3onedata

Make network communication more reliable



TNS5800-8GP16GT-P24VDC

2U Rack Mounting

24-port Gigabit Layer 3 Managed Industrial Ethernet Switch for Rail Transit

- Support 8 Gigabit M12 PoE copper ports and 16 Gigabit M12 copper ports
- Adopt SW-Ring patented technology, support single ring, coupling ring, chain, Dual-homing function
- Support 24VDC (12~36VDC) power supply input
- Support -40~75℃ wide operating temperature range

Industrial Grade EN 50155 EN 50121

Introduction

TNS5800-8GP16GT-P24VDC is 24-port Gigabit layer 3 industrial Ethernet switch designed for rail transit. 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 16 Gigabit M12 and 8 Gigabit PoE M12 interfaces, and it adopts 2U Rack mounting which can meet the requirements of different scenes.

Network management system supports various network protocols and industrial standards, such as Static Routing, RIP, OSPF, VRRP, BGP, NAT, ERPS, STP/RSTP/MSTP, 802.1Q VLAN, QoS, DHCP Server/Snooping/Relay, 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, WEB, Telnet, SSH, SNMP 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. 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 is designed for rail transit industrial and can be widely used in systems such as car PIS, CCTV, video monitoring and train control.

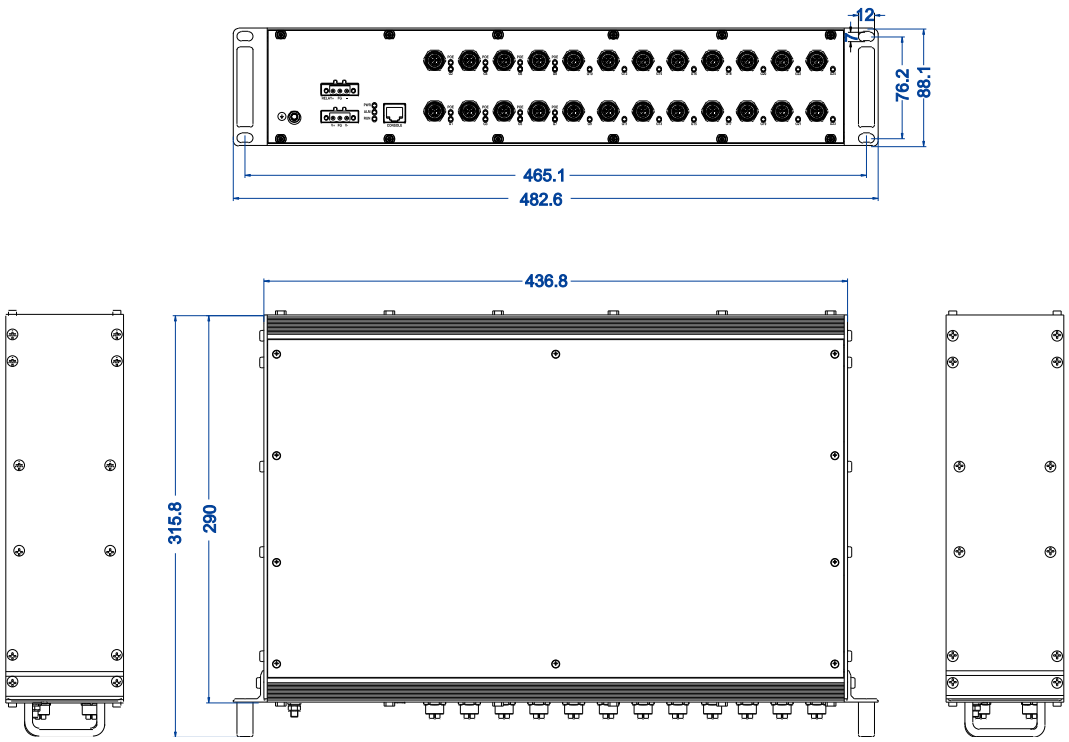
Features and Benefits

- 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
- 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
- Log management records the information of booting, operation and connection
- 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
- ACL can enhance network flexibility and security
- Relay alarm is convenient for troubleshooting of construction site
- Storm suppression can restrain broadcast, unknown multicast and unicast
- SSHD configuration could encrypt transmitted data, prevent DNS and IP spoofing
- TELNET configuration and HTTPS configuration can guarantee the access security of data
- 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
- 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 and static multicast can be used for filtering multicast traffic to save the network bandwidth
- SW-Ring and STP/RSTP/MSTP can achieve network redundancy, preventing network storm
- Ping, Traceroute, Port Loopback could achieve network diagnosis and troubleshooting
- VRRP, RIP, OSPF, BGP could achieve dynamic routing configuration
- NAT maps private IP address to the legal IP address of external network, which can slow the consumption of IP address space
- With high reliability and stability, ERPS could avoid broadcast storm caused by data loopback
- Multicast routing can be transmitted across the VLAN and deal with multicast flow flexibly
- PoE could power device via Ethernet, which has greatly saved the cost of device power supply
- Loop detection could efficiently eliminate the influence caused by port loopback by detecting the existence of loopback in each port of switch periodically
- IPDT can track IP device status and realize interaction with other applications

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 IEEE 802.1p for CoS IEEE 802.1X for 802.1X Authentication IEEE 802.1AB for LLDP IEEE 802.3at for PoE+ Standard IEEE 802.3af for PoE Standard
Management	SNMP v1/v2c/v3 Centralized Management Devices, RMON, Port Mirroring, QoS, LLDP, DHCP Server, DHCP Relay, File Management, Log Management, Port Statistics, Static ARP, PoE management
Security	Classification of User Permissions, ACL, 802.1X Authentication, Port Alarm, Storm Suppression, SSHD Configuration, Telnet Configuration, HTTPS Configuration, DHCP Snooping, Link Flapping Protection, Aggregation Protection, NAT

Switch Function	802.1Q VLAN, Static/Dynamic Aggregation, Bandwidth Management, Flow Control, Port Isolation
Unicast / Multicast	Static Multicast, GMRP, IGMP-Snooping, PIM-SM, PIM-DM
Redundancy Technology	SW-Ring, STP/RSTP/MSTP, ERPS
Troubleshooting	Ping, Traceroute, Port Loopback, Loop Detection
Routing Technique	VRRP、RIP、OSPF、BGP
Time Management	NTP
PoE	PoE Power: support IEEE802.3at/af self-adaption; the maximum capacity of a single port is 30W PoE power supply output; When the device inputs 24VDC, the maximum capacity of total PoE power is up to 100W
Interface	Gigabit M12:10/100/1000Base-T(X), M12(Female), 8-Pin X-Coded, Automatic Flow Control, Full/half Duplex Mode, MDI/MDI-X Autotunning, therein G1-G8 supports PoE Console port: CLI command line management port(RS-232), RJ45 Alarm port: 3-pin 5.08mm pitch terminal blocks, support 1 relay alarm output, current load capability is 5A@30VDC or 10A@125VAC
Indicator	Running Indicator, Port Indicator, Power Supply Indicator, Alarm Indicator
Switch Property	Transmission mode: store and forward MAC address: 16K Packet buffer size: 12Mbit Backplane bandwidth: 128G Switch time delay: <10μs
Power Supply	24VDC(12~36VDC), 3-pin 5.08mm pitch terminal blocks
Power consumption	No-load: 20.5W@24VDC Full-load: 22.6W@24VDC
Working	Working temperature: -40~75℃ (65℃ with PoE load)

Environment	Storage temperature: -40~75℃ Relative humidity: 5%～95%(no condensation)
Physical Characteristic	Housing: IP40 protection, metal Installation: 2U rack mounting Dimension (W x H x D): 441.6mm×76.2mm×290mm Weight: 4.09kg
Industrial Standard	IEC 61000-4-2 (ESD, electrostatic discharge), Level 3 ● Air discharge: ± 8kV ● Contact discharge: ±6kV IEC 61000-4-4 (EFT, electrical fast transient pulses), Level 3 ● Power supply: ±2kV ● Ethernet port: ±1kV ● Relay: ±2kV IEC 61000-4-5 (Surge), Level 3 ● Power supply: common mode±2kV, differential mode±1kV ● Ethernet interface shielding line: ±2kV ● Relay: common mode ±2kV, differential mode±1kV Shock: IEC 61373 Free fall: IEC 60068-2-32 Vibration: IEC 61373
Authentication	CE、FCC、RoHS、EN50155、EN50121-3-2
Warranty	5 years

Ordering Information

Available Models	Gigabit M12	Gigabit PoE M12	Power supply
TNS5800-8GP16GT-P24VDC	16	8	24VDC（12~36VDC）

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