: IEC 60068-2-31 Vibration: IEC 61373
Authentication	CE, FCC, RoHS, EN45545-2, EN50155, IEC61373, EN62368
Warranty	5 years

Ordering Information

Model	100M PoE M12	100M M12	Gigabit PoE M12	Gigabit M12 with 2 Pairs of Bypass	Power Supply
TNS5800D-8T4GT-P24	—	8	—	4	24VDC (18~36VDC)
TNS5800D-8T4GT-P110	—	8	—	4	110VDC (66~156VDC)
TNS5800D-8P4GT-P24	8	—	—	4	24VDC (18~36VDC)
TNS5800D-8P4GT-P110	8	—	—	4	110VDC (66~156VDC)
TNS5800D-8GP4GT-P24	—	—	8	4	24VDC (18~36VDC)
TNS5800D-8GP4GT-P110	—	—	8	4	110VDC (66~156VDC)
TNS5800D-12GT-P110	—	—	—	12	110VDC (66~156VDC)

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