

ARK-3381

Seven Serial Port Fanless Embedded Box Computer



Introduction

The ARK-3381 fanless Embedded Box Computer combines seven serial port interfaces and other industrial features into a rugged, compact metal chassis for intensive communication based applications. The fanless operation provides noise protection for the platform to be deployed in external environments. The ARK-3381 Embedded Box Computer is ideally suited for embedded PC applications. All electronics are protected in a compact sealed housing for embedded and stand-alone applications, where space and environment are critical.

Series Port Intensive with Networking Capability

Multiple serial port interface: 5 x RS-232/422/485 series port and 2 x RS-232 series port enable communication with field level for measurement and operator control of diversified automation control.

Highly Robust Casting Construction

- Fanless operation in aluminum sealed construction
- A special cushioned design that absorbs vibration to ensure maximum reliability under harsh conditions

Highly Compact Size

- With its maximum mounting height of 69 mm, the ARK-3381 can be used under space critical installation conditions

Optimized Integration

- Few parts, easy integration and easy maintenance guarantee cost-effective investment
- Systems are supplied "Ready-to-Run"
- Long life cycle support for product continuity

Wide Range of Power Source

- Wide range of DC 12 V ~ 24 V power source offers flexibility of power input for various automation environments

High Computing Performance

Scalable Low Voltage and Ultra Low Voltage Pentium M class processor system with Ethernet networking capability for high computing performance

Features

- Seven serial port interfaces, 5 x RS-232/422/485 and 2 x RS-232
- Dual independent display capability
- Built-in Intel® Ultra Low Voltage Celeron® or Low Voltage Intel Pentium® M processor
- Sealed construction with fanless operation
- Anti-vibration to ensure maximum reliability
- Easy integration, easy maintenance, few parts, with wide range of power source

Specifications

Processor Core Logic System

- **CPU** Intel Ultra low voltage Celeron or Intel Pentium M low voltage processor
Celeron M 600 MHz (ARK-3381-1M0A1)
Pentium M 1.1 GHz (ARK-3381-1S1A1)
Pentium M 1.4 GHz (ARK-3381-1S4A1)
- **System Chipset** Intel 852GM GMCH or Intel 855GME chipset
Intel ICH4 chipset
400 MHz FSB
- **BIOS** 4 Mbit Flash BIOS, supports Plug & Play, APM 1.2
- **System Memory** One 200-pin SO-DIMM sockets
DDR 200-pin SO-DIMM x 1, Max. 1G

Display

- **Chipset** Integrated graphics with built-in Intel 852GM GMCH, or Intel 855GME GMCH, utilizing Intel extreme Graphics 2 technology
- **Display Memory** Dynamic video memory allocation up to 32 MB
- **Display Interface** CRT Interface
36-bit LVDS interface

Ethernet

- **Ethernet Controller** Intel 82551ER 10/100BaseT Ethernet Controller

Other

- **Watchdog Timer** 255 levels timer interval, setup by software
- **Keyboard/Mouse** Support PS/2 mouse and PS/2 keyboard
- **USB** USB 2.0 compliant

Software Options

- Windows XP Embedded, Windows 2000/XP

Storage

Supports drive bay space for 2.5" HDD
Supports CompactFlash socket for type I/II CompactFlash disk

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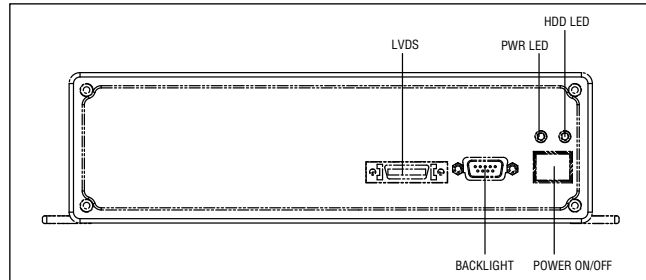
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Embedded Software Solutions

Front Panel External I/O

- 1 x LVDS Port by D-Sub Connector
- 1 x Backlight On/Off Control Connector
- 1 x Power On/Off Button

Front Panel External I/O Mechanical Layout/Drawing



Mechanical

- **Construction** Aluminum housing
- **Mounting** Din-Rail mounting
Desk/wall-mounting
- **Dimensions (W x H x D)** 264.5 mm x 69.2 mm x 137.25 mm
(10.41" x 2.72" x 5.4")
- **Weight** 2 kg
- **Output Rating** 46 W
- **Fuse Rating** 7 A @ 125 V
- **Input Voltage** 12 VDC ~ 24 VDC, Typical 12 VDC @ 4.5 A,
16 VDC @ 3.4 A, 19 VDC @ 2.9 A, 24 VDC @ 2.3 A

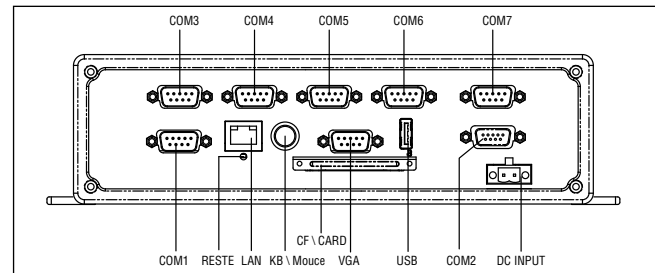
Environment Specifications

- **Operating Temperature** When system is equipped with Industrial Grade CompactFlash disk only: -20 ~ 60° C
When system is equipped with 2.5-inch hard disk: 0 ~ 45° C
- **Relative Humidity** 95 % @ 40 °C(non-condensing)
- **Vibration Loading During Operation** When system is equipped with CompactFlash disk only: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
When system is equipped with 2.5-inch hard disk: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
- **Shock During Operation** When system is equipped with CompactFlash disk only: 50 G, IEC 60068-2-27, half sine, 11 ms duration
When system is equipped with hard disk: 20 G peak acceleration(11 msec. Duration), IEC 60068-2-27, half sine, 11 ms duration
- **EMC Approved** CE, FCC
- **Safety Approved** UL

Rear Panel External I/O

- 1 x Full Functional RS-232 Series Port as COM1
- 1 x RS-232 Series Port Support Tx/Rx Function Only (Without Support of Handshaking) as COM7
- 5 x RS-232/422/485 Series Port as COM2~COM6
(Note: The default setting of COM2~COM6 is RS-232. The RS-422/485 mode of COM2 can be support via replacing the internal cable and adjust the jumper inside of system)
- 1 x RJ45 Port: Support 10/100Base-T Ethernet Connection
- 1 x PS/2 Connector
- 1 x Reset Button
- 1 x VGA/CRT Connector
- 1 x USB 2.0 Connector
- 1 x Phoenix Type of Power Input Connector

Rear Panel External I/O Mechanical Layout Drawing



Packing list

- 1 x ARK-3381 Unit
- 1 x DIN-Rail Mounting Kit
- 1 x PS2 Keyboard/Mouse Cable (P/N: 1700060202)
- 1 x Utility CD (P/N: 1700001967)
- 1 x Flat Cable support RS-485/RS-422 mode for COM2 serial port (P/N: 1700001394)
- 1 x 2-P Phoenix to DC-Jack power cable (P/N: 1700001394)

Ordering Information

- **ARK-3381-1M0A1** ULV Celeron M 600 MHz Box Computer, with VGA/LVDS, Fast Ethernet, 2 x RS-232, 5 x RS-232/422/485
- **ARK-3381-1S1A1** LV Pentium M 1.1 GHz Embedded Box Computer, with VGA/LVDS, Fast Ethernet, 2 x RS-232, 5 x RS-232/422/485
- **ARK-3381-1S4A1** LV Pentium M 1.4 GHz, Embedded Box Computer, with VGA/LVDS, Fast Ethernet, 2 x RS-232, 5 x RS-232/422/485

Optional Items

- **1757000222** AC-TO-DC ADAPTER DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0° C ~ 45° C for Home and Office Use
- **1700001947** Power cable 2P 180 cm, USA for ARK-338X
- **1700001948** Power cable 2P 180 cm, Europe for ARK-338X
- **1700001949** Power cable 2P 180 cm, UK for ARK-338X
- **2070000521** XPE SP1 OS Image and License for ARK-3380/1/2/9, English Version (440 MB)
- **2070000636** XPE SP2 OS Image and License for ARK-3380/1/2/9, English Version (600 MB)
- **2070000574** XPE SP1 OS Image and License for ARK-3380/1/2/9, Traditional Chinese Version (477 MB)
- **2070000637** XPE SP2 OS Image and License for ARK-3380/1/2/9, Japanese Version (600 MB)

Dimensions

