Cgate3202

2 × RS232/485 To 2 × Ethernet Modbus Industrial Gateway

- 2 × RS232/485 serial ports to 2 x 10/100Base-T(X) auto-sensing Ethernet port
- Support conversion between Modbus RTU/ASCII and Modbus TCP protocols, and Modbus RTU/ASCII over TCP transparent transmission
- Support Modbus slave readahead, single port automatically learns up to 256 RTU or 128 ASCII instructions
- 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 direction control
- Support JSON function, which can convert the collected Modbus slave device data into JSON format and send it to the server
- Dual DC9V~60V inputs for power redundancy, non polar
- High-strength aluminum alloy casing, IP40 protection
- -40°C to +85°C operating temperature range

Product Description

Cgate3202 is a compact DIN-rail industrial Modbus gateway designed for reliable serial device networking and protocol conversion in demanding industrial communication environments. Featuring 2*100Mbps Ethernet ports and 2*RS232/RS485 serial ports, it supports seamless conversion between Modbus RTU/ASCII and Modbus TCP while enabling serial data transmission over UDP, TCP, HTTPD, WebSocket, MQTT, OPC UA, IEC 104, HJ212, and other industrial and IoT protocols. The gateway also supports data acquisition protocols such as

DLT645, DLT698, IEC 101, IEC 103, and IEC 104, making it suitable for multi-protocol field integration. Dual redundant DC 9–60V power inputs with non-polarity design enhance power reliability, while the standard DIN-rail mounting allows easy deployment in control cabinets and field installations.

The Cgate3202 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 and 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, RealCOM, and Pair Connection modes, enable efficient integration of legacy serial devices into Ethernet or Modbus TCP networks. Built with industrial-grade components and enclosed in a high-strength aluminum alloy housing, the gateway features low power consumption, wide-voltage input, and reliable fanless operation across a temperature range of -40°C to +85°C. Having passed rigorous functional, safety, temperature, and EMC testing, Cgate3202 delivers stable performance in harsh industrial 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 ethernet ports can be configured as independent network segments or cascade ports
- Serial port supports 300bps-460800bps baud rate range
- Support UDP Client/Server/Multicast mode. Point-to-point, point-to-multipoint or multipoint-to-multipoint communication can be achieved through UDP protocol, which is fast and efficient.
- 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, easy to operate
- 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 WebSocket Client mode, enabling bi-directional communication with the WebSocket 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 JSON, enabling the conversion of collected Modbus slave device data into JSON format for transmission to the server
- 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 Acquisition Method	Static IP/DHCP

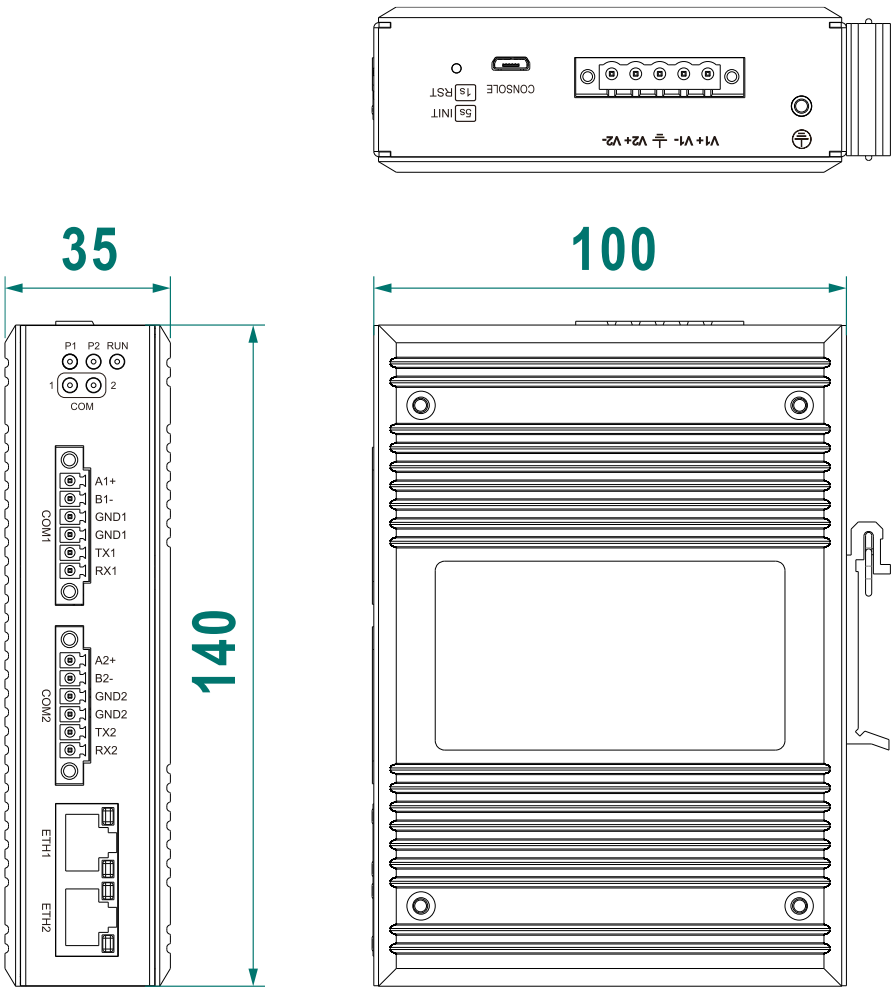
DNS	support
Configuration	Web page configuration/CONSOLE port simple network parameter configuration
Transparent Transmission	UDP Client/ UDP Server/ UDP Multicast/ TCP Client/ TCP Server/ RealCOM/ Pair Connection
Modbus	Modbus RTU /ASCII to Modbus TCP
Serial Port Package	The time and length can be set; the maximum packaging length is 1460 bytes
Data Encryption	DES/ 3DES/ AES/ RC4/ BlowFish
SSL Encryption	TLS1.0/TLS1.1/TLS1.2
TCP Server Connection	One serial port supports up to 32 TCP Client connections
TCP Client Connection	One serial port supports up to 16 TCP Server connections
Network Buffer	Send: 16Kbyte; receive: 16Kbyte
Serial Buffer	Send: 16Kbyte; receive: 16Kbyte
Heartbeat Package	Support TCP Keep-alive mechanism and customize heartbeat packet content
Registration Package	Customized registration package content
RFC2217	Support
Serial Port Forwarding	Users can select data forwarding rules between serial ports
Modbus Address Mapping	This function only takes effect in Modbus RTU Slave and Modbus ASCII Slave modes, and is mutually exclusive with Modbus slave pre-reading and Modbus slave address mapping functions.
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	Support JSON function in HTTPD Client, WebSocket Client, and MQTT modes
RealCOM	Support MW, Moxa working modes
Average Transmission Delay	<10ms
Software Supporting	Network management configuration tools, virtual serial port software
Interface	
100M Ethernet	2 × 10/100Base-T(X) auto-sensing RJ45 ports, full/half duplex, auto MDI/MDI-X, and 1.5kV electromagnetic isolation protection
Serial Port	Serial port type: 2 * RS232/485
	Connection method: 3.81mm pitch 6 PIN terminal block
	Baud rate: 300bps-460800bps
	Data bits: 7bit, 8bit
	Stop bit: 1bit, 2bit
	Check digit: None, Odd, Even
	Serial port isolation: 2kVAC/3kVDC isolation protection
CONSOLE	1 * CONSOLE port, USB2.0 standard, using Micro-B USB2.0 socket
Button	Support one-click restart and factory reset
Status LED	Power indicator, operation indicator, Ethernet interface SPEED/LINK indicator, serial port indicator
Power Supply	
Power Input	DC 9V~60V, dual power supply redundancy
Power Consumption	<1.8W@DC24V (full load)
Connection	5.08mm pitch 5 PIN terminal block
Protection	Non polar
Physical Characteristics	

Dimension	140 × 35 × 100 mm (DIN rail mounting clip excluded)
Installation	DIN rail Installation
IP Code	IP40
Weight	About 0.45kg
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 3 (contact discharge ±8kV, air discharge ±8kV)
	IEC 61000-4-5 (Surge): Level 4 (Power supply, RS485 port: common mode ±4kV, differential mode ±2kV;
	Network port: common mode ±6kV, differential mode ±2kV)
	IEC 61000-4-4 (EFT): Level 4 (power supply: ±4kV; network port, serial port: ±2kV)
Certification	CE, FC, RoHS

Dimensions

Unit: mm



Ordering Information

Standard Model	100M Copper Port	RS232/485	Input Voltage
Cgate3202	2	4	Dual DC9~60V

Contact Us

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