
Datasheet

Advantech

ARK-2250

Fanless industrial Embedded BOX PC with 6th Gen. U-Series Intel® Core® i7/i5/i3 Prozessor

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ARK-2250L

Intel 6th Generation Core™ i3/i5/i7 Modular Fanless Box PC



Features

- Intel 6th Gen Intel® Core™ U-series (i3/i5/i7)
- VGA and HDMI dual display, option 3rd display for triple display
- 12V lockable DC jack power input
- 9-36V optional power module compatible with all-in-one ordering
- 20 ~ 60 °C extend temperature operating
- 2 x full size mPCIe expansion for WIFI/Cellular communication module
- 1 x full size mSATA and 1 x 2.5" SATA storage device
- Advantech iDoor module compatible
- Advantech ARK Plus module support by dual layer configurations

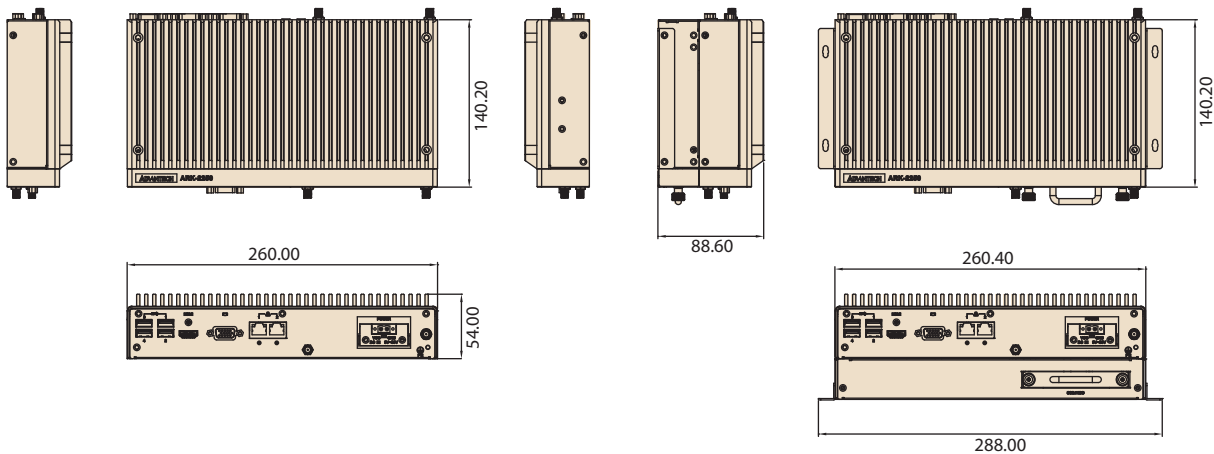


Specifications

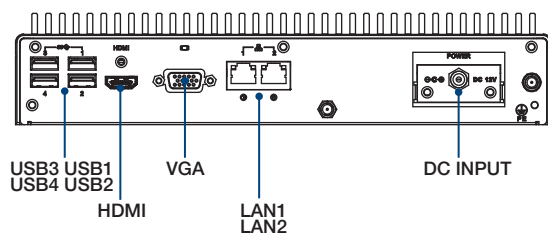
Processor System	CPU	Intel Core i7 6600U	Intel Core i5 6300U (Support by T-PN)	Intel Core i3 6100U
	Base Frequency	2.6 GHz (Dual-Core)	2.4 GHz (Dual-Core)	2.3 GHz (Dual Core)
	L3 Cache	4MB	3MB	3MB
	BIOS	AMI UEFI 128 Mbit		
Memory	Technology	DDR3L 1600 MHz		
	Max. Capacity	16 GB		
	Socket	1 x 204-pin SO-DIMM		
Graphics	Controller	Intel HD Graphics 520		
	Graphic Engine	DirectX 11.3, OpenGL 4.4, and OpenCL 2.1 Full AVC/VC1/MPEG2 HW Decode		
	VGA	Up to 1920 x 1200 @ 60Hz (No hotplug support)		
	HDMI	HDMI 1.4a for HD video playback, 4096 x 2160 @ 24Hz		
	Dual Display	Yes, VGA + HDMI		
	Optional display Module	HDMI, DP and DVI-D (DVI-D only for China)		
Triple Display	VGA+HDMI+Optional display module			
Ethernet	LAN1	10/100/1000 Mbps Intel i219 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		
IO Interface	Serial Ports	4 x RS-232/422/485 port with auto flow control		
	USB Interface	4 x USB 3.0, 2 x USB 2.0		
	DIO	8bit		
Other	Watchdog timer	255 levels timer interval, setup by software		
Expansion	Mini PCIe	2 x full size Mini PCIe with (CN15 with SIM holder)		
	iDoor	1 set (option)		
Storage	HDD	Supports one SATA 2.5" HDD Bay (Compatible with 12.5mm height HDD) (Max. Data Transfer Rate 300 MB/s)		
	SSD	1 x full size mSATA socket (CN15, shared with mPCIe)		
Software Support	Microsoft Windows	Windows 10, Windows 8.1, WES7, Windows 7		
	Linux	Support by project		
Power Requirement	Power Type	ATX		
	Power Input Voltage	12V _{DC} (9-36V as option)		
	Minimum Power Input	12 V, 5 A		
Power Consumption	Power Adapter	AC to DC, DC12V/5A, 60W (Option)		
	Typical	7.96 Watt	7.8 Watt	6.92 Watt
Max.	43.28 Watt	42.8 Watt	41.72 Watt	
Mechanical	Construction	Aluminum housing		
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting		
	Dimensions (W x H x D)	260 x 54 x 140.2 mm (10.24" x 2.13" x 5.52")		
	Weight	2.3 kg (5.07 lb)		
Environment	Operating Temperature	With extended temperature peripherals: -20 ~ 60 °C (-4 ~ 140 °F) with 0.7m/s air flow With 2.5-inch hard disk 0 ~ 45 °C (32 ~ 113 °F) with 0.7m/s air flow		
	Storage Temperature	- 40 ~ 85 °C (- 40 ~ 185 °F)		
	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 B, CCC, BSMI		
Safety Certifications	UL, CCC, BSMI			

Dimensions

Unit: mm

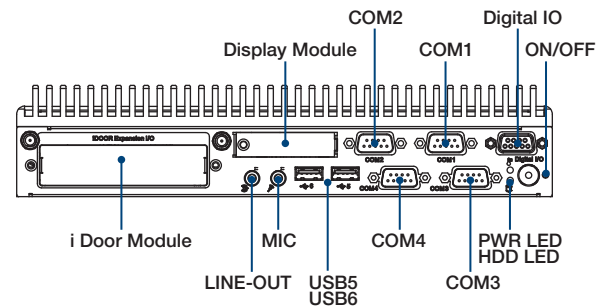


Front Panel External I/O Mechanical Layout/Drawing



*Power Input module by option

Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	VGA	HDMI	GbE	USB 2.0	USB 3.0	RS-232/422/485	DIO	Audio	Full-size MiniPCIe	SIM	mSATA	2.5" SATA II HDD Bay	Power Input	Operating Temp.
ARK-2250L-U6A1E	Intel Core i7-6600U	Yes	Yes	2	2	4	4	1	Lin-out, Mic-in	2	1	1	1	12 V _{DC}	-20 ~ 60 °C
ARK-2250L-U3A1E	Intel Core i3-6100U	Yes	Yes	2	2	4	4	1	Lin-out, Mic-in	2	1	1	1	12 V _{DC}	-20 ~ 60 °C

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

* i5-6300U is supported by T-PN, MOQ 30pcs.

Packing List

Part Number	Description
-	1 x ARK-2250L Unit
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS
-	2 x Wall mounting bracket
-	2 x LAN Clip

ARK-2250 Expansion Option Items

Optional Embedded OS

Part Number	Description
2070014952	WES7E 64bit ENG/T-CH/S-CH/JP (17.8 GB)
2070014959	Win Emb 8.1_64bit US/DE/ES/FR/JP/KR/LT/RU/CN/TW (21 GB)
2070014941	WIN10 IoT LTSB 64bit_EN for ARK-2250L-U6A1E (15.5GB)
2070014942	WIN10 IoT LTSB 64bit_EN for ARK-2250L-U3A1E (15.5GB)

Note: Default BIOS is for 64bit OS support only. 32bit OS will need to update BIOS

Optional Item for Default SKU

Part Number	Description
96PSA-A60W12W6	AC-to-DC Adapter, DC12V/5A 60W
1702002600	Power cable 3-pin 183cm, USA type
1702002605	Power cable 3-pin 183cm, EU type
1702031801	Power cable 3-pin 183cm, UK type
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 Interface
MOS-2220-X1101E	Parallel LPT module, 1-Ch, USB Interface
MOS-2110Z-1201E	USB module, 2-Ch, PCIe Interface
MOS-2120-Z1101E	Giga LAN Ethernet module, 1-Ch, PCIe Interface
MOS-1120Y-0201E	Isolated RS-232, 2-Ch, DB9, PCIe Interface
MOS-1121Y-0201E	Isolated RS-422/485, 2-Ch, DB9, PCIe Interface
MOS-1120Y-1401E	Non-Isolated RS-232, DB37, 4-Ch, PCIe Interface
MOS-1121Y-1401E	Non-Isolated RS-422/485, DB37, 4-Ch, PCIe Interface
MOS-1130Y-0201E	Isolated CANBus, 2-Ch, DB9, PCIe Interface
MOS-1110Y-0101E	Isolated 16 DI/8 DO, 1-Ch, DB37, PCIe Interface

Optional 9-36V DC Power module

Part Number	Description
MIOE-PWR2-00A1E	9-36V DC input power module
96PSA-A65W19P2-1	AC-to-DC Adapter, DC19V/3.42A 65W (for MIOE-PWR2)
96PSA-A65W19P2-2	AC-to-DC Adapter, DC19V/3.42A 65W (for MIOE-PWR2)
1700001524	Power cable 3-pin 183cm, USA type (for MIOE-PWR2)
170203183C	Power cable 3-pin 183cm, EU type (for MIOE-PWR2)
170203180A	Power cable 3-pin 183cm, UK type (for MIOE-PWR2)

Optional Display Module

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

ARK-2250 Dual Layer Expansion Option Items

Optional modules for ARK Plus Expansion

Part Number	Description
AMO-2201E (2 nd Layer)	4 x RS232/422/485 + removable 2.5" drive
AMO-2203E (2 nd Layer)	2-Port isolated CAN-Bus
AMO-2204E (2 nd Layer)	3-port GbE + iDoor (2nd iDoor support USB I/F only)

ARK Plus Extended Modules

AMO-2201E

4 x RS232/422/485 + removable 2.5" drive bay



Specifications

General

Bus interface	MIOe
Ports	4 x RS232/422/485 (set up by jumper)
Others	Removable 2.5" drive bay

Mechanical

Dimension	260 x 34.6 x 140.2 mm (10.24" x 1.36" x 5.52")
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Environment

Operating Temp	0 ~ 40 °C
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Ordering Information

P/N	Description
AMO-2201E	4 x RS232/422/485 + removable 2.5" drive bay

AMO-2203E

2-Port isolated CAN-Bus



Specifications

General

Bus interface	MIOe
Ports	2 x DB9 isolated CAN-Bus

Communications

Signal Support	CAN_H, CAN_L
Protocol	CAN 2.0 A/B
Data Transfer Rate	Programmable up to 1Mbps
CAN Frequency	16MHz

Protection

Isolation Protection	2,500 V _{DC}
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Mechanical

Dimension	260 x 34.6 x 140.2 mm (10.24" x 1.36" x 5.52")
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Environment

Operating Temp	0 ~ 40 °C
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Ordering Information

P/N	Description
AMO-2203E	2-Port isolated CAN-Bus

AMO-2204E

3-Port GbE + iDoor



Specifications

General

Bus interface	MIOe
Ports	3 x RJ45 10/100/1000 Mbps ports
Chipset	Intel 82583V Gigabit Ethernet Controller
Other	1 x iDoor

Mechanical

Dimension	260 x 34.6 x 140.2 mm (10.24" x 1.36" x 5.52")
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Environment

Operating Temp	0 ~ 40 °C
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Ordering Information

P/N	Description
AMO-2204E	3-Port GbE + iDoor

* 2nd iDoor supported. Please refer to *Optional MOS modules for iDoor Expansion

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