

Cgate3208-8D232/485

8*RS232/RS485 to 2*Ethernet Port Modbus Industrial Gateway



- Support 8 × RS232 or RS485 serial port to 2 × 10/100Base-T(X) auto-sensing Ethernet ports
- Support conversion between Modbus RTU/ASCII and Modbus TCP protocols, and support Modbus RTU/ASCII Over TCP transparent transmission
- Support Modbus slave pre-reading, single port automatically learns up to 256 RTU or 128 ASCII instructions, and pre-reading data to achieve fast response
- Support Modbus address mapping, mapping a single read/write instruction with read/write instructions of multiple addresses, realizing batch read/write with a single instruction
- Support serial port forwarding, realizes transparent transmission of data between the serial port and other serial ports, and provides one-way forwarding/receiving and two-way forwarding control
- Support JSON function, which can convert the collected Modbus slave device data into JSON format and send it to the server
- Support DC 12~48V dual power supply redundant input, support no polarity
- High-strength aluminum alloy casing, IP40 protection level, -40°C to +85°C operating temperature range

Product Description

Cgate3208 is a DIN-rail industrial Modbus gateway designed for high-density serial device integration and reliable protocol conversion in industrial communication networks. It is equipped with 8 RS232 or RS485 serial ports and 2 × 100M Ethernet ports, enabling seamless communication between Modbus RTU/ASCII and Modbus TCP systems. The gateway supports a wide range of industrial and IoT protocols, including UDP, TCP, Modbus, HTTPD, WebSocket, MQTT, OPC UA, IEC 104, and HJ212, while also supporting data acquisition protocols such as DLT645, DLT698, IEC 101, IEC 103, and IEC 104. Dual DC 12~48V redundant power inputs with non-polarity design ensure stable operation and high reliability for continuous industrial applications.

The device supports web-based configuration for flexible network and system management, allowing users to configure serial and network working modes, serial data forwarding, access control, IP/MAC filtering, logging, alarms, and system maintenance functions. Multiple communication and conversion modes, including Modbus Master/Slave, TCP and UDP Client/Server, MQTT Client, OPC UA Server, IEC 104 Server, and Modbus TCP, enable easy integration of legacy serial equipment into modern Ethernet networks. Built with industrial-grade components and enclosed in a high-strength aluminum alloy housing, the Cgate3208 features fanless heat dissipation, low power consumption, wide voltage input, and a wide operating temperature range of -40°C to +85°C. Having passed rigorous safety and EMC testing, it delivers stable performance in harsh environments and is widely used in industrial automation, integrated energy systems, smart cities, intelligent transportation, smart mining, and smart factory applications.

Product Features

- High-performance CPU processing power, Cortex-A7 core, running frequency up to 800MHz
- Two network ports can be configured as independent network segments or cascade ports
- Serial port supports 300bps-460800bps baud rate
- Support UDP Client/Server/Multicast mode. point-to-point, point-to-multipoint or multipoint-to-multipoint communication can be achieved through UDP protocol.
- Support TCP Client/Server mode, establishing session connections through TCP protocol. TCP Client supports up to 16 session connections, TCP Server supports up to 32 session connections, and supports RFC2217 instructions to dynamically modify communication parameters such as serial port baud rate
- Support Pair Connection Master/Slave mode, devices can be used in pairs
- Support Modbus RTU/ASCII Master/Slave mode to realize Modbus TCP and Modbus RTU/ASCII protocol conversion
- Support RealCOM_MCP/CCP/MW mode, maps the network to local COM
- Support HTTPD Client mode and can perform GET or POST operations with HTTPD server
- Support Web Socket Client mode, enabling bi-directional communication with the Web Socket server
- Support OPC UA Server mode, enabling protocol conversion between Modbus RTU, DLT645, IEC101, IEC103, and OPC UA. Through the OPC Unified Architecture, it delivers secure, reliable, and efficient data transmission, facilitating interoperability among devices with different protocols
- Support IEC104 Server mode, enabling protocol conversion between Modbus RTU, Modbus TCP, DLT645, IEC101, IEC103, and IEC104. Delivers advanced remote monitoring and management capabilities;
- Support HJ212 Client mode, enabling protocol conversion between Modbus RTU and HJ212 for environmental monitoring device integration
- Support Modbus TCP mode, enabling protocol conversion between DLT698, IEC101, IEC103, IEC104, and Modbus TCP. Facilitates data exchange between multi-scenario power and meter devices and upper-level software supporting network Modbus protocols
- Support multiple data packaging mechanisms, converts serial port data into Ethernet data packets according to data length or time, to meet the real-time needs of different networks
- Support frame header and trailer mode. The serial port can filter data frames based on the start byte and end byte of the frame
- Support registration package and heartbeat package to realize connection verification and connection status detection
- Support Modbus virtual ID, mapping the real ID of the Modbus slave to a virtual ID for data communication to avoid duplication of slave IDs
- Support DES/ 3DES/ AES/ RC4/ BlowFish and other data encryption algorithms to ensure data security
- Support SSL (TLS1.0/1.1/1.2) connection encryption, one-way/two-way certificate verification, ensuring connection security
- Support HTTP/ HTTPS/ SSH/ TELNET access control, and IP/ MAC address filtering
- Support event alarms such as device restart, login events, configuration changes, password changes, etc., and supports email and SNMP alarm methods
- Support serial port communication parameters, working mode, statistics of sent and received frames
- Support log local storage, network storage and serial port log output
- Support serial port/device restart, factory settings restoration, device upgrade and NTP client
- Support bulk configuration and bulk upgrades

Technical Specifications

Software	
Network Protocol	IP, TCP, UDP, DNS, ARP, SNMP Trap, SSH, ICMP, HTTP, HTTPS, DHCP Client, RFC2217, NTP, SMTP, TELENT
IP Obtaining Method	Static IP/DHCP
DNS Resolution	Support
Configuration	Web configuration Network parameter configuration via CONSOLE port
Simple Transparent Transmission	UDP Client/ UDP Server/ UDP Multicast/ TCP Client/ TCP Server/ RealCOM/ Pair Connection
Modbus	Modbus RTU /ASCII to Modbus TCP
Serial Port Data Package	Time and length can be set; the maximum pack length is 1460 bytes
Data Encryption	DES/ 3DES/ AES/ RC4/ BlowFish
SSL Encryption	TLS1.0/TLS1.1/TLS1.2
TCP Server Connection	The single serial port supports up to 32 * TCP Client connections
TCP Client Connection	Single serial port supports up to 16 * TCP Server connections
Network Buffer	Send: 16 Kbyte; receive: 16 Kbyte
Serial Port Buffer	Send: 16 Kbyte; receive: 16 Kbyte
Heartbeat Package	Support TCP Keepalive, custom heartbeat package content
Registration Package	Customize the registration package content
RFC2217	Support
Serial to Serial Data Forwarding	Users can select the data forwarding rules between the current serial port and other serial ports
Modbus Address Mapping	This feature is only effective in Modbus RTU Slave and Modbus ASCII Slave modes and is mutually exclusive to the Modbus slave pre-read and Modbus slave address mapping features
HTTPD Client	Support
WebSocket Client	Support
MQTT Client	Support

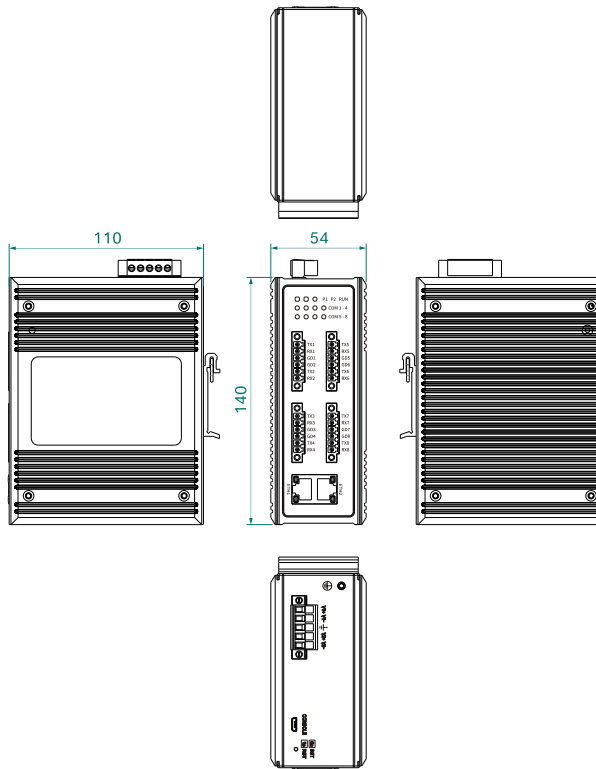
OPC UA Server	Support Modbus RTU, DLT645, IEC101, and IEC103 to OPC UA protocol conversion
IEC104 Server	Support Modbus RTU, Modbus TCP, DLT645, IEC101, and IEC103 to IEC104 protocol conversion
HJ212 Client	Support Modbus RTU to HJ212 protocol conversion
Modbus TCP	Support conversion from DLT698, IEC101, IEC103, and IEC104 to Modbus TCP
JSON	The JSON function is supported in the HTTPD Client, WebSocket Client, and MQTT mode
RealCOM	Support MW, Moxa working modes
Transmission Delay (Average)	<10ms
Supporting Software	Network management configuration tool, virtual serial port software
Interface	
100M Ethernet	2 * 10/100Base-T(X) auto-sensing RJ45 port, full / half duplex, auto MDI/MDI-X, and 1.5kV electromagnetic isolation protection
Serial Port	Serial port type: 8 * RS232 or RS485 Connection: 6-position 3.81mm pitch locking terminal blocks Baud rate: 300bps-460800bps Data bit: 7bit, 8bit Stop bits: 1bit, 2bit Check bit: None, Odd, Even Serial isolation: 2 KVA / 3kVDC isolation protection
CONSOLE Port	1 * CONSOLE port, USB2.0 standard, Micro-B USB2.0 socket
Button	One-click restart and factory reset
Status LED	Power indicator, operation indicator, Ethernet interface SPEED / LINK indicator, serial port indicator
Power Supply	
Input Voltage	Dual DC12~48V power inputs for power redundancy
Power Consumption (full load)	<2.6W@DC24V(RS232), <2W@DC24V(RS485)
Connection	5-position 5.08mm pitch lock terminal block
Protection	Non-polarity
Physical Characteristics	
Dimensions	140×54×110 mm (DIN rail mounting clips excluded)

Installations	Easy installation on 35mm DIN-Rails
IP Code	IP40
Weight	About 0.6kg
Working Environment	
Operating Temp	-40°C to +85°C
Storage Temp	-40°C to +85°C
Relative Humidity	5%~95% (non-condensing)
Industry Standard	
EMC	IEC 61000-4-2 (ESD): Level 4 (contact discharge $\pm 8\text{kV}$ and air discharge $\pm 15\text{kV}$) IEC 61000-4-5 (Surge): Level 4 (Power supply, RS485: common mode $\pm 4\text{kV}$, difference mode $\pm 2\text{kV}$; Ethernet Port: common mode $\pm 6\text{kV}$, difference mode $\pm 2\text{kV}$) IEC 61000-4-4 (EFT): Level 4 (Power supply: $\pm 4\text{kV}$; communication port: $\pm 2\text{kV}$)
Certification	CE, FCC, RoHS

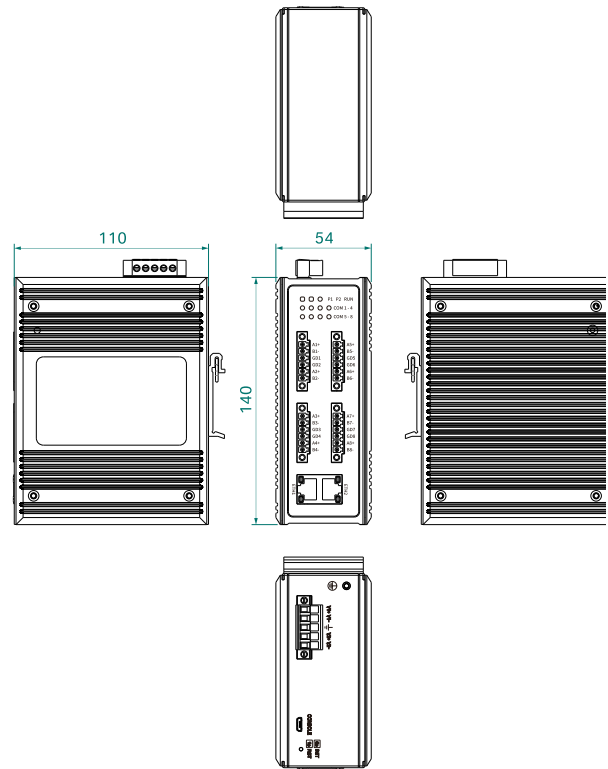
Dimensions

Unit: mm

Cate3208-8D232



Cgate3208-8D485



Ordering Information

Standard Model	100M Copper Port	RS2 32	RS 485	Input Voltage
Cgate3208-8D232	2	8	/	Dual DC12~48V
Cgate3208-8D485	2	/	8	



Contact Us

COME-STAR COMMUNICATION(WUHAN) CO., LTD.

Address: Puneng Industrial Park, Fenghuang Garden 1st Road, East Lake High-Tech Development Zone, Wuhan, China.

Tel: +86-027-59257958

Mail: sales@come-star.com

Official site: www.come-star.com

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