Cgate100

Remote IO Modular Edge Gateway



- 1×100M WAN port, 1×RS232/485, 1×RS485 ports, built-in 15KV ESD serial port protection
- 2×DI, 2×DO, 2×AI, support flexible I/O expansion
- Support LTE 4G CAT-1 cellular network
- 32-bit ARM Cortex-M7 core CPU, up to 400MHz
- Support Modbus TCP-RTU protocol conversion
- Secure serial data transmission via certificate verification, SSL/TLS, HTTPS, TCPS, and MQTTS
- Cloud support: MQTT for AWS IoT, Azure, ThingsBoard, and Alibaba Cloud
- Support edge computing
- DC 9~36V wide input voltage. Level 3 EMC protection
- -20°C ~ +75°C operating temperature

Product Description

The Cgate100 is an intelligent IoT I/O gateway designed for industrial data acquisition and remote device connectivity. It integrates onboard I/O, RS-232/RS-485, Ethernet, and 4G interfaces into a compact modular RTU, making it suitable for industrial monitoring, control, and IoT applications.

Supporting Modbus RTU Master, Modbus TCP, MQTT, HTTP, and other protocols, this industrial intelligent gateway collects data from serial devices and onboard I/O, performs protocol conversion and edge data processing, and transmits data to SCADA systems, cloud platforms, or web applications. It supports MQTT connectivity with platforms such as AWS IoT, Microsoft Azure, ThingsBoard, and Alibaba Cloud.

The modular mechanical design simplifies installation and maintenance, while industrial-grade features such as -20°C to +75°C operation, 15 kV ESD protection, and secure SSL/TLS communication ensure reliable operation in demanding environments. By connecting legacy serial devices to Ethernet, the Cgate100 also provides a practical way to extend the service life of existing equipment and integrate it into modern industrial networks.

Product Features

- 2 × serial ports: 1 × RS-232/RS-485 and 1 × RS-485
- Onboard I/O: 2 × analog inputs (4–20 mA), 2 × digital inputs, and 2 × digital outputs with linkage control
- Expandable I/O with additional I/O modules
- 1 × 10/100 Mbps Ethernet with Auto MDI/MDIX
- 4G CAT1 cellular connectivity for remote industrial data access
- Remote access to industrial serial devices over the Internet
- Flexible communication modes: TCP Server, TCP Client, UDP, HTTP Client, and WebSocket Server
- Baud rate from 0.6 to 230.4 Kbps with flexible parity settings
- Flexible serial data framing and packet segmentation
- Virtual COM support for Windows
- Modbus TCP/RTU support for seamless Ethernet-to-Serial communication
- Modbus RTU Master, Modbus gateway, MQTT gateway, and edge computing
- SNMP v1/v2c support
- MQTT connectivity for AWS IoT, Microsoft Azure, ThingsBoard, Alibaba Cloud, and more
- SSL/TLS encryption and certificate verification, with HTTPS, TCPS, and MQTTS support
- Configuration via Windows configuration tool or web browser
- Firmware upgrades via web browser or Windows configuration tool
- 32-bit Arm Cortex-M7 SoC with up to 400 MHz processing speed
- 15 kV ESD protection for serial ports
- Industrial operating temperature: -20°C to +75°C

Technical Specifications

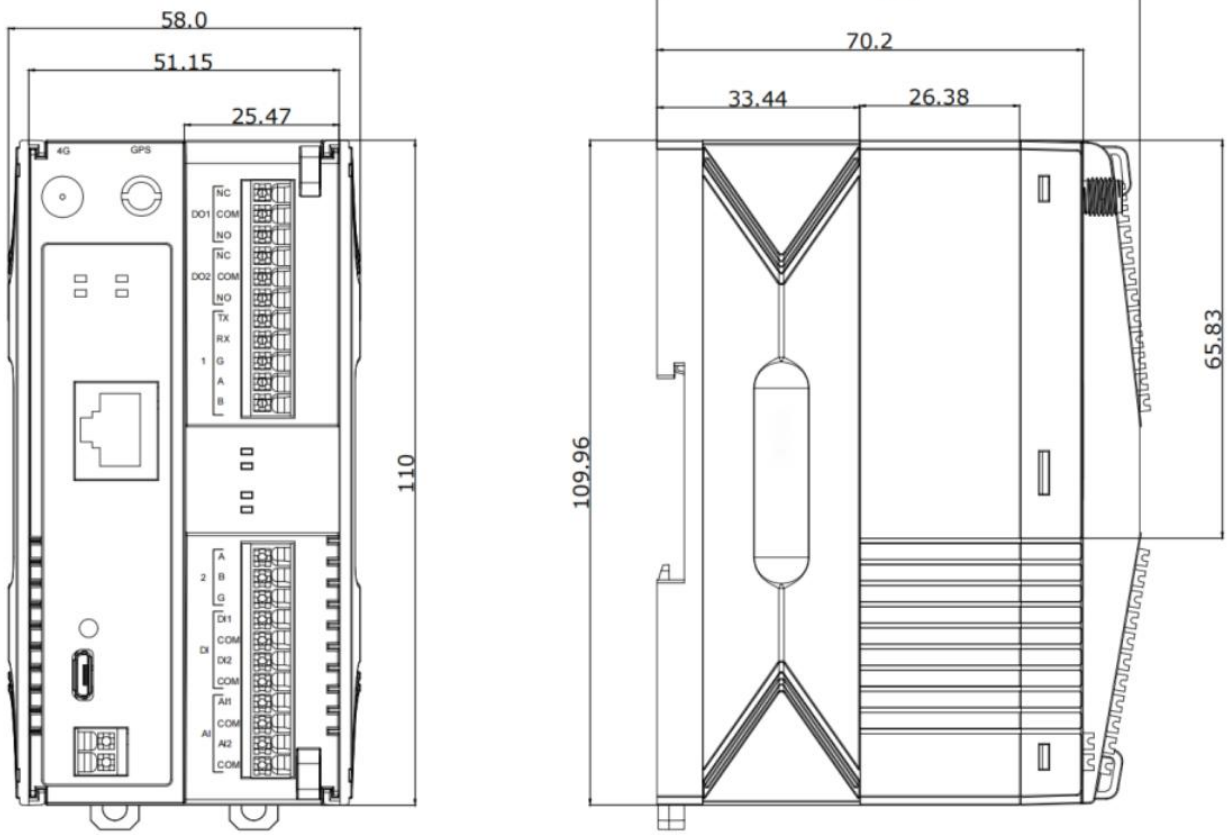
Power Supply	
Input Voltage	9V – 36 VDC, reverse polarity protection, surge protection
Power Consumption	Idle: < 2.4W, Max: < 4.8W
Serial Port	
No.	1 × RS-232/RS-485 and 1 × RS-485
Connection	RS232 terminal block connector: TX, RX RS485 terminal block connector: A, B
Baud Rates	600~230400 bps
Data Bits	7,8
Stop Bits	1,2
Parity	None, Even, Odd, Mark, Space
Flow	None, XON/XOFF
Physical Interface	
DI	2 × Digital non-isolated inputs (0-2 V detected as logic low, 9-36 V detected as logic high)
DO	2 × Relays
	DC contacts rating@R(at resistive load)10A / 28VDC
	AC contacts rating@R(at resistive load)10A / 277VAC, NO
	AC contacts rating@R(at resistive load)5A /250VAC, NC
AI	2 × Analog input 4-20mA
Physical Specification	
Dimensions (W × H × D)	79.6mm*58mm*110 mm

Mounting Options	DIN rail, wall mounting
Hardware Protection	
ESD	IEC61000-4-2, Level 3, class B, contact 6KV, air 8KV
Surge	IEC61000-4-5, Level 3, class B
EFT	IEC61000-4-4, Level 3, class B
Status LEDS	
Power	ON: Gateway is powered up
	OFF: Gateway is not powered up
Work	When the device is working properly, it blinks for 1s frequency
NET	Blinking when the WAN connects to the internet
	OFF when there is no work
DATA	Blinking when the serial port is transmitting data
DO	Light on, the channel output is activated
DI	Light on, the channel is activated by the input signal
Network	
Cellular	LTE TDD: Band 34/38/39/40/41 LTE FDD: Band 1/3/5/8 GSM: 900/1800MHZ
ETHERNET	1 × WAN port 10/100 Mbps, compliance with IEEE 802.3 and IEEE 802.3u standards, supports auto MDI/MDIX
Software	
Network Protocols	ICMP, IPv4, IPv4, ARP, TCP, UDP, DHCP, DNS, HTTPS, MQTT, SNMP, Telnet, NTP, SSL v3
IP	DHCP/Static IP

Websocket	Supported
MQTT	Supported, standard MQTT protocol, 16 subscription topics and 16 publish topics
Linkage Control	Supported. Data collection points, DI, and AI can be used as triggers and executed by DO
IOT PLATFORMS	Alibaba cloud, AWS IOT, Microsoft Azure, ThingsBoard
User Configuring	Windows Utility, web console (HTTP)
Operating Environment	
Operating Temperature	-20 °C to 75 °C
Operating Humidity	10% to 90% (non-condensing)
Ingress Protection Rating	IP30
MODBUS RTU Master	
Supported Functions	01, 02, 03, 04
Supported Data Formats	8-bit: INT, UINT; 16-bit: INT, UINT (MSB first); 32-bit: float, INT, UINT (ABCD (big-endian), DCBA (little-endian), CDAB); 64-bit: float
Supported Data Points	128
Certifications	
Certifications	CE, FCC, RoHS

Dimensions

Unit: mm (first angle projection)



Ordering Information

Product Model	Ethernet Port	Serial Ports	Temperature
Cgate100	1×100M WAN	1×RS232/485 1×RS485	-20 °C to 75 °C
Cgate100-ET			-20 °C to 75 °C
Cgate100-EAU			-40 °C to 75 °C

Product Model	Cellular	Supported regions	Supported Frequency Bands
Cgate100	LTE Cat1	China, India	LTE TDD: B34/38/39/40/41 LTE FDD: B1/3/5/8 GSM: 900/1800MHZ
Cgate100-ET	/	Global	/
Cgate100-EAU	LTE Cat4	Europe, Middle East, Africa, Southeast Asia, Australia	LTE FDD: B1/3/5/7/8/20/28 LTE TDD: B38/40/41 WCDMA: B1/5/8 GSM/GPRS/EDGE: 850/900/1800MHz



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