CTS6116BP

16-port Layer 2 Managed Embedded M12 Industrial Ethernet Switch

- Support 16 x 100Mbps copper ports with M12 connectors

- Two sets of Bypass functions can make the connection working even if power fails to ensure normal network operation

- Support ring network redundancy protocols such as MW-Ring, ERPS, STP/RSTP, enhancing network reliability

- Support DC 24V power input

- Support operating in a wide temperature range from -40°C to +70°C

Product Description

CTS6116BP is a layer 2 100M managed embedded Industrial Ethernet switch, supporting 16 x 100M copper ports. The port board includes 12x100M copper ports with M12 connectors, meeting the requirements of the standard of rail transportation industry to ensure tight and robust connections, suitable for scenarios with strong vibrations. The backplane features 4x100Mbps ports connected through Harting connectors. The front panel 100Mbps copper ports support 2 sets of Bypass functions, which can be activated in case of power failure to bypass faulty nodes, preventing network interruptions and ensuring normal network operation.

This product uses a store-and-forward mechanism, offering powerful bandwidth processing capabilities, automatically detecting packet errors to reduce transmission failures, easily supporting 100Mbps networking, and ensuring stable, reliable, and efficient data transmission. The product uses industrial-grade components, high-standard system design, and production control, adopts card-style installation, operates in a wide temperature range from -40°C to +70°C, and can adapt to various harsh working environments, maintaining stable communication performance.

CTS6116BP layer 2 switch complies with major communication standards in the industrial field, addressing issues like communication real-time performance and network security. The product provides various management methods for the switch, such as accessing the switch command line (CLI) through the CONSOLE port or TELNET/SSH protocol, accessing the switch's web interface through HTTP/HTTPS, and accessing device MIB via SNMP protocol. It also supports various network protocols and industry standards such as MW-Ring, ERPS, STP/RSTP, VLAN, QoS, LACP, IGMP Snooping, GMRP, LLDP, 802.1X, ACL, SNTP, port mirroring, Ping, etc. Configuration file upload and download, online firmware upgrades, and other system management features are supported.

Product Features

- Support broadcast, multicast, and unknown unicast storm suppression to prevent broadcast storms, and also support broadcast and multicast packet storm detection
- Support link static aggregation, 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 division of multiple broadcast domains, enhancing network security
- 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 GMRP and IGMP Snooping, reducing multicast data broadcast in the network, saving network resources
- Support LLDP (Link Layer Discovery Protocol) for obtaining LLDP neighbor device information, link status monitoring, and facilitating topology management and fault localization
- 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 RSTP (Rapid Spanning Tree Protocol) for generating a spanning tree protocol, compatible with STP protocol, to eliminate network loops and enhance network reliability
- Support WEB control, HTTP, and HTTPS protocol access control, with login IP address restrictions
- Support SNMPv1/v2c for information querying, modification, and fault troubleshooting through the MIB network management system, enabling 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 List) based on source/destination IP and MAC addresses to filter specified protocol packets
- Support 802.1X port authentication for authenticating and controlling access permissions for connecting users
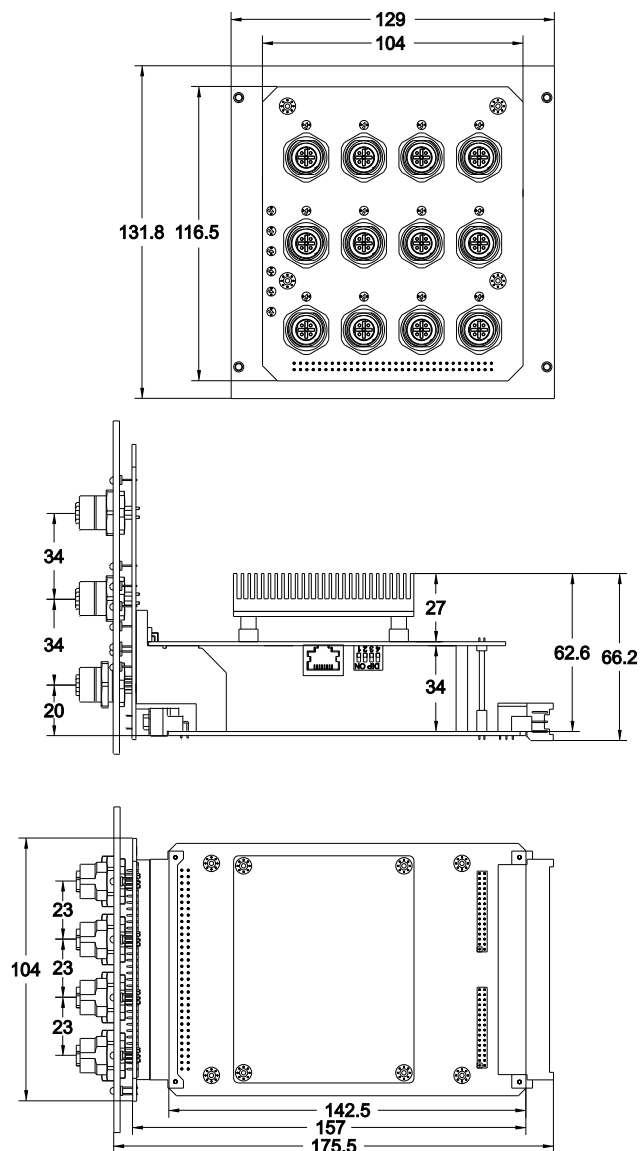
Technical Specifications

Software	
Switching	Support port configuration, port rate limiting, storm suppression, and static port aggregation Support 802.1Q VLAN Support MAC address aging and static unicast MAC address binding
Redundancy	Support MW-Ringv1/v2 private ring network technology Support ERPS (Ethernet Ring Protection Switching) Support RSTP (Rapid Spanning Tree Protocol) and is compatible with STP (Spanning Tree Protocol)
Multicast	Support IGMP Snooping Support GMRP (GARP Multicast Registration Protocol) Support static multicast MAC address binding
Security Management	Support WEB access control Support ACL (Access Control List) for filtering data at L2-L4 layers Support 802.1X port authentication Support alarms and email logs
Management and Maintenance	Support QoS, SNMP v1/v2c, and LLDP Support port mirroring and Ping Support user privilege management, system logs, local or network time synchronization Support online reboot, factory reset, system upgrades, and configuration file upload/download Support centralized management through unified upper-level software
Switch Capability	
Processing Type	Store-and-Forward
Buffer Size	1.5Mbit
MAC Table Size	16K
Interface	

100M Copper Port	16x10/100Base-T(X) auto-sensing copper ports, including 12 ports with 100Mbps using M12 (D-Code 4-Pin Female) connectors and 4 ports brought out through the backplane connector, support full-duplex/half-duplex and auto MDI/MDI-X, support two sets of Bypass functions, where Port1 and Port2 form one set of Bypass, and Port3 and Port4 form another set of Bypass
CONSOLE	1 Console port with an RS232 signal RJ45 connector, used for device debugging
Status LED	Power indicator, Operation indicator, Port indicator

Power Supply

Input Voltage	DC24V
Power Consumption	<8W@DC24V (full load)
Connection	09062486826 (Harting Connector Right-Angle Socket)

Physical Characteristics

Dimensions	157 × 104 × 116.5 mm (the panel is excluded)
Installations	Slide in
Weight	0.65kg

Working Environment

Operating Temp	-40℃~+70℃
Storage Temp	-40℃~+85℃
Relative Humidity	5%~95% (non-condensing)

Industry Standard

EMC	IEC 61000-4-5 (Surge) Standard: Power and Network Ports: Common Mode ±2kV, Differential Mode ±2kV
Certification	CE, FCC, RoHS

Dimensions

Unit: mm

Ordering Information

Standard Model	10/100M Copper Port	Input Voltage
CTS6116BP	8	DC24V

📞 Contact Us

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