I/O Control Modules

Dimensions						228 x109 x 33mm
						24V AC/DC
	RS-485	Ethernet	AI / AO	DI / DO	DOR	Discription
EBox-RIO-04	2	--	--	20/0	--	Modbus Remote I/O with 2 RS-485, 20DI
EBox-RIO-07	2	--	20/0	--	--	Modbus Remote I/O with 2 RS-485, 20AI
EBox-RIO-09	2	--	--	12/8	--	Modbus Remote I/O with 2 RS-485, 12DI+8DO
EBox-RIO-11	2	--	12/8	--	--	Modbus Remote I/O with 2 RS-485, 12AI+8AO
EBox-RIO-14	2	--	6/2	4/4	2	Modbus Remote I/O with 2 RS-485, 4DI+4DO+6AI+2AO+2Relay
EBox-RIO-E02	2	1	--	32/0	--	Ethernet Modbus Remote I/O with 2 RS-485, 32DI
EBox-RIO-E04	2	1	--	20/0	--	Ethernet Modbus Remote I/O with 2 RS-485, 20DI
EBox-RIO-E09	2	1	--	12/8	--	Ethernet Modbus Remote I/O with 2 RS-485, 12DI+8DO
EBox-RIO-E14	2	1	6/2	4/4	2	Ethernet Modbus Remote I/O with 2 RS-485, 4DI+4DO+6AI+2AO+2Relay

Product Features

- TCP/IP Ethernet plus dual RS-485 Interface
- Diverse I/O Configurations
- Standard Modbus Communication Interface
- Diverse Power Configuration
- RS-485 possess Modbus-RTU Master/Salve Function

EBox-RIO-04
Remote I/O Module
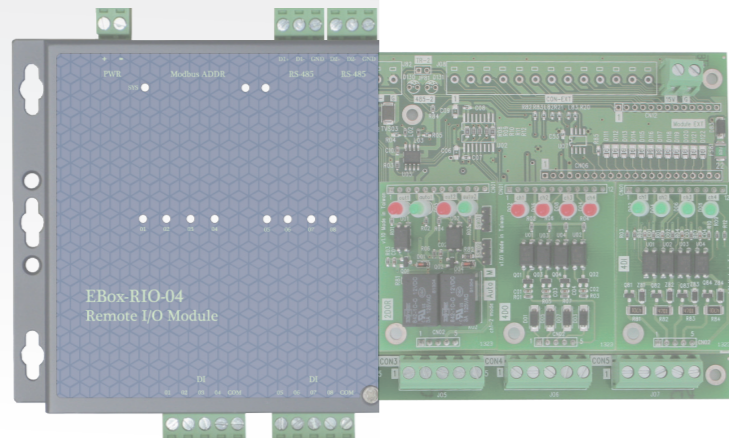
Benefit

⭐ Provide System developer the most simple and diverse I / O control product

⭐ Different base I/O module combination, reduce inventory cost for system developers

⭐ Simultaneously at least two (proximal and distal) Host monitoring

⭐ Suddenly there is a small number of monitoring points increase, it can amplify the fewest I/O points at the lowest cost through basic I/O modules

⭐ Save AC/DC power converter configuration in monitoring field site

⭐ Low threshold for customization

Application

Central Air Monitoring: Air conditioning exhaust fan/ blower Monitoring Climate Control Box control…

Distal Centralized Monitoring: Intelligent Buildings weak current Monitoring, Judge available parking spaces…

Simple Switch Control: Hotel housekeeping service Notification (RCS) Locker Switch Management…

Direct Digital Control (DDC): Emergency Alert System, Fire Monitoring System Preservation Monitoring System…

Specified I/O Expansion Module

ModIO-AIAO	ModIO-AI	ModIO-AO	ModIO-DI	ModIO-DO	ModIO-DOR
AI Quantity : 2 AO Quantity : 2	Quantity : 4 points	Quantity : 4 points	Quantity : 4 points	Quantity : 4 points	Quantity : 2 points

ModIO-12DI	ModIO-12DO
Quantity : 12 points	Quantity : 12 points

LLD-ModbusIO / DDC

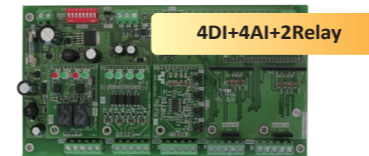| Model No.	LLD-ModbusIO-01	LLD-DDC8-01	LLD-DDC32E-01	LLD-ModbusIO32E-01
Mechanism	Control board dimensions：200 x 107 x 23 mm / Installed IO module：200 x 107 x 27 mm			
Power Supply	24V AC/DC			
Hardware				
Network interface			✓	
RS-485	1 or 2		2	
I/O Control point	32 or 20		32	
Software				
DDC (Direct Digital Control)		✓		

Product Features

Provide a self, elastically attached I/O module design with optional DI/DO/Relay/AI/AO etc.
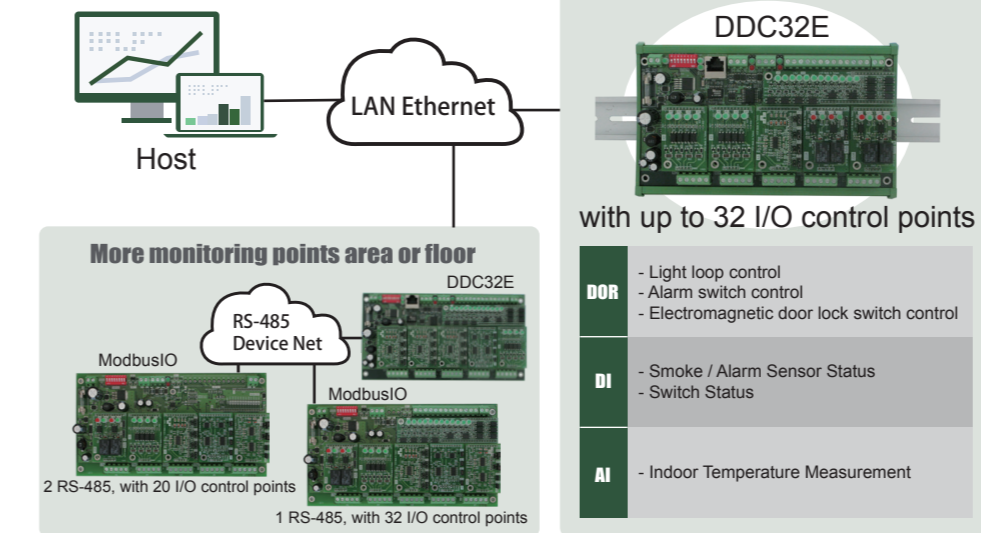
I/O modules control up to 32 points for each motherboard

Ethernet type LLD-DDC32-01E can expand up to 64 RS-485 type LLD-ModbusIO-01
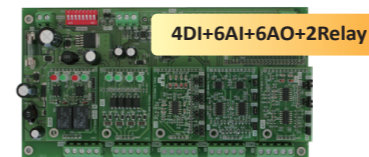
4DI+6AI+6AO+2Relay
Elastically I/O module design
4DI+4AI+2Relay

Example

Host

LAN Ethernet

Fewer monitoring points area or floor

DDC32E

with up to 32 I/O control points

More monitoring points area or floor

DDC32E

ModbusIO

ModbusIO

RS-485 Device Net

2 RS-485, with 20 I/O control points

1 RS-485, with 32 I/O control points

DOR	- Light loop control - Alarm switch control - Electromagnetic door lock switch control
DI	- Smoke / Alarm Sensor Status - Switch Status
AI	- Indoor Temperature Measurement

連立達科技
LLD Technology Co., Ltd.
Embedded Automation & Cloud Application

2016 Product Overview

EBox-CGate

Cloud Gateway

EBox-CGate-Modbus-01

Working Voltage	DC 9~24 VDC
Dimensions	151 x 95 x 31mm

Cloud Services	
Distributed Management	✓
Management Interface	✓
Protection	✓
Communication Encryption	✓

Hardware	
Network Interface	✓
RS-485 Modbus-RTU Interface	✓
Analog Input	✓
Digital Input/Output	✓
SD Expansion Interface	✓
Reserved Interface : RS232, USB	✓

EBox-CGate-SCADA-01

Working Voltage	DC 9~40 VDC
Dimensions	124 x 105 x 32mm

Cloud Services	
Distributed Management	✓
Management Interface	✓
Protection	✓
Communication Encryption	✓

Hardware	
Network Interface	✓
RS-485 Modbus-RTU Interface	✓
Analog Input	
Digital Input/Output	
SD Expansion Interface	✓
Reserved Interface : GPIO, USB, UART	✓

Product Features

- Easy Setting, Plug & Play
- Web HMI, Full-featured, easy to
- Architecture, easy for application
- communication and ctions
- rm

Benefit

⭐ High cost-effective front-end controller

⭐ Provide Cloud services, meet IoT(Internet of Things) trend

⭐ Direct SQL data exchange with remote or cloud host, save cost for another SCADA monitoring host

⭐ Diverse setting mode, can save complicated setting time for connected devices

⭐ Built-in G-Byte level data storage space, can be used for system data back up

⭐ With Digital I/O, can process direct field side light/sound alarm without external equipment

Application

🌱 **Green Energy Industry:** Solar Power Monitoring system, Wind Power Monitoring system

🖥 **Intelligent Control:** Public hydropower automatic meter reading system, Electricity sharing for retal house, Server room rental power management, Saving classroom system

📟 **General Purpose Monitoring:** IT room Monitoring, Intelligent Building, Public facilities and weak current monitoring, Large factory environment monitoring

Intelligent Power Management Server

EBox-CGate-PMS-01

Applications	
Management Interface	Web Console, SQL DB direct setup
Intelligent Power Management	Current overload treatment Current overload alarm range Current overload alarm message delivery

Hardware			
▷ Number of input Power : 1		▷ Working voltage : 90V~260 VAC	
▷ Number of output Power : 8		▷ Voltage range : +/- 2% @ 90V~260V	
▷ Active Power : +/- 2% @ 50W~5000W			

Working Voltage	90V~260 VAC
Dimensions	215 x 432 x 44.45mm

EBox-AIO

Multi-I/O control Computer

	EBox-AIO-001	EBox-AIO-002	EBox-AIO-004	EBox-AIO-005
Working Voltage	DC 24VDC	DC 9~24VDC	DC 9-40VDC	DC 9~24VDC
Dimensions	350 x 203 x 44mm	145 x 93 x 35mm	124 x 105 x 32mm	145 x 93 x 35mm

Software				
	Linux			
Protocol stack	IPv4, IPv6, ICMP, ARP, DHCP, NTP, TCP, UDP, FTP, Telnet, HTTP, PPPoE, CHAP, PAP, SMTP, SSL, SSH			
Daemons	ssh, syslog/klogd, telnet server, ftp server, MySQL, PHP, Web server(lighttpd), amgrd(IP broadcast search)			

Hardware				
Network Interface	1	2	1	2
USB Interface	2	1	1	1
Serial port	RS-232 x 2 RS-485 x 2	RS-232 x 1 RS-485 x 2	RS-232 x 1 RS-485 x 2 UART x 2	RS-485 x 4
Input / Output	Analog Input x 8 Analog Output x 8 Digital Input x 8 Relay Output x 8 GPIO x 8	Analog Input x 1 Digital Input x 3 Digital Output x 2 Relay Output x 1	GPIO x 16	Analog Input x 1 Digital Input x 3 Digital Output x 2 Relay Output x 1

Product Features

- Built-in embedded Linux Operating System
- Standard system development environment
- Suitable for database and webpage monitoring applications
- Common analog acquisition and control interface
- Complete digital signal control interface
- Multifunctional communication function
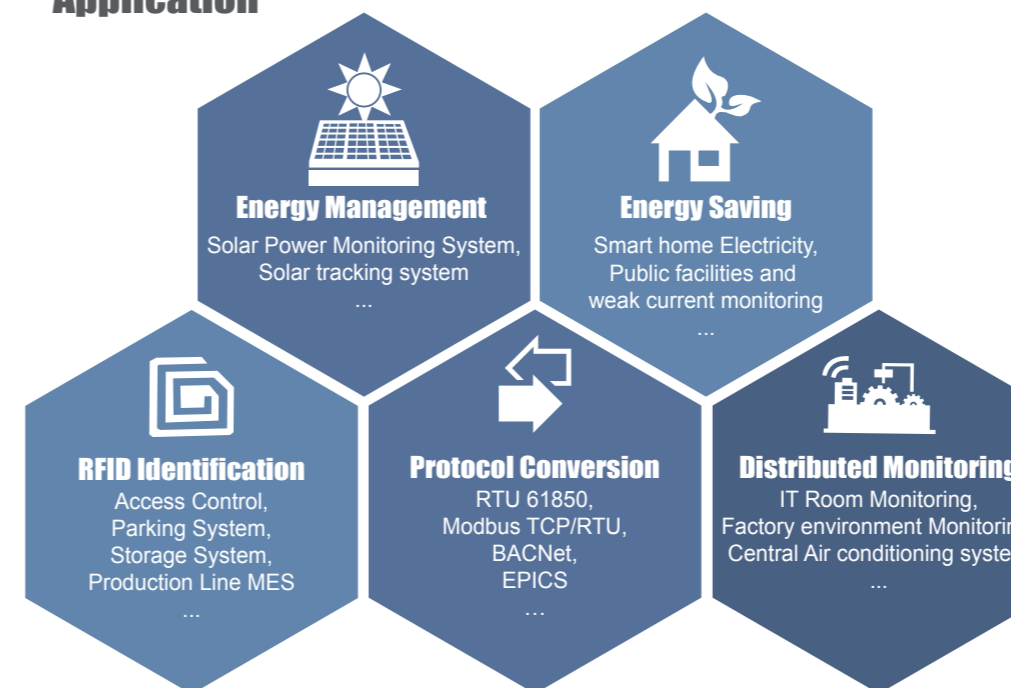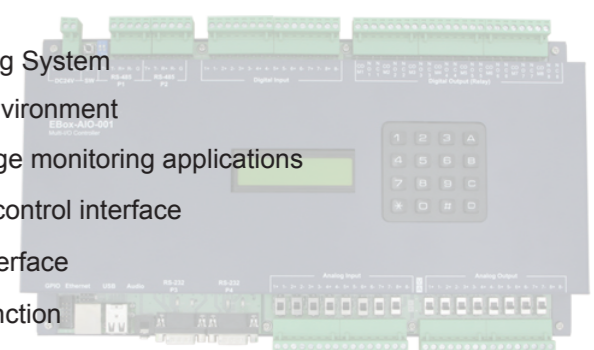
Benefit

⭐ Most cost-effective front controller with full network functionality

⭐ ARM RISC + Embedded Linux, immediately complete front-end data processing and protocol conversion

⭐ Communication and control interface complete IoT applications for a variety of equipment, instruments and sensors connected

⭐ Built-in Web Server to be the simplest remote monitoring interface

⭐ To execute MySQL Client and Server at the same time, to be front-end data buffer with a plug-in SD

⭐ With SSH / SSL / ASE encryption for transmission, improve data security for network communications

⭐ Support SNMP、SMTP、FTP、Telnet、NTP etc. advanced network protocol

⭐ Full interface surge, isolation protection，improve the reliability of the machine itself and overall system

Application

Energy Management
Solar Power Monitoring System,
Solar tracking system
...

Energy Saving
Smart home Electricity,
Public facilities and
weak current monitoring
...

RFID Identification
Access Control,
Parking System,
Storage System,
Production Line MES
...

Protocol Conversion
RTU 61850,
Modbus TCP/RTU,
BACNet,
EPICS
...

Distributed Monitoring
IT Room Monitoring,
Factory environment Monitoring,
Central Air conditioning system
...