

ARK-3520P

6th Gen. Intel® Core™ i3/ i5/ i7 with Expansion slots and wide range power Fanless Box PC

NEW



Features

- Intel® Core™ i3/i5/i7 processor (BGA)
- Triple independent display: VGA + HDMI + Option Display
- DDR4 SO-DIMM memory up to 32 GB
- Flexible Expansion via PCI/PClex4
- 9-36V wide range Power input
- Versatile I/Os including 6 x high speed USB 3.0 and 8 x COM ports
- 2 Removable 2.5" HDD drive bay
- Advantech iDoor module compatible



WISE-PaaS/RMM iManager



FCC



Specifications

| | | | | |
|------------------------|-----------------------------|---|--|--|
| Processor System | CPU | Intel Core i7-6820EQ | Intel Core i5-6440EQ | Intel Core i3-6100E (support by T-P/N) |
| | Frequency | 2.8 GHz (Quad Core) | 2.7 GHz (Quad Core) | 2.7 GHz (Dual Core) |
| | L3 Cache | 8 MB | 6 MB | 3 MB |
| | Watts | 45W | 45W | 35W |
| | System Chipset | Intel QM170 | | |
| | BIOS | AMI EFI 128Mbit | | |
| Memory | Technology | DDR4 2133 MHz | | |
| | Max. Capacity | 32 GB | | |
| | Socket | 2 x 260-pin SO-DIMM | | |
| Graphics | Chipset | Intel QM170 Integrated GFX Gen 9 | | |
| | Graphic Engine | Direct x 12, OpenGL 4.4 HW Encode: H.265/HEVC, H.264/MPEG-4 AVC, MPEG-2, JPEG/MJPEG and VP8. HW Decode: H.265/HEVC, H.264/MPEG-4 AVC, MPEG-2, VC-1/WMV9, JPEG/MJPEG, VP8 and VP9 | | |
| | VGA | 1920x1200@60Hz | | |
| | HDMI | 1 HDMI port, HDMI 1.4b for HD video playback, 3840x2160@30Hz | | |
| | Optional 3rd Display module | DVI-D / DP / HDMI Display Port | | |
| | Triple Display | VGA+HDMI + 3rd display module | | |
| Ethernet | LAN1 | 10/100/1000 Mbps Intel I219-LM GbE, support Wake On Lan | | |
| | LAN2 | 10/100/1000 Mbps Intel I210 GbE, support Wake On Lan | | |
| Audio | Interface | Realtek ALC888S, High Definition Audio, Line-out, Mic-in | | |
| Others | Watch dog Timer | 255-level timer interval, setup by software | | |
| | TPM | TPM 2.0 (Optional by project support) | | |
| I/O Interface | Serial Port | 4 x RS-232 ports, 4 x RS-232/422/485 port with auto flow control; COM 1,2 support 5V/12V power supply (by jumper) | | |
| | USB | 6 x USB 3.0 ports; 2 x USB 2.0 ports | | |
| | DIO | 16 bit DIO | | |
| | P/S2 | 1 Port support by cable and bracket (Optional) | | |
| | Parallel Port | D-sub 25pin connector (Optional) | | |
| | Expansions | Mini PCIe | 2 x Full-size Mini PCIe (1 x support mSATA, 1 x support SIM holder) | |
| M.2 | | 1 x E key for WiFi | | |
| i Door | | 1 set (Optional) | | |
| Add-on Card Slot | | 2 Slots PCI (Default) Maximum card size: 110 mm (H) x 180 mm(L) 2 Slots PCIe x 4 (Optional) Maximum card size: 110 mm (H) x 180 mm(L) Suggest maximum power consumption 10W for each slot | | |
| Storage | HDD | Two removable 2.5" SATA HDD Bays with maximum device height 15mm, SATA III, Gen 3, Support SATA RAID 0, 1 | | |
| | mSATA | 1x mSATA socket (Share 1 Mini PCIe) | | |
| Software Support | Microsoft Windows | Windows 10, Windows 8.1, Windows 7 | | |
| | Linux | By Project Support | | |
| Power Requirements | Power Type | AT/ATX | | |
| | Power Input Voltage | 9 ~ 36 V _{DC} | | |
| | Power Adapter | AC to DC, 150W (Optional) | | |
| Power Consumption | Typical | 11.4W | | |
| | Max. | 68.4W | 46.5W | 42.75W |
| | Mechanical | Construction | Aluminum housing | |
| Mounting | | Desk/wall-mounting | | |
| Dimensions (W x H x D) | | 220 x 101 x 233 mm (8.66" x 3.98" x 9.17") | | |
| Weight | | 4.4 kg (9.7 lb) | | |
| Environment | | Operating Temperature | with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow with HDD: 0 ~ 40° C with 0.7m/s air flow | |
| | Storage Temperature | -40 ~ 85° C | | |
| | Relative Humidity | 95% @ 40° C (non-condensing) | | |
| | Vibration During Operation | With SSD: 3 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis. | | |
| | Shock During Operation | With SSD: 30 G, IEC 60068-2-27, half sine, 11 ms duration | | |
| | EMC | CE/FCC Class A, CCC, BSMI | | |
| | Safety | LVD, CCC, BSMI | | |

* By Project Support

ADVANTECH

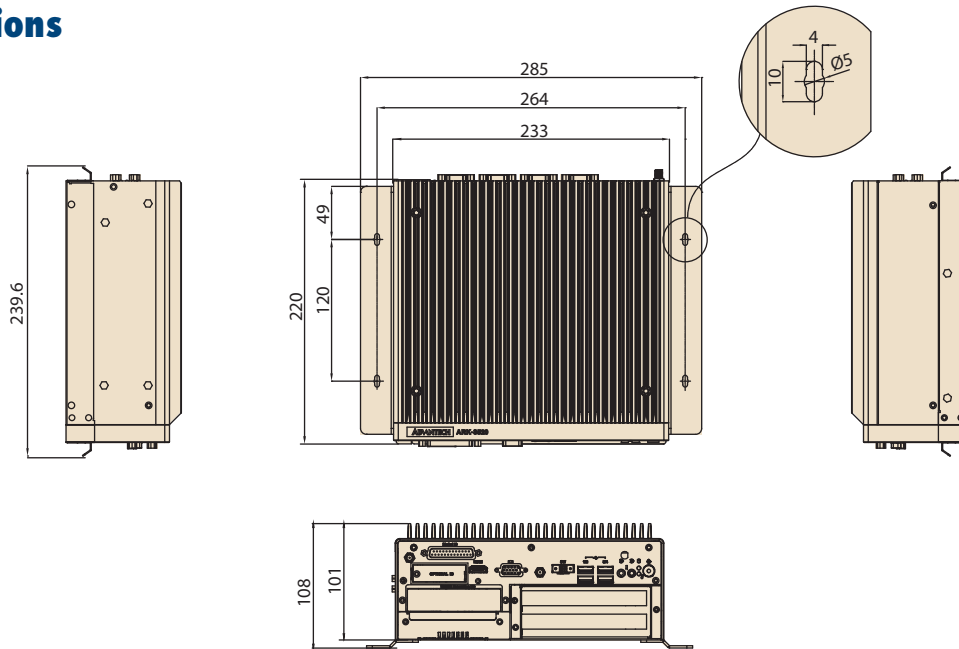
Fanless Embedded Box PCs

All product specifications are subject to change without notice.

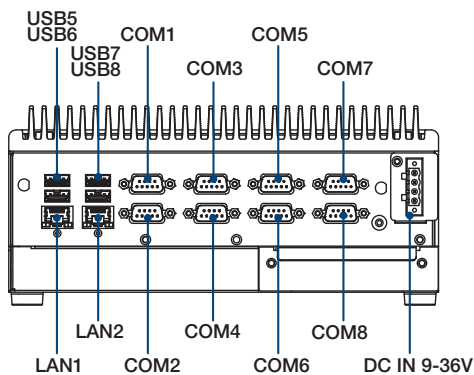
Last updated : 16-May-2017

Dimensions

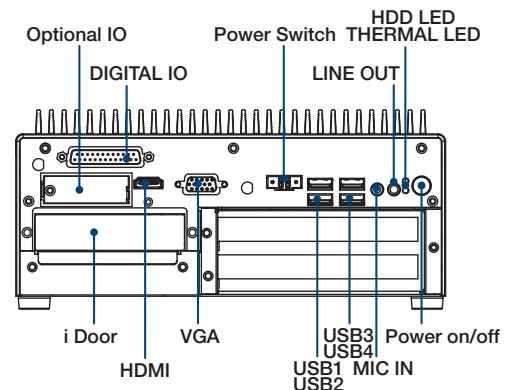
Unit: mm



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

| Part No. | CPU | DDR4 | VGA | HDMI | Option 3rd display module | RS-232/422/485 | RS-232 | USB 3.0 | USB 2.0 | MiniPCIe | SIM | DC input | Expansion |
|-----------------|-----------|-----------|-----|------|---------------------------|----------------|--------|---------|---------|----------|-----|----------|-----------|
| ARK-3520P-U8A1E | i7-6820EQ | up to 32G | 1 | 1 | 1 | 4 | 4 | 6 | 2 | 2 | 1 | 9 - 36 V | 2 x PCI |
| ARK-3520P-U7A1E | i5-6440EQ | up to 32G | 1 | 1 | 1 | 4 | 4 | 6 | 2 | 2 | 1 | 9 - 36 V | 2 x PCI |

Note: Memory, storage and operating system bundled by request.

* ARK-3520P i3-6100E support by T-PN with MOQ 30pcs

Packing List

| Part Number | Description |
|----------------|-----------------------------------|
| - | ARK-3520 Unit |
| - | User Manual (Simplified Chinese) |
| - | China RoHS |
| 1652003234 | 4 pin DC in terminal block |
| - | 2 pin power switch terminal block |
| 1960075470N031 | 2 x mounting bracket |

Embedded OS

| Part Number | Description |
|-------------|--|
| 2070014628 | WES7E 64bit EN/JP/TC/SC |
| 2070014627 | WE8.1 64bit IndustryPro EN/JP/TC/SC |
| 2070014899 | Win10 Ent X64 (High End) for i7-6820EQ |
| 2070014898 | Win10 Ent X64 (Value) for i5-6440EQ |

ARK-3520 Default SKU Option Items

Optional Item for Default SKU

| Part Number | Description |
|-------------------|---|
| 96PSA-A150W19P4-1 | AC-to-DC Adapter, DC19V 150W, 0 ~ 40° C for Home and Office Use |
| 96PSA-A220W24P4-1 | AC to DC Adapter, DC 24V 220W, -20 ~ 60° C |
| 1702002600 | Power cable 3-pin 183cm, USA type |
| 1702002605 | Power cable 3-pin 183cm, EU type |
| 1702031801 | Power cable 3-pin 183cm, UK type |
| 1700000237 | Power cable, 3-Pin 183cm, PSE type |

Optional MOS modules for iDoor Expansion

| Part Number | Description |
|-----------------|---|
| MOS-2230-Z1201E | CANBus module, 2-Ch, USB I/F |
| MOS-2220-X1101E | Parallel LPT module, 1-Ch, USB I/F. |
| MOS-2220-Z1101E | High Speed Serial COM module, 1-ch, USB I/F |
| MOS-2120-Z1101E | Giga LAN Ethernet module, 1-Ch, PCIe I/F. |
| MOS-1120Y-0201E | Isolated RS-232, 2-Ch, DB9, PCIe I/F |
| MOS-1121Y-0201E | Isolated RS-422/485, 2-Ch, DB9, PCIe I/F |
| MOS-1120Y-1401E | Non-Isolated RS-232, DB37, 4-Ch, PCIe I/F |
| MOS-1121Y-1401E | Non-Isolated RS-422/485, DB37, 4-Ch, PCIe I/F |
| MOS-1130Y-0201E | Isolated CANBus, 2-Ch, DB9, PCIe I/F |
| MOS-1110Y-0101E | Isolated 16 DI/8 DO, 1-Ch, DB37, PCIe I/F |
| MOS-2110Z-1201E | USB module, 2-Ch, PCIe I/F |

*Please noted ARK-3520 can support only 1 iDoor.

Optional Display Module

| Part Number | Description |
|-------------|---------------------------|
| AMO-D001E | DVI-D module (China only) |
| AMO-D002E | DP module |
| AMO-D003E | HDMI module (China only) |

Optional Riser Expansion

| Part Number | Description |
|-------------|--------------|
| AMO-R022E | 2 x PCIe x 4 |