CES5105BP Series

5-Port 100M Embedded L2 Bypass Managed Ethernet Switch



- 3x100M fiber ports, 2x100M copper ports, 2xRS485/CAN
- Support 1 set of bypass function, and fiber port 1 and 2 can be directly connected after the device is powered off to ensure the normal operation of the network
- MW-Ring (recovery time < 20 ms @ 200 switches), STP/RSTP for network redundancy
- Support two-way transparent transmission between serial port/CAN bus and Ethernet (UDP/TCP)
- DC6~32V power input with reverse polarity protection and overcurrent protection
- -40°C to +75°C working temperature range

Product Description

CES5105BP series is a 5-port Layer 2 100M Bypass managed embedded industrial Ethernet switch designed and developed for mining industrial communication network applications, integrating serial device networking or CAN device networking, and with fiber port Bypass function. This series of products supports 3x100M fiber ports, 2*x100M copper ports, and options of 2xRS485 or 2x CAN, of which the fiber port supports 1 group of bypass function, which can be directly connected after the device is powered off, bypassing the faulty node, avoiding network interruption, and ensuring the normal operation of the network; It supports DC6 ~32V power input, supports anti-reverse polarity and overcurrent protection, and adopts embedded installation mode to meet the needs of a variety of industrial buses and network sites.

CES5105BP series supports web management functions and multiple network protocols, such as MW-Ring, STP/RSTP, VLAN, QoS, port mirroring, static multicast, bus configuration, storm suppression, port statistics, and online firmware upgrade. It supports UDP, TCP Client, TCP Server, UDP multicast and other network transmission modes, realizes the networking of CAN/serial terminal equipment, and supports serial/CAN port statistics; The system provides user management with different permissions, and supports online restart, upgrade, and factory reset. The hardware adopts intrinsically safe type, wide temperature design, compact size, selected industrial-grade components, supports -40°C ~ +75°C working temperature, the power supply meets the requirements of intrinsically safe circuit design standards, and passes strict safety regulations and EMC tests to meet the application needs of harsh industrial environments.

Product Features

- Port ingress and egress rate control is supported
- Support rate limiting of broadcast, multicast, unknown unicast, suppress broadcast storms
- Support QoS (quality of service), ensure the voice, video, and important data are prioritized in network equipment to solve network traffic
- Support 802. 1Q VLAN and provide Access, Trunk, and Hybrid interfaces to easily divide multiple broadcast domains and enhance network security
- Support static multicast, reducing the number of multicast data broadcast on the network and saving network resources
- Support port mirroring, which can collect data on port ingress and egress, or all of them for network detection and fault management
- The proprietary ring network redundancy protocol (MW-Ring) of less than 20ms enhances the reliability of system communication
- The RSTP spanning tree protocol and is compatible with the STP protocol, which can eliminate network loops and improve network reliability
- Serial/CAN supports UDP or UDP multicast mode, and can realize point-to-point, point-to-many, or many-to-many communication through UDP protocol, which is fast and efficient
- Serial port/CAN supports TCP Client/Server mode, establishes a connection through TCP protocol, provides reliable data transmission, TCP Client can establish 1 connection, TCP Server can establish up to 4 connections
- The serial port supports 600bps-115200bps baud rate
- Support a variety of data packaging mechanisms to realize CAN/serial port to Ethernet to meet the real-time requirements of different networks
- CAN supports 5kbps-1000kbps baud rate, and can customize some effective baud rates between 2.5kbps~1000kbps
- CAN supports normal mode, loopback mode, and monitoring mode, which can be used for normal communication, bus testing, and troubleshooting, respectively
- CAN ID filtering is supported, allowing standard or extended frame transmission with a specified ID range
- Support serial/CAN port sending and receiving data statistics
- Support port statistics, which counts different types of data frames sent and received, and monitors port traffic
- Support management of visitors and administrators, and users with different permissions
- Support online device upgrade and factory reset

Technical Specifications

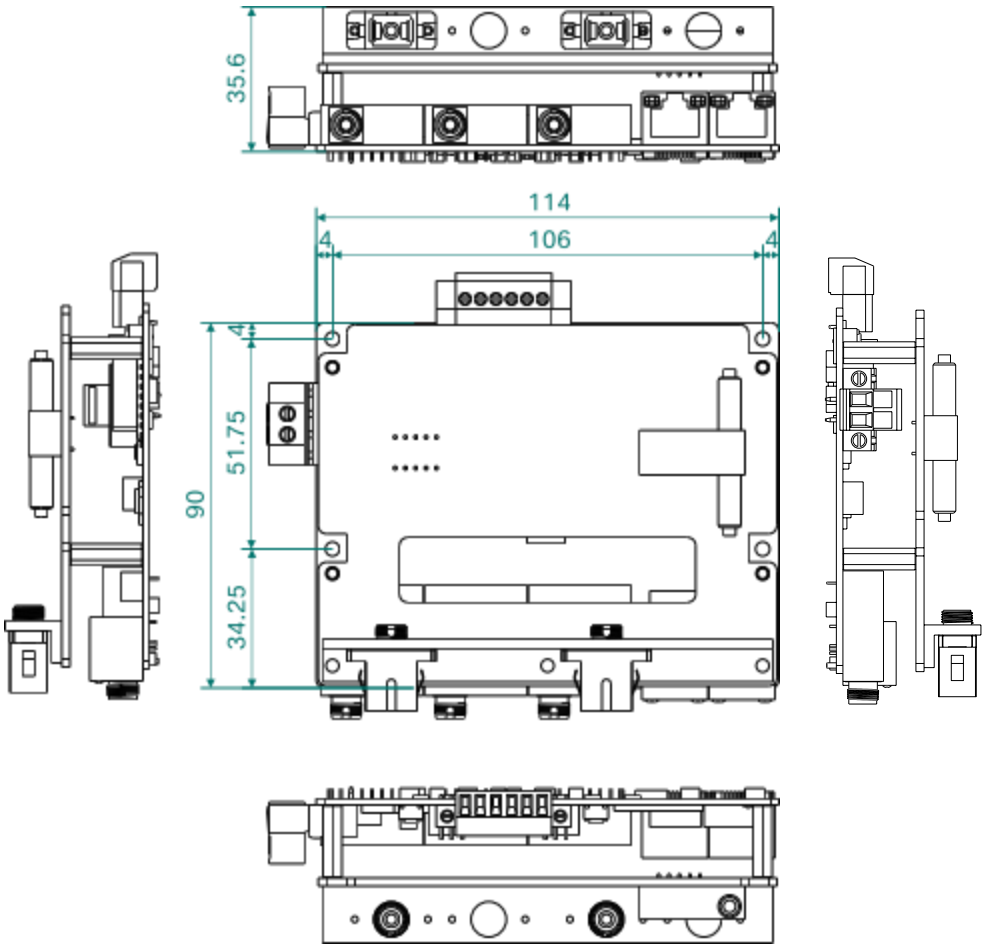
Software	
Switching	Support port configurations, such as rate mode, duplex mode, flow control, etc. Port VLAN and 802. 1Q VLAN are supported; Port ingress/egress rate limiting and storm suppression are supported; MAC address table, received frames, sent frames, and total traffic statistics are supported; Support QoS Quality of Service, 802. 1P/DSCP/Port Priority Mapping, Absolute and Relative Priority Control;
Serial/CAN	Support UDP, TCP Client, TCP Server, UDP multicast and other network working modes; Support statistics on the number of bytes sent and received by serial ports and networks; Support CAN working modes such as normal mode, monitoring mode, and loopback mode; Support CAN ID filtering, CAN frame statistics;
Redundancy	Support MW-Ring proprietary ring network technology; Support RSTP /STP
Multicast	Support static multicast MAC address binding
Maintenance and Management	Support static IP; Support port mirroring and ping; Support management of users with different permissions; Support online reboot, factory reset, system upgrade, configuration file upload/download; Support unified host computer software management;
Switching	
Switching	Store-and-forward
Backplane Bandwidth	1.2G
Buffer Size	768kbit

MAC Address Table	2K
Interface	
Fiber Port	3*100Base-FX fiber ports, support SC/FC/ST connector, single mode/multimode; The wavelength and transmission distance are optional, and fiber port 1 and fiber port 2 support the bypass function
Copper Port	2*10/ 100Base-T(X) auto-sensing RJ45 port, support full/half duplex, auto MDI/MDI-X
CAN Port	Interface type: 2* CAN ports (optional) Interface signals: CANH, CANL, GND Baud rate: 5kbps-1000kbps Connection: 6-position 3.81mm pitch with locking terminal blocks Termination Resistor: Built-in 120Ω termination resistor, which can be set by jumper cap; Isolation voltage: 1.5kVDC
Serial Port	Interface type: 2* RS485 ports (optional) Interface signals: A, B, GND Baud rate: 600bps-115200bps Data bits: 7 bits, 8 bits Stop bits: 1 bit, 2 bits Check digits: None, Odd Check, Even Check, Mark, Space Connection: 6-position 3.81mm pitch with locking terminal blocks Termination Resistor: Built-in 120Ω termination resistor, which can be set by jumper cap Isolation voltage: 1.5kVDC
Button	Restore and factory reset
Indicators	Power indicator, operation indicator, fiber port indicator, serial port indicator, CAN error indicator, copper port rate and connection/activity status indicator, support external indicator
Power	
Power Input	DC6-32V

Full Load Power Consumption	<3.5W@DC12V
Connection Method	2-position 5.08mm pitch locking terminal blocks
Power Protection	Anti-reverse connection, over-current protection
Mechanical	
Dimensions	114×90×35.6 mm (interfaces not included)
Installations	Embedded installation
Weight	0.23kg
Working Environment	
Operating Temp	-40°C to +75°C
Storage Temp	-40°C to +85°C
Relative Humidity	5%~95% (no condensation)
Industry Standard	
EMC	IEC 61000-4-5(Surge): Level 2 ※The network port supports 6kV lightning protection IEC 61000-4-4(EFT): Level 3

Dimensions

Unit: mm (first angle projection)



Ordering Information

Standard Model	100M Fiber Port	100M Copper Port	CAN	RS485	Input Voltage
CES5105BP-2TS-S-SC20-2CAN	2	3	2		DC6~32V
CES5105BP-2TS-S-SC20-2D485	2	3		2	

Contact Us

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