CTS7012G-M12-12GT

12-Port Layer 2 Gigabit Managed Rack Mount M12 Industrial Switch



- Support 12 x Gigabit copper ports with M12 connectors
- Up to 4 Ports with bypass relay function prevent link failure during power loss
- MW-Ring (recovery time < 20 ms @ 200 switches), EAPS, ERPS, STP/RSTP, MSTP, MRP for network redundancy
- Support multiple power input options, including DC24V, DC48V, DC110V, dual input supports power redundancy
- High-strength aluminum alloy shell, IP40-rated housing protection
- -40 to 70°C operating temperature range

Product Description

CTS7012G-M12-12GT is a layer 2 managed rack-mount industrial Gigabit switch. It supports 12 x Gigabit copper ports with M12 connectors, meeting rail transit industry standards to ensure secure and robust connections, making it ideal for environments subject to strong vibration. The gigabit ports support two sets of bypass functions, which automatically establish a direct connection in the event of power failure, bypassing faulty nodes to prevent network interruptions and ensure continuous operation. Adopting a store-and-forward mechanism, it delivers powerful bandwidth processing capability, automatically detects packet errors, reduces transmission faults, and easily supports gigabit networking to ensure stable, reliable, and efficient data transmission. Built with industrial-grade components and high-standard system design and production processes, the switch features a standard 19-inch 1U rack-mounted design, a rugged high-strength aluminum alloy housing with fanless heat dissipation, an operating temperature range of -40℃ to +70℃, and a high-level industrial protection design, enabling stable communication performance in harsh environments.

CTS7012G-M12-12GT Layer 2 switch complies with major communication standards in the industrial sector, addressing requirements for real-time communication 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 variety of network protocols and industry standards such as MW-Ring, EAPS, ERPS, STP/RSTP/MSTP, MRP, VLAN, GVRP, QoS, LACP, IGMP

Snooping, GMRP, LLDP, RMON, 802.1X, ACL, NTP client/server, port mirroring, Ping, and Tracert, enhancing network performance, reliability, and security to meet complex networking needs. The product undergoes rigorous functional, high/low temperature, safety, and EMC testing, ensuring suitability for a wide range of network scenarios and demanding industrial environments, and is widely applicable in industrial automation, integrated energy, smart cities, rail transit, intelligent transportation, smart mining, and smart manufacturing.

Product Features

- Support storm suppression for broadcast, multicast, and unknown unicast packets, as well as broadcast and multicast packet storm detection to prevent network storms
- Support static and dynamic link aggregation (LACP), which increases transmission bandwidth, improves link reliability, and enables network load balancing
- Support 802.1Q VLAN, providing Access, Trunk, and Hybrid interfaces for easy division into multiple broadcast domains, enhancing network security
- Support VLAN segmentation based on port, MAC, protocol, IP subnet, and other methods, suitable for networks in different environments
- Support GVRP protocol for dynamic distribution, registration, and propagation of VLAN properties, maintaining dynamic VLANs.
- Support MAC address table and aging time limits, static unicast/multicast MAC address binding to interfaces to ensure legitimate user usage.
- Support multicast protocols such as IGMP Snooping and GMRP to reduce multicast data broadcasting in the network, saving network resources.
- Support LLDP for obtaining LLDP neighbor device information, monitoring link status, and facilitating topology management and fault localization.
- Support MSTP (Multi-Spanning Tree Protocol), compatible with RSTP/STP, to eliminate network loops and enhance network reliability
- 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 CS-Ringv2 private ring network protocol, enhancing system communication reliability.
- Support the MRP (Media Redundancy Protocol) to enhance network reliability, with a reconfiguration time of ≤500ms
- Support loopback detection to prevent network loops from triggering network storms
- Support SNMPv1/v2c/v3, enabling information queries, modifications, and fault diagnosis through an MIB-based network management system for centralized management
- Support QoS (Quality of Service) to prioritize voice, video, and critical data transmission in network

devices, addressing network congestion.

- Support ACL access control lists, filtering TCP/UDP/ICMP/IGMP packets based on source/destination IP and MAC addresses
- Support 802.1X port authentication, verifying user identities and controlling access permissions
- 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

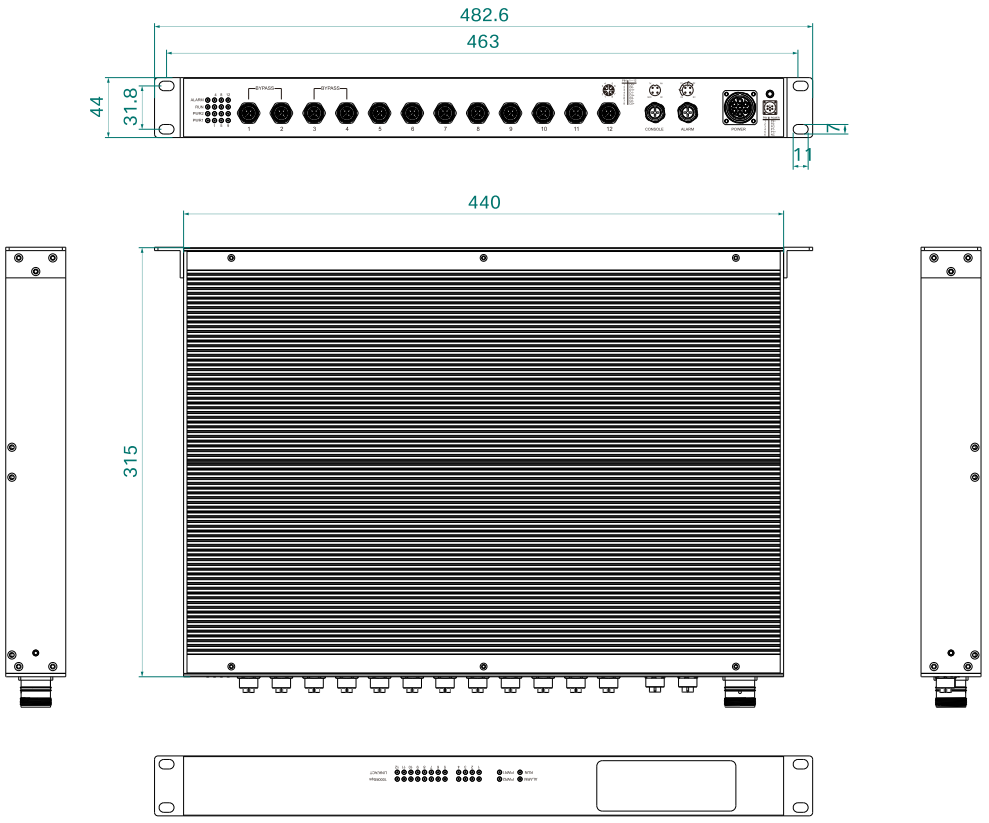
Software	
Switching	Support port configuration, port rate limiting, storm suppression, storm detection, static port aggregation, and LACP Support 802.1Q VLAN, VLAN segmentation based on port/MAC/subnet/protocol, GVRP, and port isolation Support MAC address aging, static MAC address forwarding and filtering, and MAC address binding and learning restrictions
Redundancy	Support the MW-Ring proprietary protocol for fast ring networks Support EAPS and ERPS Support MSTP, compatible with RSTP/STP Support MRP
Multicast	Support IGMP Snooping Support static multicast and GMRP
Security Management	Support HTTP, HTTPS, TELNET, and SSH access methods and login control Support ACL access control lists for filtering L2-L4 layer data Support 802.1X port authentication and MAC address authentication Support loopback detection
Management and Maintenance	Support QoS, SNMPv1/v2c/v3, SNMPv1/v2c TRAP, LLDP, and RMON Support port mirroring, Ping, and Tracert Support user management with different permissions, system logs, local time synchronization, and 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 management
Switch Capability	
Processing Type	Store-and-Forward
Backplane Bandwidth	128Gbps
Buffer Size	12Mbit
MAC Table Size	16K
Interface	
1G Copper Port	12 x 10/100/1000Base-T(X) auto-sensing copper ports, using M12 (X-Code 8-Pin Female) connectors, supporting full-duplex/half-duplex and auto MDI/MDI-X. Additionally, it supports two sets of Bypass functions, where Port1 and Port2 form one set of Bypass, and Port3 and Port4 form another set of Bypass
Relay	1x relay alarm output port, using M12 (A-Code 4-Pin Female) connector
CONSOLE	1x Console port with RS232 signals, using an M12 (A-Code 4-Pin Female) connector, used for device debugging and command-line configuration
Status LED	Power indicator, operation indicator, alarm indicator, interface speed and connection/activity indicator
Power Supply	
Input Voltage	DC18V~36V, DC36V~72V or DC50V~160V redundant power inputs
Power Consumption	< 15W@DC110V(full load)
Connection	M23(A-Code 6-Pin Male) connector
Physical Characteristics	
Dimensions(L*W*H)	482.6 x 44 x 315 mm (Mounting brackets included, connector excluded)
Installations	Standard 19-inch 1U rack-mounted installation
IP Code	IP40

Weight	About 3kg
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 and Network Ports: Common Mode ±2kV, Differential Mode ±2kV IEC 61000-4-4 (EFT): Power: ±2kV; Communication Port: ±2kV

Dimensions

Unit: mm



Ordering Information

Standard Model	1G Copper Port	Input Voltage
CTS7012G-M12-12GT-DC24	12	DC18V~36V
CTS7012G-M12-12GT-DC48	12	DC36V~72V
CTS7012G-M12-12GT-DC110	12	DC50V~160V

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