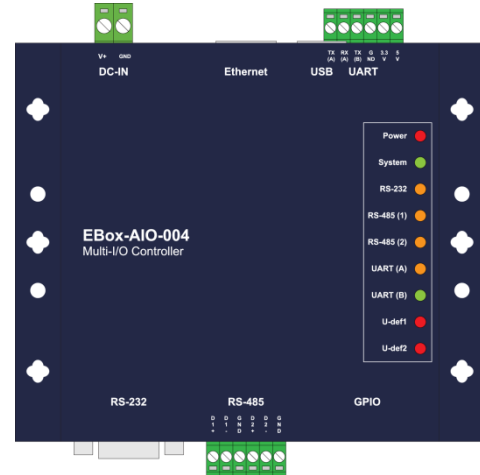


EBox-AIO-004 Multi-I/O Controller

- ✓ ARM® Cortex®-A8 32-bit RISC low power consumption core
- ✓ Built-in embedded Linux Operating System
- ✓ 1-Channel standard TCP/IP network communication interface
- ✓ RS-232(1-Ch) /RS-485(2-Chs) /UART(2-Chs) serial equipment data transmission communication
- ✓ 16 Digital Input/ Output Control Points (GPIO)
- ✓ USB / SD expandable interface
- ✓ Built-in Web Server
- ✓ Built-in MySQL Database
- ✓ Linux specific Software Development Kit



Product features

✘ ARM® Cortex®-A8 RISC low power consumption architecture, high stability

EBox-AIO-004 adopts TI 1-GHz Sitara™ ARM® Cortex®-A8 32-Bit RISC Processor, with 512MB DDR3L SDRAM and 4GB MMC Flash as system core, With built-in 3.8.x embedded Linux operating system, it is suitable for low power consumption and high communication performance requirements for industrial automation applications.

✘ Multifunctional communication function

EBox-AIO-004 has 1 set of Ethernet interfaces and 802.11 Wi-Fi or 3Gwireless network interface expandable via USB interface to make network communication seamless.

EBox-AIO-004 has 5 sets of 921.6Kbps high-speed serial ports, with full-duplex RS-232 and UART interface for complete signals or half-duplex RS-485 interface with ability to connect 256 multi-drop nodes, allowing EBox-AIO-004 to easily connect all kinds of monitoring equipment and meters.

✘ Complete digital signal control interface(Digital I/O)

EBox-AIO-004 has 16-point GPIO digital control signal interface which could be set as Digital Input or Digital Output through the program, to be used with a variety of I / O adapter board, easy to reach the proximal control applications

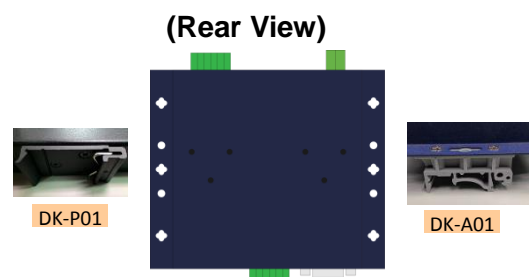
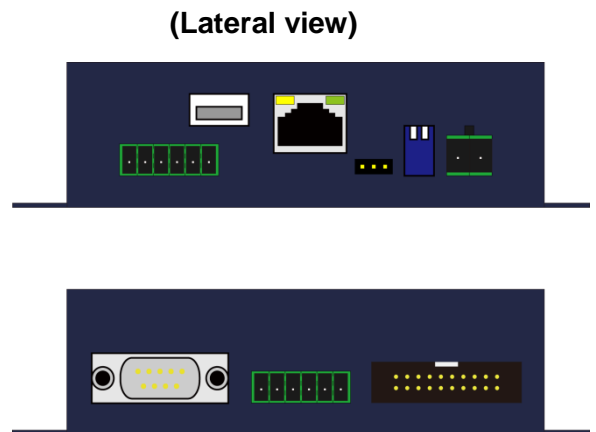
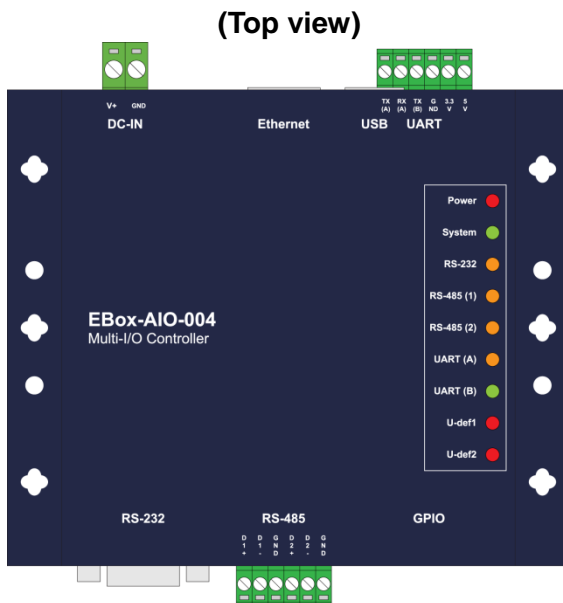
✘ Simple and easy human machine interface

EBox-AIO-004 has 1 set of 2-point DIP Switch and 2 program controlled LEDs, allowing developers to easily set system operating mode (default/running) and display system operating status(normal/error).

✘ Suitable for database and webpage monitoring applications

EBox-AIO-004 has built-in MySQL Database for users to set up, record and exchange status message via database framework, It can also work with common PHP/Java Script to easily accomplish remote monitoring system development.

Exterior schematic diagram



Product specifications

Hardware

System Core

- ▶ CPU : Sitara AM3358BZCZ100 1GHz, 2000 MIPS (A8)
- ▶ Memory : 512MB DDR3L 800MHZ SDRAM,
Onboard 4GB eMMC FLASH

Network Interface

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

RS-232 Serial Port Interface

- ▶ Quantity : 1 Set
- ▶ Signal : TxD, RxD, GND
- ▶ Protection : 15KV ESD Static · 400W Surge Protection
- ▶ Connector : DB9 Male

RS-485 Serial Port Interface

- ▶ Quantity : 2 Sets
- ▶ RS-485 Signal : Data+, Data-, GND
(support Auto Data Direction Control)
- ▶ Multi-Drop Nodes : 256 (1/8 Load)
- ▶ Built-in Terminal Resistor : 120Ω · By Jumper
- ▶ Protection : 2KV ESD Static, 400W Surge Protection
- ▶ Connector : 3.50mm pluggable terminal block

UART Serial Port Interface

- ▶ Quantity : 2 Sets
- ▶ UART(A) Signal : TxD, RxD, GND
- ▶ UART(B) Signal : TxD, GND
- ▶ Connector : 3.50mm pluggable terminal block

Serial Port Communication Parameters

- ▶ 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

Digital I/O Control (GPIO)

- ▶ Quantity : 16 points
- ▶ Signal Type : 3.3V CMOS
- ▶ Connector : 2.54mm simple box header

USB Interface

- ▶ Quantity : 1 Set
- ▶ Type : USB 2.0
- ▶ Connector : Single (Type A)

SD Expansion Interface

- ▶ Quantity : 1 Set (need to open the case)
- ▶ Connector : Micro SD Slot

Mechanism

- ▶ Size : 124 x 105 x 32 mm (incl. fix boarder)
- ▶ Material : galvanized steel sheet

Power

- ▶ Working Voltage : DC 12-40VDC
- ▶ Power Connector : 5.00mm pluggable terminal block
- ▶ Power Consumption : < 20W (not include USB device)

Others

- ▶ Real Time Clock : 1 Set
- ▶ Buzzer : 1 Set
- ▶ LED indicator : power, network, serial port, control signal,
user defined
- ▶ Applicable temperature : 0~70°C
- ▶ Applicable humidity : 20%~80% RHG
- ▶ Certification : CE, FCC

Software

Core

- ▶ OS: Linux kernel 3.8.x
- ▶ Bootup from : eMMC or SD card

Protocol stack

- ▶ IPv4, ICMP, ARP, DHCP, NTP, TCP, UDP, FTP, Telnet,
HTTP, PPPoE, CHAP, PAP, SMTP, SSL, SSH

Software Development

- ▶ Toolchain: gcc 4.9.2 + glibc 2.2.2
- ▶ Supports in-place C/C++ code compilation

Package Management

- ▶ Debian packages (deb format)
- ▶ standard apt-get command

Support Services (some are Pre-Installed)

- ▶ SSH terminal server, iptables, Web server (lighttpd), PHP /
Perl / Python / NodeJS, Sqlite3, Mysql, Busybox / vim /
nano /sed ,Webmin, udev

Purchase information

- ▶ **EBox-AIO-004** Multi-I/O Controller

Optional Accessories

- ▶ **CD12V** 100~240V AC to 12VDC Power Adapter (US Type)
- ▶ **LLD-M01** 8-ch Isolated Digital Input (Dry/Wet selectable) and 8-ch Relay Output I/O Expanding Module