

- ✓ Cloud Application SQL Database Architecture
- ✓ Suitable for Modbus Devices IoT Application
- ✓ Active Instant Modbus-RTU equipment Monitoring and Management
- ✓ Initiative to save Modbus-RTU equipment operating information
- ✓ Provides Web real-time monitoring and management capabilities
- ✓ High capacity SD storage of historical operating information
- ✓ 2-Channel RS-485 Modbus-RTU connection ports
- ✓ 2 standard TCP/IP Network Communication Interfaces
- ✓ Multiple Digital Control points (Digital Input/Output)
- ✓ 32-bit RISC Embedded Core
- ✓ Some other Communication Interfaces (RS-232 · USB · Analog Input etc.)



Product Features

✕ Easy Setting, Plug & Play

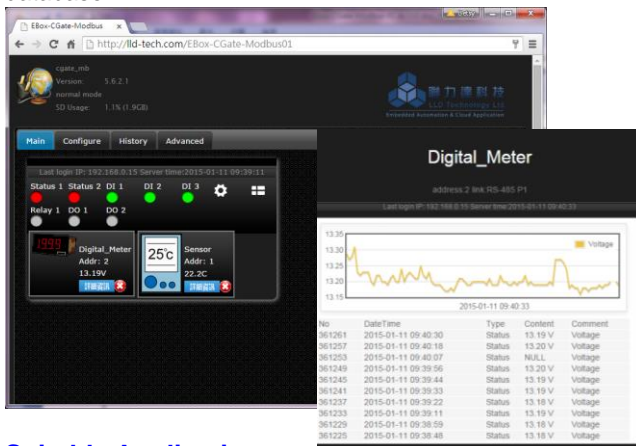
Just need to connect the Modbus devices to EBox-CGate and complete basic settings, EBox-CGate will take the initiative and regularly to read the information and store it in SQL database. No additional program development, just through the Web Console can reach all the basic operations.

✕ Web HMI · Full-featured, easy to operate

Web Console functions in EBox-CGate-Modbus-01 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 all settings · real-time monitoring · on line data analysis and historic data upload and other operations.

✕ Active Alarm

EBox-CGate-Modbus-01 could have exclusive alarm parameters for its connected devices individually. When alert occurs, it can send Email and process instant DO change as alarm notification, and record the alerts status in database.



Suitable Application

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

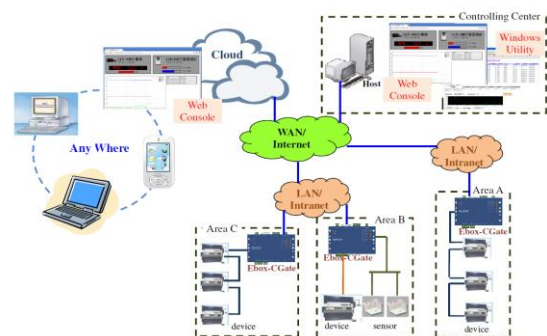
✕ Database Architecture, easy for Cloud application

EBox-CGate-Modbus-01 adopts SQL-Based database architecture · mainly store records for immediate operational status, history log and all relevant settings · The database stored in EBox-CGate can not only set initiative upload function, but also achieve the database synchronization request through standard SQL database functionality to read data from remote or cloud host, to facilitate the subsequent data analysis jobs.

✕ Complete communication and control functions

In addition to the 2 sets of RS-485 interfaces can connect to the Modbus devices and 1 set of 10/100M Ethernet can be networked, EBox-CGate-Modbus-01 could process the field side instant control through 3 sets of Digital Input and 3 sets of Digital Output · such as sound and light alarm... · It also has 1 more set of 10/100Mbps Ethernet · 1 set of RS-232 serial port · 1 set of Analog Input and 1 set of USB interface as further needs of different systems or devices feature extended spare interface · increase the system flexibility of the usage of EBox-CGate-Modbus-01.

EBox-CGate雲端分散式設備監控架構圖



Product Specifications

Applications

Modbus-RTU Instant device monitoring and management

- ▶ Type of Connecting devices : Modbus-RTU Slave
- ▶ Max. no. of connected devices : 32
- ▶ Monitoring : Real-time Status 、 Alarm Process
- ▶ Management : Message Record 、 Alarm Record 、 Active Sync

Web Console

- ▶ Function : Instant status visit 、 System Configuration 、 Records check and upload 、 Upgrade
- ▶ Protection : Login Password
- ▶ Communication Encryption : SSL optional

Database Application

- ▶ Function : Real-time status 、 System Configuration 、 Running Record(in SD)
- ▶ Specification : SQL Compatibility
- ▶ Capacity : 16GB Max (in SD)

Active Alarm

- ▶ Function : Email 、 Instant DO change

Other functions

- ▶ User defined remote monitoring : APP 、 Window Utility

Cloud Services

Main Program function in Cloud host (To be planned by user)

- ▶ Distributed EBox-CGate Management : Real-time Monitoring 、 historic data aggregated and analysis
- ▶ Management Interface : Web Console
- ▶ Protection : Login Password
- ▶ Communication Encryption : SSL optional

Type of Connecting Devices

Digital Meter (Built-in and could be selected by Menu)

- ▶ Brand : Chitai
- ▶ Model : CTEC713P-AAA 、 CTEC04N-DV3YAN-A

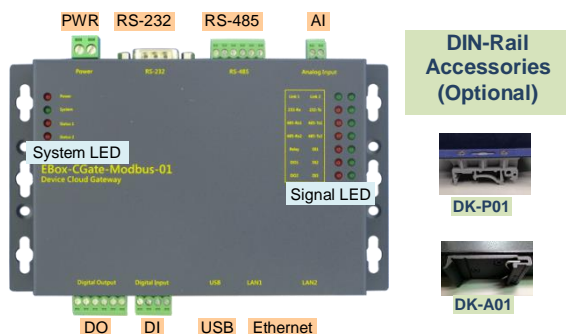
Hygro Meter (Built-in and could be selected by Menu)

- ▶ Brand : Gigarise
- ▶ Model : GA1000 、 GA3000

User defined Modbus-RTU Equipment

- ▶ Communication Format : Modbus-RTU
- ▶ Modbus-RTU Slave Address : 1~127
- ▶ Holding Register : 16 Max @ 1 Modbus-RTU device
- ▶ Coil : 16 Max @ 1 Modbus-RTU device
- ▶ Communication Interface : RS-485
- ▶ Baud Rate : 300 ~ 921,600 bps
- ▶ Parity : None, Even, Odd, Mark, Space
- ▶ Data Bits : 5, 6, 7, 8
- ▶ Stop Bit : 1, 1.5, 2 bits

Exterior Schematic diagram



Hardware

- ▶ System Core : 400MHz ARM RSIC Embedded Platform

Network Interface

- ▶ Quantity : 2 sets
- ▶ Type : 10/100BaseT Ethernet
- ▶ Connector : RJ45

RS-485 Modbus-RTU Interface

- ▶ Quantity : 2 sets
- ▶ RS-485 Signal : Data+, Data-, GND (Support Auto Data Direction Control)
- ▶ Multi-Drop Nodes : 400
- ▶ Built-in Terminal Resistor : 120Ω · Set up by Jumper
- ▶ Protection : 2KV isolation protection, 2KV ESD static protection, 400W Surge protection
- ▶ Connector : 3.5mm pluggable Terminal block

Analog Input

- ▶ Quantity : 1 set
- ▶ Signal Type : 0~20mA or 0-10VDC(by switch)
- ▶ Resolution : 12-bit
- ▶ Connector : 3.5mm terminal block

Relay Output

- ▶ Quantity : 1 set
- ▶ Signal Type : SPDT relay
- ▶ Input Voltage : 1A@120VAC / 1A@24VDC

Digital Output

- ▶ Quantity : 2 sets
- ▶ Signal Type : Open Collector
- ▶ Drive ability : 200mA

Digital Input

- ▶ Quantity : 3 sets
- ▶ Input Voltage : 5~24VDC
- ▶ Signal Type : Sink mode

Protection / Connector for DI/DO

- ▶ Protection : 2000Vrms Optically isolated protection
- ▶ Connector : 3.5mm pluggable terminal block

SD Expansion Interface (Need to open the case)

- ▶ Quantity : 1 set Micro SD Slot
- ▶ Capacity : 32GB Max(Built-in 4GB)

Simple Human Interface

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

Reserved Interface

- ▶ RS-232 : 1 set (DB9)
- ▶ USB : 1 set (A Type)

Power

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

Others

- ▶ Real Time Clock : 1 set
- ▶ Applicable Temperature/Humidity : 0~50°C / 20%~80% RHG
- ▶ Material/Dimensions : galvanized steel sheet / 151 x 95 x 31mm
- ▶ Certification : CE, FCC

Purchase Information

EBox-CGate-Modbus-01 Cloud Gateway for Modbus equipments