Embedded Automation & Cloud Application

CGate-05 IoT Modbus Devices Cloud Gateway

ver 1.1

- Suitable for Modbus Devices IoT Application
- Cloud monitoring and cloud backup applications
- Active Instant Modbus Slave device Monitoring Management
- Web instant monitoring and management functions
- RS-485 Modbus-RTU Slave device connection port
- Ethernet Modbus-TCP Slave device connection port
- Modbus proxy server function
- Standard TCP/IP Network Communication Interface

Product Features

Easy Setting, Plug & Play

Just need to connect the Modbus devices to CGate-05 series and complete basic settings, CGate-05 will take the initiative and regularly to read the information and store it in SQL database. No additional program development, just through the Web Console can reach all the basic operations.

Web HMI, full-featured, easy to operate(web console)

Web Console functions in CGate-05 allow users to cross-platform in different operating system (Windows、Linux…)、different hardware environment (PC、Pad、Smart Phone…)，by simply using the graphic interface displayed in built-in standard Web Browser on the host，easy to understand and easy to use，which can make real-time monitoring、settings、operating information query and upgrading operations。

Active Alarm

CGate-05 could have exclusive alarm parameters for its connected devices and specified monitoring point individually. When alert occurs, it can not only send Email but also process instant DO change via extended I/O module connected to GPIO connector as alarm notification (equipped with LLD-M13 dedicated 4ch DI+4ch DO I/O extension module) and record the alerts status in database。

Database Architecture, easy for Cloud application

CGate-05 adopts SQL-Based database architecture，mainly recorded the machine and operation related settings, also stored in the system record of the machine。 CGate-05 operation status log (Log) can be stored in the local storage space, but also can be expanded by SD card capacity.

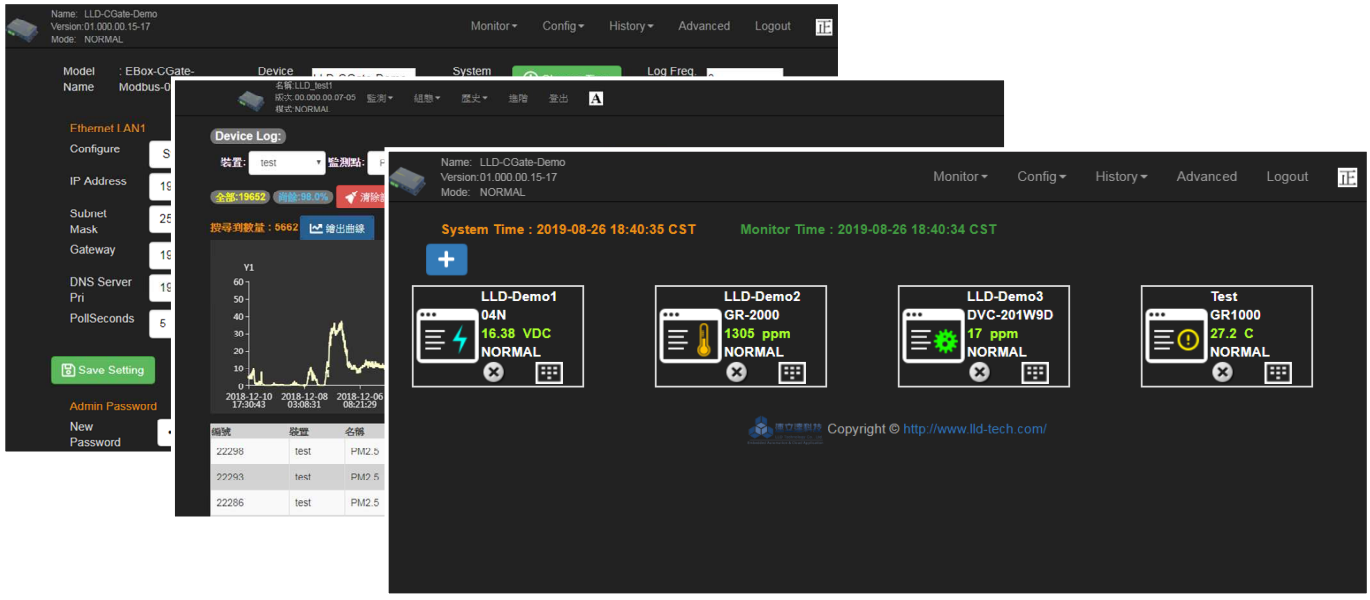
The database stored in CGate-05 can achieve the database synchronization request through standard SQL database functionality to be read from remote or cloud host, to facilitate the subsequent data analysis jobs

Add New Modbus devices by yourself

CGate-05 can set the Modbus Slave device by "adding" the connected device。 In addition to the built-in original connectable device menu，users can add other undefined Modbus Slave devices and their detailed parameters through the Web Console to make the connected devices more completed。

Modbus proxy server function (Modbus Agent)

CGate-05 can integrate Modbus Register and Coil of all connected devices into its own Register and Coil. The remote monitoring host or HMI can serve as the Modbus-TCP Master for remote management.



Suitable Application

☆ Solar Power Monitoring ☆ Measurement Instruments (IoT) ☆ Saving Application ☆ Intelligent Building Environment Monitor ☆ Automatic Smart Meter Reading

Product specifications

Applications

Modbus-RTU Instant device monitoring and management

- Type of Connecting devices：Modbus-RTU / Modbus-TCP Slave
- Total monitoring points：1024 (per CGate-05)
- Single device monitoring points：32 (each Modbus Slave device)
- Max. no. of connected devices@RS-485 ：8 (less than total 256 monitoring points)
- Max. no. of connected devices@Ethernet：32 (less than total 1024 monitoring points)
- Monitoring：Real-time Status

Web Monitoring

- Function：Modbus device real-time status、System Parameters setting
- Protection：Login password
- Display language：TC、English
- Advanced function：Firmware upgrade
- Remote connection：5 max.

Operation Log

- Content：System operation status
- System status record：10,000 nos. (System log)
- Monitoring point status record：8GB (>10M nos. device log.)

Database Application

- Function：Modbus device real-time status、System record
- Specification：MySQL Compatible

Advanced Modbus protocol application: Modbus Agent

- Integrating information from Modbus-RTU devices becomes the monitoring points of CGate-05 itself
- Protocol：Modbus-TCP Slave
- Modbus-TCP Slave device integration：1,024 points max.
- Remote Modbus-TCP Master connection：4 max.

Type of Connecting Devices

User defined Modbus Slave Equipment

- Communication Format：Modbus-RTU、Modbus-TCP
- Modbus-RTU Slave Address 1~127 / UID：0~127
- Coil/Register：32 max @ 1 Modbus Slave device
- Communication Interface：RS-485, Ethernet
- RS-485 Baud Rate：1,200 ~ 115,200 bps
- RS-485 Parity Bit：None, Even, Odd,
- RS-485 Data Bits：5, 6, 7, 8
- RS-485 Stop Bit：1, 2 bits

Ordering Information

CGate-05 IoT Modbus Devices Cloud Gateway

Optional Accessories

LLD-M01 8-ch Digital Input (Dry/Wet selectable) and 8-ch Relay Output I/O Expanding Module

LLD-M13 5-ch Digital Input (4-ch Dry +1-ch Wet) · 4-ch C-Type Relay Output I/O Expanding Module

DK-A01 3-fix points aluminum DIN-Rail Kit

DK-P01 Plastic DIN-Rail Kit

Hardware

- System Core：Allwinner H3 1.2GHz (ARM® Cortex-A7)

Network Interface

- Quantity：1
- Type：10/100BaseT Ethernet
- Connector：RJ45

RS-485 Modbus-RTU Interface

- Quantity：4
- RS-485 Signal：Data+, Data-, GND
- Built-in Terminal Resistor：120/600 Ω，setup by DIP Switch
- Pull High/Low resistor：1K/10K Ω，selected by DIP Switch
- Protection：2KV Isolation protection, 2KV ESD Static protection, 400W Surge protection
- Connector：5.00mm 3-pin Pluggable Terminal Block x 4

Instant Alarm DO

- GPIO：16 points
- Connector: 2.54mm 10x2 simple box header *1
- Corresponding I/O Module：LLD-M01, LLD-M13

Simple Human Interface

- Dip Switch：2 points
- LED Indicator：power, network, serial port, operation Status
- Buzzer：1 set

Log backup expansion

- Micro SD * 1 (need to open the case)

Power

- Working Voltage：DC 9~24VDC
- Power Connector：5.00mm 2-pin terminal block
- Power Consumption：<24W (Not include USB device connected)

Reserved Interface

- USB: 1 (A Type)

Others

- Cooling Fan 5VDC Output：1 (need to open the case)
- Real Time Clock：1 set
- Applicable Temperature/Humidity：-20~70℃ / 20%~80% RHG
- Material/Dimensions：192 x 131 x 35 mm (fix boarder incl., terminal block excl.)
- Certification：CE, FCC

Exterior Schematic diagram