

- ✓ Suitable for Modbus Devices IoT Application
- ✓ Cloud monitoring and cloud backup applications
- ✓ Active Instant Modbus Slave device Monitoring Management
- ✓ Actively save Modbus Slave device operation information
- ✓ Web real-time monitoring and management functions
- ✓ RS-485 Modbus-RTU Slave device connection port
- ✓ Ethernet Modbus-TCP Slave device connection port
- ✓ Standard TCP/IP Network Communication Interfaces



## Product Features

### Easy Setting, Plug & Play

Just need to connect the Modbus devices to EBox-CGate and complete basic settings, CGate-02 will take the initiative and regularly to read the information and store in SQL database. No additional program development, users can reach all the basic operations just through the Web Console.

### Web HMI, Full-featured, easy to operate(Web Console)

Web Console functions in CGate-02 allow users to cross-platform in different operating system (Windows · Linux, iOS...) · 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-02 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 (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-02 adopts SQL-Based database architecture · mainly store records for immediate operational status, history log and all relevant settings · The database stored in CGate-02 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 ·

### Add New Modbus devices by yourself

Except built-in devices from the pop-up menu to be connected in CGate-02 · user could add new Modbus slave devices by defining the detail parameters through Web Console on your own · to let you connect various kind of devices more easily ·

### Modbus-TCP Protocol (Modbus Manager)

Except through standard SQL API() to communicate with CGate-02 · user can make Modbus Register for all devices be integrated Register in CGate-02 itself · let remote monitoring host or HMI process remote management through the role of Modbus-TCP Master ·

The screenshots show the web console interface for the EBox-CGate-Modbus-03 device. The left panel shows configuration options for network (DHCP, IP address, gateway, DNS), serial (RS-485 P1), and GPIO. The middle panel shows a device status card for 'test PM Module PM2.5' with a 'NORMAL' status. The right panel shows a 'Device Log' section with a line graph of PM2.5 values over time and a table of log entries.

編號	裝置	名稱	日期	數值	原始值(Hex)	狀態
22298	test	PM2.5	2018-12-10 17:30:43 CST	5	0005	NORMAL
22293	test	PM2.5	2018-12-10 17:30:20 CST	5	0005	NORMAL
22286	test	PM2.5	2018-12-10 17:28:20 CST	5	0005	NORMAL
22279	test	PM2.5	2018-12-10 17:26:22 CST	5	0005	NORMAL
22272	test	PM2.5	2018-12-10 17:24:22 CST	5	0005	NORMAL
22265	test	PM2.5	2018-12-10 17:22:20 CST	4	0004	NORMAL

## Suitable Application

- ☆ Solar Power Monitoring
- ☆ Measurement Instruments (IoT)
- ☆ Saving Energy 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
- ▶ Max. no. of monitoring points : 512 (per CGate-02)
- ▶ Single device monitoring points : 32 (each Modbus Slave device )
- ▶ Connected devices per RS-485 port : 8 (less than total 256 monitoring points )
- ▶ Max. no. of monitoring devices@Ethernet : 16 ( less than total 512 monitoring points )
- ▶ Monitoring : Real-time operating Status 、 Alarm Process

#### Web Monitoring

- ▶ Function : Modbus device real-time status 、 System parameters setting
- ▶ Protection : Login Password
- ▶ Display language : TC 、 English
- ▶ Advanced function : Firmware upgrade
- ▶ No. of remote connection : 4 max.

#### Operation Log

- ▶ Content : General operation Status
- ▶ Capacity : 1,000,000

#### Database Application

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

#### Active Alarm

- ▶ Function : Email 、 Instant DO control, Log record

#### Advanced Modbus protocol application: Modbus-TCP Slave

- ▶ Integrating information from Modbus-RTU devices becomes the monitoring points of EBox-CGate itself
- ▶ Modbus-TCP Slave device Integration: 512 points max.
- ▶ Remote Modbus-TCP Master connections: 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 : None, Even, Odd,
- ▶ RS-485 Data Bits : 5, 6, 7, 8
- ▶ RS-485 Stop Bit : 1, 2 bits

### Ordering Information

**CGate-02** IoT Device 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
- DA-A01** 3-fix points aluminum DIN-Rail Kit
- DA-P01** Plastic DIN-Rail Kit

### Hardware

- ▶ System Core : TI Sitara AM3358 1.0GHz (ARM @ Cortex-A8)

### Network Interface

- ▶ Quantity : 1
- ▶ 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)
- ▶ Built-in Terminal Resistor : 120Ω · Set up by Jumper
- ▶ Protection : 15KV ESD static protection, 400W Surge protection
- ▶ Connector : 3.50mm pluggable Terminal block

### Instant Alarm - Digital I/O Control (GPIO)

- ▶ Quantity : 16 points
- ▶ Signal Type : 3.3V CMOS
- ▶ Connector: 2.54mm 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, Status, control signal
- ▶ Buzzer : 1 set

### Power

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

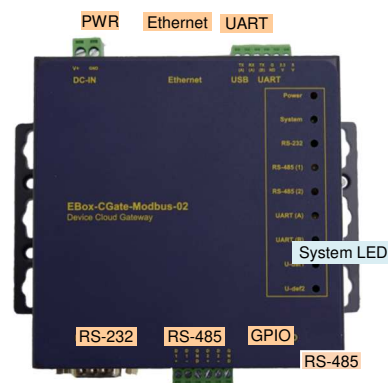
### Reserved Interface

- ▶ UART: 2
- ▶ RS-232: 1
- ▶ USB: 1 (A Type)
- ▶ Micro SD: 1 (Reserved function / need to open case)

### Others

- ▶ Real Time Clock : 1 set
- ▶ Applicable Temperature/Humidity : 0~70°C / 20%~80% RHG
- ▶ Material/Dimensions : galvanized steel sheet / 128 x 105 x 35mm  
(fix boarder incl., terminal block excl.)
- ▶ Certification : CE, FCC

### Exterior Schematic diagram



### DIN-Rail Accessories (Optional)



### DIO Expansion Module (Optional)

