

ARK-2251

Intel 13th Generation Core i3/i5/i7 Modular Fanless Box PC

NEW



Features

- Intel® 13th Gen. Core™ i3/i5/i7 processor
- Support dual channel DDR5 SODIMM memory up to 64GB
- Support NVMe with PCIe x4
- 3x GbE, 6x USB (2x independent), 6x COM, 2x CANbus, Dual HDMI
- M.2 E key and mPCIe interfaces support wireless module installation
- Support 11x iDoors for IO expansion
- Optional PoE module
- 12-24V wide power input
- -20-60°C wide operating temperature
- WISE-DeviceOn supported for quick AI deployment at scale



WISE-DeviceOn SUSI API



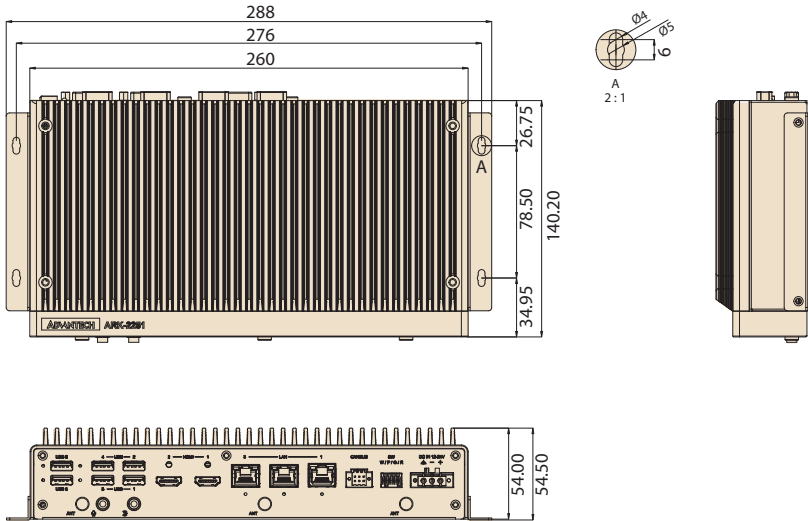
Specifications

| | | | | |
|-------------------|----------------------------|--|-----------------------------------|----------------|
| Processor System | CPU | 13th Generation Intel® Core™ i Processor | | |
| | Frequency | Core i3-1315UE | Core i5-1335UE | Core i7-1365UE |
| | Core Number | 1.2 GHz | 1.3 GHz | 1.7 GHz |
| | Core Number | 2P+4E | 2P+8E | 2P+8E |
| Memory | BIOS | AMI EFI 256Mbit | | |
| | Technology | DDR5 4800 MHz | | |
| | Max capacity | 64GB | | |
| Graphics | Socket | 2x 262-pin SODIMM (no support ECC) | | |
| | Chipset | Intel® UHD Graphics for 13th Gen Intel® Processors | Intel® Iris® Xe Graphics eligible | |
| | HDMI | Up to 4096 x 2160 @ 60Hz | | |
| Ethernet | Dual Display | 2x HDMI | | |
| | LAN1 | 10/100/1000 Mbps Intel i219 GbE, support Wake On LAN | | |
| | LAN2 | 10/100/1000/2500 Mbps Intel i226 GbE, support Wake On LAN (optional PoE module) | | |
| Audio | LAN3 | 10/100/1000/2500 Mbps Intel i226 GbE, support Wake On LAN (optional PoE module) | | |
| | Interface | Realtek ALC888S, High Definition Audio. Line-out, Mic-in | | |
| I/O Interface | Serial Ports | 6x RS-232/422/485 | | |
| | USB Ports | 6x USB3.1 (2x are independent), 1 x internal USB2.0 for security dongle | | |
| | GPIO | 8-bit Programmable DIO | | |
| | CANBus | 2 | | |
| Expansion | Mini PCIe | 1x Full-size mPCIe | | |
| | M.2 | 1x M.2 2230 (E Key) and 1x M.2 2280 (M Key) | | |
| Storage | NVMe | 1x M.2 M Key supporting NVMe (PCIe Gen3x4) ^{#1} | | |
| | mSATA | shared with mPCIe | | |
| Other | WatchDog Timer | 255 levels timer interval, setup by software | | |
| | TPM | TPM 2.0 (Optional by AMO-I029) | | |
| Software Support | Microsoft Windows | Windows 10 Enterprise | | |
| | Linux | Ubuntu 22.04, others by project support | | |
| Power Requirement | Power Type | ATX/AT | | |
| | Power Input Voltage | 12-24 V _{DC} | | |
| Power Consumption | Typical (OS idle mode) | 19.05W | 19.30W | 19.47W |
| | Max. (Full loading) | 38.21W | 41.23W | 42.13W |
| Mechanical | Construction | Aluminum housing | | |
| | Mounting | Wall mounting | | |
| | Dimensions (W x H x D) | 260 x 54 x 140.2 mm (10.24" x 2.13" x 5.52") | | |
| | Weight | 2.3kg (5.06lb) | | |
| Environment | Operating Temperature | With extended temp. peripherals: -20 ~ 60° C with 0.7m/s air flow (only up to 40° C when using with the adapter) | | |
| | Storage Temperature | -40 ~ 85 °C (-40 ~ 185°F) | | |
| | Relative Humidity | 95% @ 40 °C (non-condensing) | | |
| | Vibration during Operation | 3 Grms, IEC60068-2-64, random, 5-500 Hz, 1hr/axis | | |
| | Shock during Operation | 30 G, IEC-60068-2-27, half sine, 11 ms duration | | |
| | EMC | CE, FCC class B, CCC, BSMI | | |
| Safety | CB, UL, CCC, BSMI | | | |

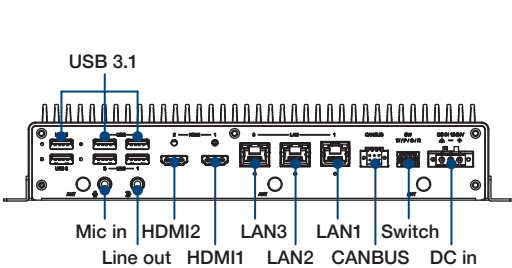
#1: M.2 M Key SSD with Heat Sink couldn't fit in ARK-2251.

Dimensions

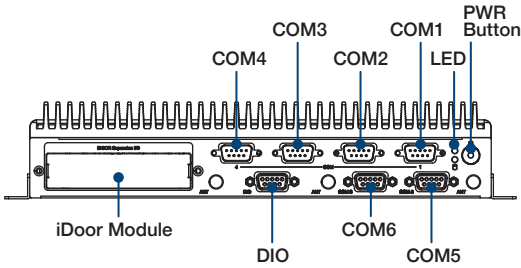
Unit: mm



Front Panel External I/O View



Rear Panel External I/O View



Ordering Information

| Part No. | CPU | RAM | HDMI | GbE | USB3.1 | RS-232/422/485 | Audio | Full-size MiniPCle | M.2 | mSATA | Power Input | Operating Temp. | Made in |
|----------------|----------------------|-------------|------|-----|--------|----------------|-------|--------------------|-----|-------------------|-----------------------|-----------------|---------|
| ARK-2251-S2A1 | Intel Core i3-1315UE | Up to 64 GB | 2 | 3 | 6 | 6 | 2 | 1 | 2 | shared with mPCle | 12-24 V _{DC} | -20 ~ 60° C | China |
| ARK-2251-S2A1U | Intel Core i3-1315UE | Up to 64 GB | 2 | 3 | 6 | 6 | 2 | 1 | 2 | shared with mPCle | 12-24 V _{DC} | -20 ~ 60° C | Taiwan |
| ARK-2251-S3A1 | Intel Core i5-1335UE | Up to 64 GB | 2 | 3 | 6 | 6 | 2 | 1 | 2 | shared with mPCle | 12-24 V _{DC} | -20 ~ 60° C | China |
| ARK-2251-S3A1U | Intel Core i5-1335UE | Up to 64 GB | 2 | 3 | 6 | 6 | 2 | 1 | 2 | shared with mPCle | 12-24 V _{DC} | -20 ~ 60° C | Taiwan |
| ARK-2251-S7A1 | Intel Core i7-1365UE | Up to 64 GB | 2 | 3 | 6 | 6 | 2 | 1 | 2 | shared with mPCle | 12-24 V _{DC} | -20 ~ 60° C | China |

Packing List

| Part Number | Description |
|----------------|--|
| - | 1 x ARK-2251 Unit |
| - | 1 x User Manual (Simplified Chinese) |
| - | Wrench for top cover |
| - | Mounting kit |
| - | Bracket & thermal pad for M.2 M Key SSD (NVMe) |
| 36WSWPD0BD0211 | WISE-DeviceOn |
| 36WSWPD0BUND11 | McAfee Application Control Lite/Acronis Backup 11.7 for Windows PC |
| 1652004519 | 1 x 3-pin plug-in block for power in |
| 1652007880-01 | 1 x 4-pin terminal block for switch |
| 1652008233-01 | 1 x 6-pin terminal block for Canbus |

Embedded OS

| Part Number | Description |
|----------------|------------------------------------|
| 20706WX1VS0064 | img W10 21VL ARK-2251 64b 21H2 ENU |
| 20706U22DS0026 | img UbuntuD ARK-2251 64b 22.04 ENU |

Optional Items

| Part Number | Description |
|-------------------|--|
| 96PSA-A120W24T2-4 | ADP A/D 100-240V 120W 24V C14 CORD END 62368 |
| 96PSA-A150W24T2-4 | A/D 100-240V 150W 24V W/PFC C14 TERMINAL 62368 |
| 1702002600 | Power cable 3-pin 183 cm, USA type |
| 1702002605 | Power cable 3-pin 183 cm, EU type |
| 1702031801 | Power cable 3-pin 183 cm, UK type |
| 1700000237 | Power cable 3-pin 183 cm, PSE type |
| 1700024369-01 | 1M HDMI cable |
| 1700031560-01 | 1.8M HDMI cable |
| AMK-V019E | VESA mount kits |
| AMK-R005E | DIN Rail mount kits |

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-2110Z-1201E | USB module, 2-Ch, PCIe I/F |
| MOS-2120-Z1101E | Giga LAN Ethernet module, 1-Ch, PCIe I/F |
| MOS-1120Y-0202E | Isolated RS-232, 2-Ch, DB9, PCIe I/F |
| MOS-1121Y-0202E | Isolated RS-422/485, 2-Ch, DB9, PCIe I/F |
| MOS-1120Y-1402E | Non-Isolated RS-232, 4-Ch, DB37, 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-2120-Z1201 | Dual Intel I210 GbE LAN iDoor, 2-Ch, PCIe I/F |
| MOS-2220-Z1101E | High Speed Serial COM module, 1-Ch, USB I/F |