

- ✓ **ARM® Cortex®-A53 64-bit multi-core RISC low power consumption**
- ✓ **Built-in embedded Linux Operating System**
- ✓ **1-Channel standard TCP/IP network communication interface**
- ✓ **1-ch RS-485 (or RS-232) 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®-A53 RISC low power consumption architecture, high stability**

EBox-AIO-007 adopts Broadcom 1.2-GHz ARM® Cortex®-A53 64-Bit 4-core RISC Processor, with 1024MB LPDDR2 SDRAM as system core · With built-in 4.14.x embedded Linux operating system · it is suitable for low power consumption and high communication performance requirements for industrial automation applications ·

☒ **Multifunctional communication**

EBox-AIO-007 has 1 set of Ethernet interfaces and 802.11 Wi-Fi or 3/4G wireless network interface expandable via USB interface to make network communication seamless ·

EBox-AIO-007 has 1 set of 115.2Kbps high-speed RS-485 serial port interface with ability to connect 128 multi-drop nodes, allowing EBox-AIO-007 to easily connect all kinds of monitoring equipment and meters ·

☒ **Complete digital signal control interface(Digital I/O)**

EBox-AIO-007 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-007 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-007 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 ·

☒ **Suitable for various High-level programming language**

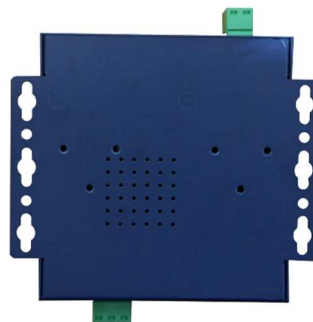
With built-in Linux 4.14.x embedded Linux operating system · EBox-AIO-007 supports the most recent popular High-level programming language, such as Python · Java · Scratch · Node J...etc · allowing developers to set up or porting applications in EBox-AIO-007 rapidly · It also supports traditional C/C++ programs for those applications need to process lower level and higher speed I/O action or response ·

Exterior schematic diagram

(Top View)



(Rear View)



(Lateral View)



(DK-P01)



(DK-A01)



30x30 mm DC-5V FAN

Product Specification

Hardware

System Core

- ▶ CPU : Broadcom BCM2837 1.2GHz (A53)
- ▶ Memory : 1024MB LPDDR2 SDRAM · 16GB eMMC Flash

Network Interface

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

RS-485 Serial Port Interface

- ▶ Quantity : 1
- ▶ RS-485 Signal : Data+, Data-, GND
(support Auto Data Direction Control)
- ▶ Multi-Drop Nodes : 128 (1/4 Load)
- ▶ Built-in Terminal Resistor : 120Ω · By Jumper
- ▶ Protection : 2KV ESD Static, 400W Surge Protection
- ▶ Connector : 5.00mm pluggable terminal block

Serial Port Communication Parameters

- ▶ Baud Rate : 300 ~ 115,200 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*10 2.54mm simple box header

RS-232 Serial Port Interface (Optional)

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

USB Interface

- ▶ Quantity : 4
- ▶ Type : USB 2.0
- ▶ Connector : Type A

Human-Machine Interface

- ▶ Display : HDMI
- ▶ Sound : 3.5mm Audio
- ▶ LED indicator : power, network, serial port, user defined
- ▶ Buzzer : 1 Set

SD Expansion Interface

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

Mechanism

- ▶ Size : 117.5x 103.5 x 35.5 mm
(fix boarder incl., terminal block excl.)
- ▶ Material : galvanized steel sheet

Power

- ▶ Working Voltage : DC 9-24VDC
- ▶ Power Connector : 5.00mm pluggable terminal block
- ▶ Power Consumption : <10W (not include USB device)

Expanded I/O function (need to open the case)

- ▶ SPI : SCLK · MISO · MOSI · CS1 · CS2
- ▶ I2C : SDA, SCL
- ▶ Connector : 2*5 2.54mm simple box header (Shared)
- ▶ Fan DC : 5VDC, 3x1 2.54mm pin header

Others

- ▶ Real Time Clock : 1 Set
- ▶ Real Time Clock Battery Holder : CR1220
- ▶ Applicable temperature : 0~50°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

Purchase information

- ▶ **EBox-AIO-007** Multi-I/O IoT-Application Controller
Content : EBOX-AIO-003 · QIG x 1

Non-Standard model

- ▶ **EBOX-AIO-007(232)** Multi-I/O IoT-Application Controller (w/ RS-232 x 1)

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
- ▶ **LLD-M13** 5-ch Isolated Digital Input (4-ch Dry +1-ch Wet) · 4-ch C-Type Relay Output I/O Expanding Module
- ▶ **DK-A01** 3-fix points aluminum DIN-Rail Kit
- ▶ **DK-P01** Plastic DIN-Rail Kit



(LLD-M01)