CTS8212G-M12-12GT

12-Port Layer 3 Gigabit Managed Wall Mount M12 Industrial Ethernet Switch



- 12 x 1G copper ports with M12 connectors
- MW-Ring (recovery time < 20 ms @ 200 switches), EAPS, ERPS, RSTP/STP, MSTP and MRP for network redundancy
- Support static routing, RIPv1/v2, and OSPF dynamic routing protocols
- Support VRRP, allowing multiple routers to form a virtual router for redundancy backup
- DC24/48/110V input with dual power input redundancy
- High-strength aluminum alloy shell with IP50-rated housing protection
- -40 to 70℃ operating temperature range

Product Description

CTS8212G-M12-12GT is a Layer 3 full Gigabit managed wall-mount industrial Ethernet switch. It supports 12xGigabit copper ports with M12 connectors, meeting the standards of the rail transit industry to ensure tight and secure connections, making it ideal for environments with strong vibrations. Adopting a store-and-forward mechanism, it delivers powerful bandwidth processing capability, automatically detects packet errors, reduces transmission faults, easily supports gigabit networking, and ensures stable, reliable, and efficient data transmission. Built with selected industrial-grade components and a high-standard system design and production process, it features wall-mounted installation, a high-strength aluminum alloy housing for durability, an operating temperature range of -40℃ to +70℃, and high-standard industrial protection design, enabling it to operate reliably in harsh environments with stable communication performance.

The CTS8212G-M12-12GT Layer 3 switch complies with major communication standards in the industrial sector, addressing requirements for communication real-time performance and network security. It offers multiple management options, including CLI access via CONSOLE port or TELNET/SSH protocols, WEB interface access via HTTP/HTTPS, and device MIB access via SNMP. It supports a wide range of network protocols and industry standards such as RIP, OSPF, VRRP, MW-Ring, EAPS, ERPS, STP/RSTP/MSTP, MRP, VLAN, GVRP, QoS, LACP, PIM, IGMP, IGMP Snooping, GMRP, LLDP, RMON, 802.1X, ACL, DHCP Server/Relay/Security/Snooping, NTP client/server, port mirroring, Ping, and Tracert, enhancing network performance, reliability, and security to meet complex networking requirements. The product undergoes rigorous functional, high/low temperature, safety, and EMC testing, ensuring suitability for various network

scenarios and demanding industrial environments. It is widely applicable in fields such as industrial automation, integrated energy, smart cities, rail transit, intelligent transportation, smart mining, and smart manufacturing.

Product Features

- Support broadcast, multicast, and unknown unicast packet storm suppression, as well as broadcast and multicast packet storm detection to prevent broadcast storms
- Support static LACP, and dynamic LACP aggregations, which can increase transmission bandwidth, improve link reliability, and achieve network load balancing
- Support 802.1Q VLAN, providing Access, Trunk, and Hybrid interfaces for easy segmentation of multiple broadcast domains, enhancing network security
- Support VLAN segmentation based on port, MAC, protocol, IP sub-net, and more, making it suitable for different network environments
- Support the GVRP protocol for dynamic distribution, registration, and propagation of VLAN attributes, maintaining dynamic VLANs
- Feature MAC address table with aging time limits and supports static unicast/multicast MAC address binding to interfaces, ensuring the use of legitimate users
- Support multicast protocols such as PIM, IGMP, GMRP, and IGMP Snooping, reducing multicast data broadcast in the network and saving network resources
- Support LLDP (Link Layer Discovery Protocol) for obtaining information about LLDP neighbor devices, monitoring link status, and facilitating topology management and fault localization.
- Support the MSTP (Multi-Spanning Tree Protocol) to eliminate network loops and improve network reliability, while being compatible with RSTP/STP
- Support ERPS (Ethernet Ring Protection Switching) for Ethernet multiple-ring protection technology, providing multiple-ring networking, link backup, rapid convergence, and improved network stability
- Support EAPS (Ethernet Automatic Protection Switching) ring protection protocol and MW-Ring proprietary ring network protocol, enhancing system communication reliability
- Support MRP Medium Redundancy Protocol, improving network reliability with reconfiguration time ≤ 500ms
- Support loopback detection to prevent network loops from causing network storms
- Support static routing configuration, RIPv1/v2, and OSPF dynamic routing protocols to enable routing selection and packet forwarding
- Support SNMPv1/v2c/v3, enabling information querying, modification, and troubleshooting through MIB network management systems for centralized management
- Support RMON remote network monitoring, statistics, and alerts for various types of data frames, enabling remote monitoring and management via a network management system

- Support QoS (Quality of Service) to prioritize the transmission of voice, video, and critical data within network devices, addressing network congestion
- Support ACL (Access Control List) based on source/destination IP and MAC addresses to filter TCP/UDP/ICMP/IGMP packets
- Support 802.1X port authentication for user identity verification and access control
- Support DHCP server for centralized dynamic management and configuration of user IP addresses
- Support dual power supply redundancy, power failure relay alerts, and upper-level machine alerts, as well as port disconnection alerts on the upper-level machine

Technical Specifications

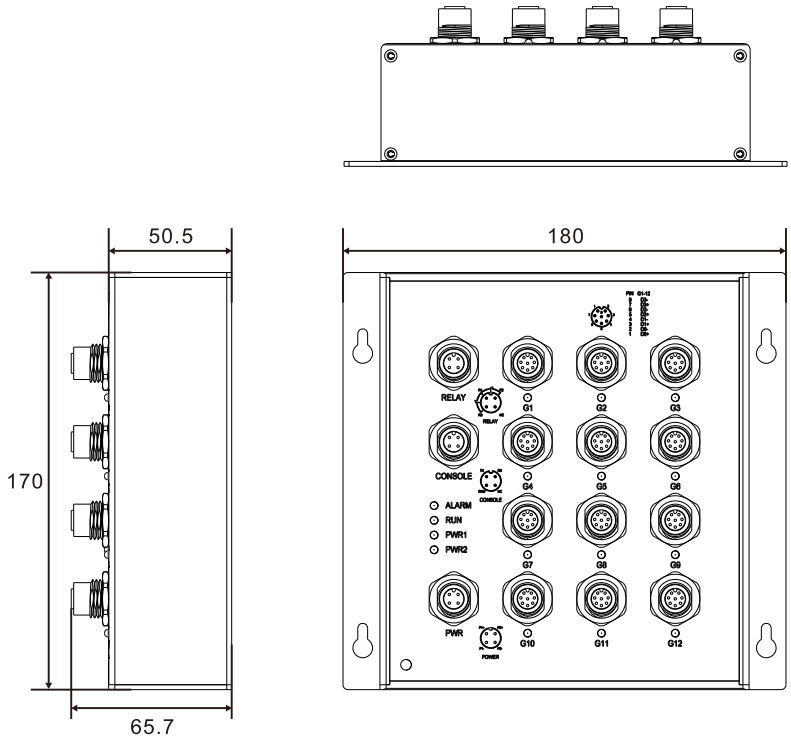
Software	
Switching	Support port configuration, port rate limiting, storm suppression, storm detection, port aggregation, LACP, and port statistics Support 802.1Q VLAN, VLAN based on port/MAC/protocol/subnet, GVRP, and port isolation Support MAC address aging and learning limits, static MAC address forwarding and filtering, and MAC address binding
Redundancy	Support MW-Ring proprietary ring network technology Support EAPS, ERPS Support MSTP, compatible with RSTP/STP Support MRP
Multicast	Support IGMP Snooping Support static multicasting and GMRP Support IGMPv1/v2/v3 Support PIM-DM and PIM-SM
Routing	Support static routing Support dynamic routing protocols including RIPv1/v2 and OSPF Support VRRP
Security Management	Support HTTP, HTTPS, TELNET, and SSH access methods and login control Support ACL access control lists for L2-L4 layer data filtering Support 802.1X port authentication and MAC address authentication Support loopback detection

Management and Maintenance	Support DHCP Server/Relay/Security/Snooping Support QoS, SNMPv1/v2c/v3, SNMPv1/v2c TRAP, LLDP, RMON Support port mirroring, Ping, Tracert Support user management with different permissions, system logs, local time synchronization, NTP client/server Support online reboot, factory reset, system upgrade, and configuration file upload/download Support MW-NMPv2 private network management interface protocol and MixView, MaxView upper-level computer management
Switch Capability	
Processing Type	Store-and-Forward
Backplane Bandwidth	24Gbps
Buffer Size	3Mbit
MAC Table Size	16K
LPM Routing Entries	512
Interface	
1G Copper Port	12 x 10/100/1000Base-T(X) with auto-sensing copper ports Utilize M12 (A-Code 8-Pin Female) connectors Support both full-duplex and half-duplex communication modes Auto MDI/MDI-X
Relay	1 x relay alarm output with an M12 (A-Code 4-Pin Female) port
CONSOLE	1 x CONSOLE port, RS232 signal M12(A-Code 4-Pin Female) connector, used for device debugging and command-line configuration
Status LED	Power indicator, Operation indicator, Alarm indicator, interface connection/activity indicator
Power Supply	
Input Voltage	DC18V~36V, DC36V~72V or DC50V~160V, dual input supports power redundancy
Power Consumption	＜15W@DC110V(full load)

Connection	M12 (A-Code 4-Pin Male) port
Physical Characteristics	
Dimensions (L*W*H)	180 × 170 × 50.5 mm (Includes mounting brackets but excludes connector dimensions)
Installations	Wall mount
IP Code	Aluminum alloy shell, IP50 protection rating
Weight	About 1.4kg
Working Environment	
Operating Temp	-40℃~+70℃
Storage Temp	-40℃~+85℃
Relative Humidity	5%~95% (non-condensing)
Industry Standard	
EMC	IEC 61000-4-2 (ESD): Contact discharge ±8kV, Air discharge ±15kV IEC 61000-4-5 (Surge): Power supply and network port: Common mode ±2kV, Differential mode ±2kV IEC 61000-4-4 (EFT): Power supply: ±2kV; Communication port: ±2kV

Dimensions

Unit: mm



Ordering Information

Standard Model	1G Copper Port	Input Voltage
CTS8212G-M12-12GT-DC24	12	DC 18V~36V
CTS8212G-M12-12GT-DC48	12	DC 36V~72V
CTS8212G-M12-12GT-DC110	12	DC 50V~160V

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