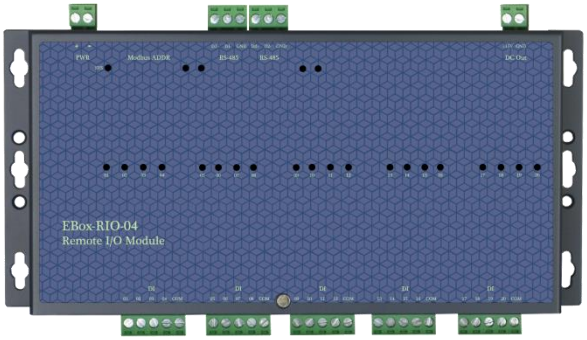
EBox-RIO Series Remote I/O Modules

- Compound I / O combination · Suitable for various monitoring applications
- Dual RS-485 Communication Interface
- Standard Modbus-RTU Protocol
- Relay digital output control(Relay DO)
- Open collector digital output control (Open Collector DO)
- Optically isolated digital input control interface (Isolated DI)
- Analog input control interface (AI)
- Analog output control interface (AO)
- 24V DC/AC power supply model



Product Introduction

EBox-RIO is a series RS-485 interface Remote I/O control modules · each EBox-RIO model is provided with 20 I/O points。EBox-RIO series provide different model number depending on various Digital Input / Output or Analog Input / Output configurations · so that allow users to find the most suitable product according to a variety of different application requirements。EBox-RIO series play the best role as the information transmission equipment with the remote host or device by standard Modbus-RTU communication protocol

Diverse I/O Configurations

EBox-RIO Remote I/O Modules configure 20 different monitoring points according to different models · i.e. one EBox-RIO-E can also have the Digital Input · Digital Output · Analog Input 、Analog Output etc. multiple monitoring points。

Dual RS-485 Communication Interface

EBox-RIO is equipped two RS-485 communication interface 。Let EBox-RIO series can not only communicate with remote monitoring host via one RS-485 port · but also communicate with proximal end host (such as small HMI panel) or old host via another RS-485 to make system configuration more flexible。

Diverse Power Configuration

EBox-RIORemote I/O Modules working voltage could be 24V AC or 24V DC。

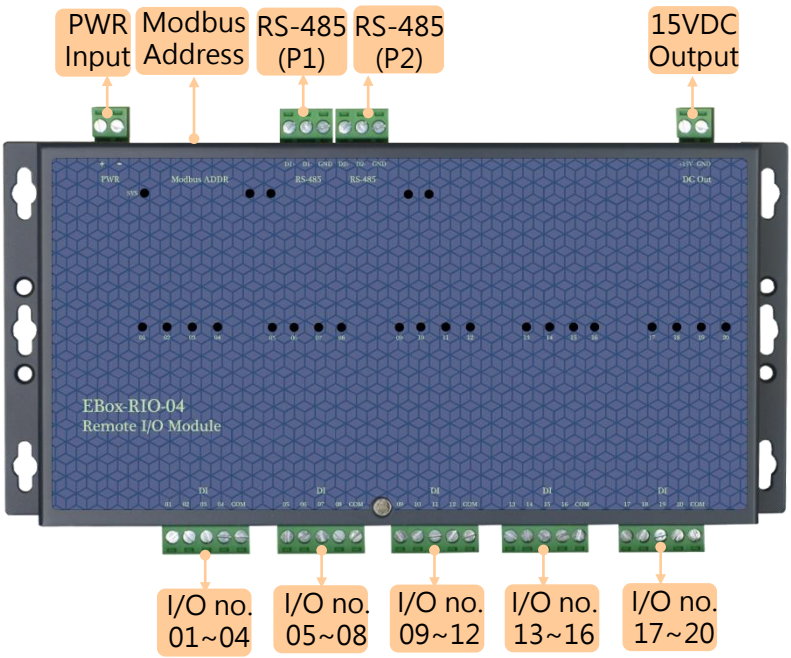
We have designed a set of 15V@200mA DC Output for EBox-RIO · Mainly used as various types of sensors and sensing power supply。

The combination characteristic of 15V DC Output and available with 24V AC input power designed in EBox-RIO could save part of the planning and configuration cost of power adapter for those sensors · such as central air conditioning monitoring applications。

Standard Modbus Communication Interface

The RS-485 Interface with Modbus-RTU Protocol。All digital control points could be monitored via standard coil and all analog signals could be conducted data access via register。

EBox-RIO Exterior Description



Product Basic Specifications

System Core

- MCU：ST STM8L15xR8
- Memory：64KB FLASH, 4KB SRAM, 2KB EEPROM

RS-485 Serial Port Interface

- Quantity：2
- RS-485 Signal：Data+, Data-, GND
- Protection：15KV ESD and 400W Surge Protection, 2KVrms isolation protection(RS-485 P1 only, Optional)
- Connector：5.00mm 3-pin terminal block
- Baud Rate：4,800 ~ 115,200 bps
- Parity：None, Even, Odd
- Data Bits：8
- Stop Bit：1, 2 bits
- Terminal resistance：Built-in 120Ω (Need to open enclosure and insert Jumper)

I/O Points

- No. of points：20
- Function：DI / DO / AI / AO / Relay (per Model no.)
- Connector：5 * 5-pin 5.00mm terminal block

Power Spec.

- Working Voltage：24V AC/DC
- Power connector：2-pin 5.00mm Terminal Block
- Protection：1A fuse (Open enclosure)
- Power Consumption：1~11W(15VDC Output excluded)　(vary depending on different models)
- VDC Output：15V DC @ 200mA
- Power connector：2-pin 5.00mm Terminal Block

Others

- LED Indicator：Power · Serial Port
- DIP Switch：MODBUS Slave Address
- Size：228 x109 x 33mm (incl. mounting ear)
- Applicable temperature：0~50℃
- Applicable humidity：20%~80% RHG
- Certification：CE/FCC

I/O points specifications

Analog Input Control

- Signal Type：4~20mA / 0-10VDC / NTC (Open enclosure to setup by jumper)
- Resolution：12-bit
- Protection：OP input buffer

Analog Output Control

- Signal Type：4~20mA or 0-10VDC(Open enclosure to setup by jumper)
- Resolution：12-bit
- Protection：OP output buffer

Relay Output Control

- Signal Type：SPDT Relay

  Ch-A：N.O. / COM

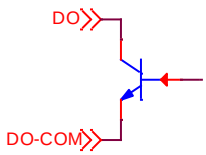
  Ch-B：N.O./ N.C. / COM
- Control Mode：Automatic / Manual Control(Open enclosure to setup by jumper)
- Contact capacity：1A@120VAC, 2A@24VDC
- Signal protection: 2000Vrms optically isolation protection
- LED indicator：DO status

Isolated Digital Input Control

- Mode：Wet Contact / sink mode
- Input voltage range：5~24VDC
- Input protection：2000Vrms optically isolation protection
- LED indicator：DI status

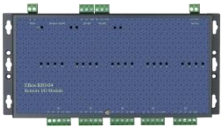
Isolated Digital Output Control

- Signal Type：Open Collector
- Load capacity：5~30 VDC @ 200mA
- Signal protection：2000Vrms optically isolation protection
- LED indicator：DO status



EBox-RIO Series Model No. Description:

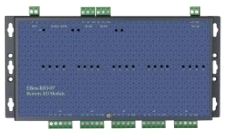
EBox-RIO04



Modbus Remote I/O with 2 RS-485, 20DI

- 20DI : Coil 0x00~0x13

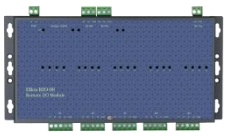
EBox-RIO-07



Modbus Remote I/O with 2 RS-485, 20AI

- 20AI : Register 0x00~0x1F

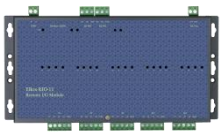
EBox-RIO-09



Modbus Remote I/O with 2 RS-485, 12DI+8DO

- 12DI : Coil 0x00~0x0b
- 8DO : Coil 0x0c~0x13

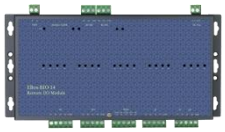
EBox-RIO-11



Modbus Remote I/O with 2 RS-485, 12AI+8AO

- 12AI : Register 0x00~0x0b
- 8AO : Register 0x0c~0x13

EBox-RIO-14

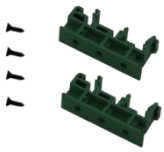


Modbus Remote I/O with 2 RS-485, 4DI+4DO+6AI+2AO+2Relay

- 4DI : Coil 0x00~0x03
- 4DO : Coil 0x04~0x07
- 2Relay : Coil 0x0a~0x0b
- 6AI : Register 0x0c~0x11
- 2AO : Register 0x12~0x13

Accessory

DK-P01



DIN-Rail Kit

- 數量 ：2 個
- 螺絲 ：4 個