CES7106G-3GF-3GT

6-Port Layer 2 Managed Embedded Gigabit Industrial Ethernet Switch

- Support 3*1G SFP ports and 3*1G copper ports, 2*RS485 and CAN port optional
- Support serial port and CAN terminal equipment networking, realizing bidirectional transparent transmission of serial port, CAN-bus and Ethernet (UDP/TCP)
- Support ring redundancy protocols like CS-Ring v1/v2, STP/RSTP to enhance network reliability
- Fast ring redundancy with less than 20ms (CS-Ringv1/v2) improves system communication reliability
- Support DC 9-24V power input
- Operate reliably in harsh industrial environments ranging from -40°C to +75°C

Product Description

CES7106G-3GF-3GT is a layer 2 managed embedded industrial Ethernet switch, designed for industrial applications. It supports 3*1G SFP ports and 3*1G copper ports. This switch utilizes a store-and-forward mechanism, providing robust bandwidth processing capabilities while automatically detecting and reducing transmission errors, ensuring stable, reliable, and efficient data transfer. The product adopts industrial-grade components, high-standard system design, and production control. It can operate reliably in a wide temperature range from -40°C to +75°C. It is suitable for challenging work environments, ensuring stable communication performance.

CES7106G-3GF-3GT supports a range of features and network protocols, including CS-Ring v1/v2, STP/RSTP, VLAN, QoS, static aggregation, port mirroring, static multicast MAC address binding, network diagnostics, alarm and online firmware upgrades. These capabilities enhance network performance, reliability, and security, making it suitable for various complex network requirements. It also supports multiple network transmission modes such as UDP, TCP Client, TCP Server, UDP multicast, etc. to realize CAN/serial terminal device networking. The product has undergone rigorous testing for functionality, temperature resilience, safety compliance, and electromagnetic compatibility (EMC). It meets the demands of complex networks and harsh industrial environments and can be widely applied in areas such as comprehensive energy, smart cities, rail transportation, intelligent traffic, smart factories, industrial automation, and more.

Product Features

- Support rate limiting on egress and ingress packets of broadcast, unknown multicast, and unknown unicast
- Support rate limiting on broadcast and multicast packets and unknown multicast, unicast packets to avoid network storms
- Support QoS (Quality of Service) to prioritize voice, video, and critical data transmission within network devices, addressing network congestion
- Support 802.1Q VLAN, providing Access, Trunk, and Hybrid interfaces for easy division of multiple broadcast domains, enhancing network security
- Support static multicast MAC address binding, reducing the broadcast of multicast data in the network and saving network resources.
- Support static link aggregation, which can increase transmission bandwidth and improve link reliability
- Support alarm function, including alarms such as port disconnection and ring network status
- Support port mirroring to collect data from port ingress and egress for network detection and fault management
- Support RSTP (Rapid Spanning Tree Protocol) compatible with STP (Spanning Tree Protocol) to eliminate network loops and enhance network reliability
- Serial/CAN port supports UDP or UDP multicast mode. Point-to-point, point-to-many or many-to-many communication can be achieved through UDP protocol, which is fast and efficient
- The serial/CAN port supports TCP Client/Server mode, establishing connections through the TCP protocol, providing reliable data transmission. TCP Client can establish 1 connection, and TCP Server can establish up to 4 connections
- Support multiple subcontracting mechanisms to realize CAN/serial port conversion to Ethernet to meet the real-time needs of different networks
- CAN supports normal mode, loopback mode and listening mode, which can be used for normal communication, bus testing and troubleshooting respectively
- Support CAN ID filtering, allowing transmission of standard frames or extended frames within a specified ID range
- Support port statistics, count different types of data frames sent and received, and monitor port traffic
- Support user permission management, like guest and administrator
- Support device online restart, factory settings restoration and system upgrade

Technical Specifications

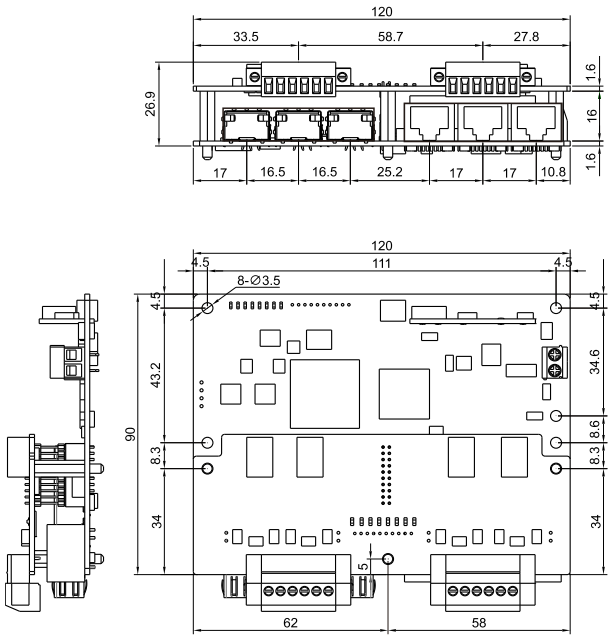
Software	
Switching	Support port configuration, port rate limiting, storm suppression, port aggregation, and port statistics Support 802.1Q VLAN and port-based isolation Support MAC address aging
CAN/Serial Port	Support UDP, TCP Client, TCP Server, UDP multicast and other network working modes Support statistics of the bytes sent and received by serial port and network Support CAN working modes such as normal mode, listening mode, loopback mode, etc. Support CAN ID filtering, CAN frame statistics
Redundancy	Support CS-Ringv1/v2 proprietary ring network technology Support RSTP and is compatible with STP
Management and Maintenance	Support static multicast MAC address binding Support static IP Support QoS, 802.1P/DSCP/port-prioritized mapping, absolute and relative priority control Support port mirroring, ping and alarm Support user permission management, online restart, factory reset, system upgrade, and configuration file upload/download
Switch Capability	
Processing Type	Store-and-Forward
Backplane Bandwidth	14Gbps
Buffer Size	1Mbit
MAC Table Size	2K
Interface	
Fiber Port	3*1000Base-X SFP ports
Copper Port	3*10/100/1000Base-T(X) copper ports, auto MDI/ MDI-X, half and full duplex

Serial Port (optional)	Interface type: 2*RS485 Interface signals: A+, B-, GND Baud rate: 600bps-115200bps Data bits: 7bit, 8bit Stop bit: 1bit, 2bit Check digit: None, odd parity, even parity, Mark, Space Connection method: 6-position 3.81mm pitch locking terminal blocks Terminal resistor: built-in 120Ω terminal resistor, which can be set by jumper cap	
CAN port (optional)	Interface type: 2*CAN port Interface signals: CANH, CANL, GND Baud rate: 5kbps-1000kbps Connection method: 6-pin 3.81mm pitch locking terminal block Terminal resistor: built-in 120Ω terminal resistor, which can be set by jumper cap	
Button	Restart and factory reset button	
Status LED	Power indicator, operation indicator, interface indicator, serial port/CAN indicator, support external indicator	
Power Supply	**CES7106G-3GF-3GT**	**CES7106G-3GF-3GT-2D485-2CAN**
Input Voltage	DC9-24V	
Power Consumption	＜4.8W@DC12V	＜5.5W@DC12V
Connection	5.08mm pitch 2-pin terminal block	
Physical Characteristics		
Dimensions	120×90×16.1 mm	120×90×26.9 mm
Installations	Embedded installation	
Weight	0.1kg	0.15kg
Working Environment		
Operating Temp	-40℃~+75℃	
Storage Temp	-40℃~+85℃	
Relative Humidity	5%~95% (non-condensing)	

Dimensions

Unit: mm

CES7106G-3GF-3GT-2D485-2CAN



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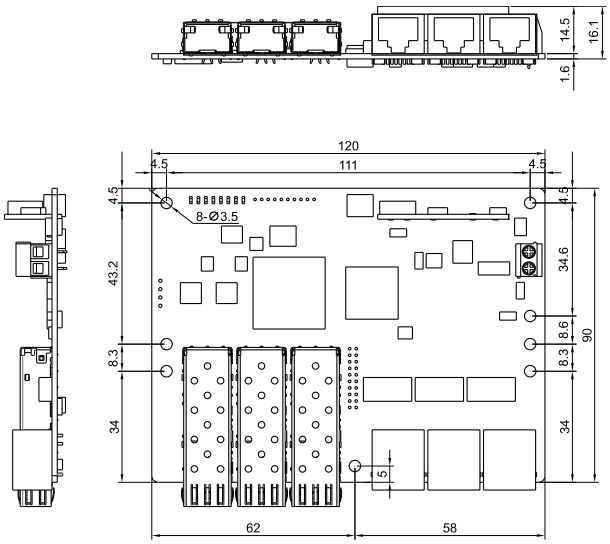

Ordering Information

Standard Model	1G Fiber Port	1G Copper Port	RS485 Port	CAN Port	Input Voltage
CES7106G-3GF-3GT	3	3	/	/	DC9~24V
CES7106G-3GF-3GT-2D485-2CAN	3	3	2	2	

Contact Us

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