# ARK-3381

## Seven Serial Port, Fanless, Embedded Box Computer

## 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

## 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

## 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**
  Supports PS/2 mouse and PS/2 keyboard
- **USB**
  USB 2.0 compliant

### Software Options

- Windows® XP Embedded, Windows 2000/XP
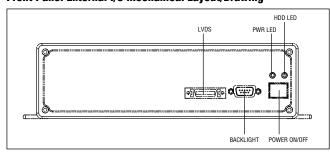
### Storage

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

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## 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 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")
- **Weight**    2 kg

## Power Supply

- **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

- **OperatingTemperature** 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 equiped 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 COM2can be support via replacing the internal cable and adjust the jumper inside of system)
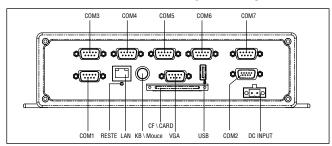- 1 x RJ45 Port: Support 10/100Base-T Ethernet Connection
- 1 x PS/2 Connector
- 1 x Reset Button
- 1 x VGA/CRT Connector
- 1 x USB 2.0 Connector
- 1 x Phoenix Type of Power Input Connector

## 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
- 1 x Flat Cable support RS-485/RS-422 mode for COM2 serial port
  (P/N: 1700001967)
- 1 x 2-P Phoenix to DC-Jack power cable    (P/N: 1700001394)

# Ordering Information

- **ARK-3381-1M0A1E**    ULV Celeron M 600 MHz Box Computer, with VGA/LVDS, Fast Ethernet, 2 x RS-232, 5 x RS-232/422/485
- **ARK-3381-1S1A1E**    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-3381-1S4A1E**    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 ~ 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



Unit: mm