

# 36-Port 10G Layer-3 Rack Mount TSN Industrial Ethernet Switch

**MT-TSN-8036-4XGF-24GF-8GT**



## Features

- Support 4\*10G SFP+ ports, 24\*Gigabit SFP ports and 8\*Gigabit RJ45 copper ports
- Support TSN Time Sensitive Networking series standards (IEEE802.1AS/Qbv/Qbu/CB/Qci), provide clock synchronization, low-latency flow control and reliability mechanisms
- Support fast ring networking (MW-Ringv2), ERPSv1/v2, STP/RTSP/MSTP to improve network reliability
- Support IPv4/IPv6 static routing, RIPv1/v2, OSPF dynamic routing protocol, realize routing and forwarding
- Support AC85~264V/DC110~370V single or dual redundant power input, dual power redundancy
- High strength aluminum alloy shell, IP40 protection, fanless design for heat dissipation, can reliably work in harsh industrial environments of -40 °C~+75 °C

## **Product Description:**

MT-TSN-8036-4XGF-24GF-8GT layer-3 10G TSN industrial Ethernet switch, can be transmitted low latency in data flow with reliability and certainty, supports 4\*10G SFP+ ports, 24\*Gigabit SFP ports, and 8\*Gigabit RJ45 copper ports. It adopts the storage and forwarding mechanism and has strong bandwidth processing capabilities, automatically troubleshooting data packet errors, reducing transmission failures, and easily supporting 10G networking to ensure stable, reliable, and efficient data transmission. This product uses industrial grade components, combined with high standard system design and production control, with standard 19 inch 1U rack mount. It has high strength durable aluminum alloy shell, fanless efficient heat dissipation, -40°C ~ + 75°C wide temperature work, high standard industrial protection design, can adapt to a variety of harsh working environment, stable communication performance. The MT-TSN-8036-4XGF-24GF-8GT switch follows the main communication standards in the industrial field, and meets the technical requirements such as real-time communication, network security and so on.

It provides various ways of managing switches, such as accessing the switch command line (CLI) through the CONSOLE port or TELNET/SSH protocol, the switch WEB interface through HTTP / HTTPS, and the device MIB through the SNMP protocol. Multiple network protocols and industry standards, such as TSN, PTP, RIP, OSPF, VRRP, ERPS, MW-Ringv2, STP/RSTP/MSTP, VLAN, QoS, LACP, PIM, IGMP, IGMP Snooping, LLDP, 802.1X, ACL, RMON, DHCP Client/Server/Snooping/Relay, NTP Client, port mirroring, DDM, Ping, Traceroute, etc. In terms of installation, you can flexibly choose either the rack mount type or the desktop mount type. This product can be widely used in comprehensive energy, smart city, rail transit, intelligent transportation, industrial automation and other fields.

## Benefits

- Support unicast frame, broadcast frame and unknown storm control, support broadcast and multicast packet storm detection to prevent network storm
- Support link static aggregation and dynamic aggregation LACP, which can increase transmission bandwidth, improve link reliability and realize network load sharing
- Support 802.1Q VLAN, provide Access, Trunk, Hybrid interface easy to divide multiple broadcast domain, enhance the security of the network
- Support MAC, protocol, and IP sub-network based VLAN
- Support MAC address table and aging time limit, static unicast/multicast MAC address and interface binding to ensure the use of legal users
- Supports PIM, IGMP, IGMP Snooping and multicast filtering to reduce multicast data broadcast on the network and save network resources
- Support LLDP link layer discovery protocol, obtain LLDP neighbor device information, conduct link status monitoring, facilitate topology management and fault location
- Support ERPS Ethernet multi-ring protection technology, provide multi-ring networking, link backup, achieve fast convergence, improve network stability
- Support VRRP (Virtual Router Redundancy Protocol), to make multiple routing devices up to a virtual router to achieve redundant backup

## Benefits

- Support HTTP,HTTPS, TELNET, SSH, CONSOLE port and other login methods
- Support SNMPv1/v2c/v3, through the MIB network management system can be information query, information modification and troubleshooting, to achieve centralized management
- Support RMONremote network monitoring, make statistics and alarm of various types of data frames, and can be used for remote monitoring and management of network management system
- Support port security, convert dynamic MAC addresses to secure dynamic/static/ Sticky MAC, prevent illegal user access, and enhance device security
- Supports 802.1X port authentication, authentication and access control for access users
- SupportAAAsecure network management, and conduct authentication, authorization and billing of users through RADIUS and TACACS +, to prevent illegal users from logging in
- Support ACL access control list, can customize a variety of frame type filtering rules, the specified message filtering or rate limit
- Support QoS service quality, so that voice, video and important data in the network equipment priority transmission, to solve the network congestion
- Support port mirroring to collect port sent and received data for network detection and fault management
- Support DDM digital diagnosis and monitoring, and can detect the temperature, voltage, current, transmitting/receiving optical power for the DDM SFP optical module
- Support Ping IPv4/v6, Traceroute IPv4 / v6 to detect network connectivity and locate fault points
- Support the dual power supply redundant power alarm and port drop alarm, support relay alarm formula
- Support DHCPv4 server, centralized dynamic management and configuration of user IP addresses

## Technical Specifications

|                 |                                                                                                                                                                                                                                                                                                                           |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Switching       | Support ports configuration, port speed limit, storm control, storm detection, port aggregation, LACP, port count Support 802.1Q VLAN, VLAN based on MAC/protocol/IP subnetwork/stream, port isolation, VLAN mapping Support MAC address aging and learning restrictions, static unicast or multicast MAC address binding |
| TSN             | IEEE 802.1AS (generalized PTP, gPTP) IEEE 802.1Qbu (Frame Preemption, FP) IEEE 802.1Qbv (Time-Aware Shaper, TAS) IEEE 802.1Qci (Per-Stream Filtering and Policing, PSFP) IEEE 802.1CB (Frame Replication and Elimination for Reliability, FRER)                                                                           |
| Redundancy      | Support fast ring networking (MW-Ringv2) private agreement Support ERPS Support STP/RSTP/MSTP                                                                                                                                                                                                                             |
| Broadcast       | Support IGMP snooping Support multicast filtering Support IGMPv2/v3 Support PIM-SM                                                                                                                                                                                                                                        |
| Routing         | Support IPv4/IPv6 static routing Support routing control, routing encryption and routing access control list Support for RIPv1/v2, OSPF dynamic routing Support VRRPv2/v3                                                                                                                                                 |
| Time Management | Support IEEE 1588v2 (Precision Time Protocol, PTP) Support local time management and NTP client Support summer time and time zone configuration                                                                                                                                                                           |

## Technical Specifications

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Management and Maintenance | Support QoS, SP, DWRR queue scheduling Support DHCPv6 Client, DHCPv4 Client/Server/Snooping/Relay Support SNMPv1/v2c/v3, SNMPv1/v2c/v3 Trap, RMON, LLDP, LLDP MED Support private network management agreement MW-NMPv2 Support port mirroring, DDM, Ping IPv4/IPv6, and Traceroute IPv4 / IPv6 Support user rights management, log management Support configuration file management, mirror upgrade and double backup, online restart, and restore factory settings |
| Processing Type            | Store-and-forward                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Backplane Bandwidth        | 180G                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Buffer Size                | 32Mbit                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| MACTable Size              | 32K                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Interface</b>           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 10G Fiber Port             | 4*10GBase-R SFP+ ports                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Gigabit Fiber Port         | 24*1000Base-X SFP ports                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Gigabit Copper Port        | 8*10/100/1000Base-T (X) auto-sensing RJ45 ports, full / half-duplex, auto MDI/MDI-X connection                                                                                                                                                                                                                                                                                                                                                                       |

## Technical Specifications

|                     |                                                                                            |
|---------------------|--------------------------------------------------------------------------------------------|
| Relay               | 1 relay alarm output, 3-pin 5.08mm terminal block                                          |
| CONSOLE             | 1 RJ45 CONSOLE port of RS232 signal for equipment debugging and command line configuration |
| Status LED          | Power indicator, operation indicator, alarm indicator, port indicator                      |
| <b>Power Supply</b> |                                                                                            |
| Power Input         | AD220V(AC85~264V/DC110~370V), single/dual power optional                                   |
| Power Consumption   | <50W@AD220V (full load)                                                                    |
| Connection          | 5-pin 5.08mm terminal block                                                                |
| Protection          | Over current protection                                                                    |

## Technical Specifications

| Physical Characteristics |                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimension                | 482.6×44×315 mm (Including mounting brackets)                                                                                                                                                                                                                                                                                                   |
| Installation             | Standard 19-inch 1U rack-type mount                                                                                                                                                                                                                                                                                                             |
| IP Code                  | IP40                                                                                                                                                                                                                                                                                                                                            |
| Weight                   | About 4.5kg                                                                                                                                                                                                                                                                                                                                     |
| Working Environment      |                                                                                                                                                                                                                                                                                                                                                 |
| Operating Temp           | -40°C~+70°C                                                                                                                                                                                                                                                                                                                                     |
| Storage Temp             | -40°C~+85°C                                                                                                                                                                                                                                                                                                                                     |
| Ambient Humidity         | 5%~95% (No condensation)                                                                                                                                                                                                                                                                                                                        |
| Industry Standard        |                                                                                                                                                                                                                                                                                                                                                 |
| EMC                      | <ul style="list-style-type: none"><li>• IEC61000-4-2(ESD): Level 4 (Contact discharge ±8kV, air discharge ±15kV)</li><li>• IEC61000-4-5(Surge): Level 4 (Power: common mode ±4kV, differential mode ±2kV Network port: common mode ±6kV,differential mode ±2kV)</li><li>• IEC61000-4-4(EFT): Level 4(Power: ±4kV, Network port: ±2kV)</li></ul> |

## Dimension

