

- ✓ 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



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 3 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

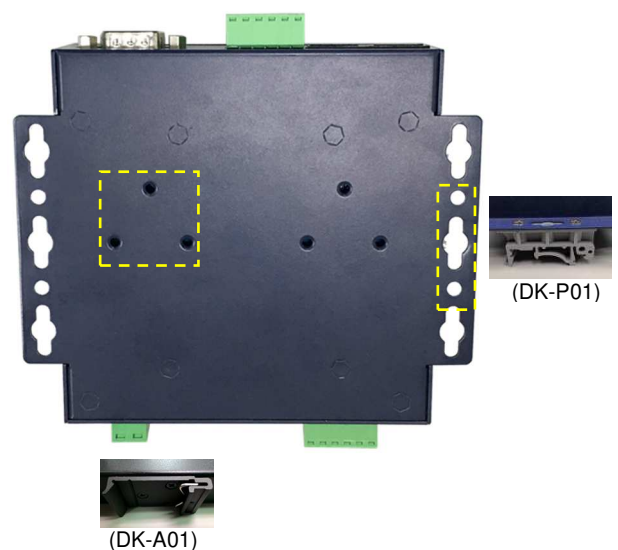
EBox-AIO-004 has built-in MySQL Database for users to set up, record and exchange status message via database framework, It can also work with common PHP/Java Script to easily accomplish remote monitoring system development.

Exterior schematic diagram

(Top view)



(Rear View)





Product specifications

Hardware

System Core

- ▶ CPU : TI Sitara AM3358BZCZ100 1GHz (Cortex®-A8)
- ▶ Memory : 512MB DDR3 SDRAM, 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
- ▶ Signal Level : 3.3V
- ▶ 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

RS-232 Console Interface

- ▶ Quantity : 1
- ▶ Signal : RS-232 (TxD, RxD, GND)
- ▶ Connector : 3-pin 2.54 mm contact

Purchasing information

- ▶ **EBox-AIO-004** Multi-I/O IoT-Application Controller
Content : EBOX-AIO-004 · QIG x 1

Optional Accessories

- ▶ **LLD-M01** 8-ch Isolated Digital Input (Dry/Wet selectable) and 8-ch Relay Output I/O Expanding Module
- ▶ **LLD-M13** 5-ch Isolated Digital Input (4-ch Dry +1-ch Wet) · 4-ch C-Type Relay Output I/O Expanding Module
- ▶ **CD12V** 100~240V AC to 12VDC Power Adapter (US Type)
- ▶ **DK-A01** 3-fix points aluminum DIN-Rail Kit
- ▶ **DK-P01** Plastic DIN-Rail Kit



(LLD-M01)

Digital 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)

Human Interface

- ▶ LED indicator : power, network, serial port, user defined
- ▶ Buzzer : 1

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 9-24VDC
- ▶ Power Connector : 5.00mm pluggable terminal block
- ▶ Power Consumption : < 10W (not include USB device)
- ▶ Power Output contact : merge with GPIO simple block header and UART terminal block
- ▶ Power Output : 3.3V & 5V DC (1A max.)

Others

- ▶ Real Time Clock : 1
- ▶ Real Time Clock Battery Holder : CR2032
- ▶ Applicable temperature : 0~70°C
- ▶ Applicable humidity : 20%~80% RHG
- ▶ Certification : CE, FCC

Software

Core

- ▶ OS: Linux kernel 4.14.x

Pre-Installed Services

- ▶ SSH terminal server, Web server, MySQL, PHP, Python, gcc, apt-get, lld-ip searched