

ARK-3520P

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

Preliminary



WISE-PaaS/RMM iManager



Features

- Intel® Core™ i3/i5/i7 processor (BGA)
- Triple independent display: VGA + HDMI + Optional (2nd HDMI/DP/DVI-D)
- DDR4 SO-DIMM memory up to 32 GB
- Flexible Expansion via PCI/PCIe4
- 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

Specifications

Processor System	CPU	Intel Core i7-6820EQ	Intel Core i5-6440EQ	Intel Core i3-6100E
	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		
Memory	BIOS	AMI EFI 128Mbit		
	Technology	DDR4 2133 MHz		
	Max. Capacity	32 GB		
Graphics	Socket	2 x 260-pin SO-DIMM		
	Chipset	Intel QM170 Integrated GFX Gen 9		
	Graphic Engine	Direct3D 2015, OpenGL 5.0 OpenCL 2.1 HW Encode: H.265/HEVC, H.264, MPEG2, HW Decode: H.264, Direct3D 12, Direct2D, OpenGL 5.0, OpenCL 2.1/2.0/1.2		
	VGA	1920x1200@60Hz		
	HDMI	1 HDMI port, HDMI 1.4a for HD video playback, 3840x2160@30Hz		
Ethernet	Optional 3rd Display module	DVI-D / DP / 2nd HDMI Display Port		
	Triple Display	VGA+HDMI + 3rd display module		
	LAN1	10/100/1000 Mbps Intel I219-LM GbE, support Wake On Lan		
Audio	LAN2	10/100/1000 Mbps Intel I210 GbE, support Wake On Lan		
	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) 2 Slots PCIe x 4 (Optional) 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

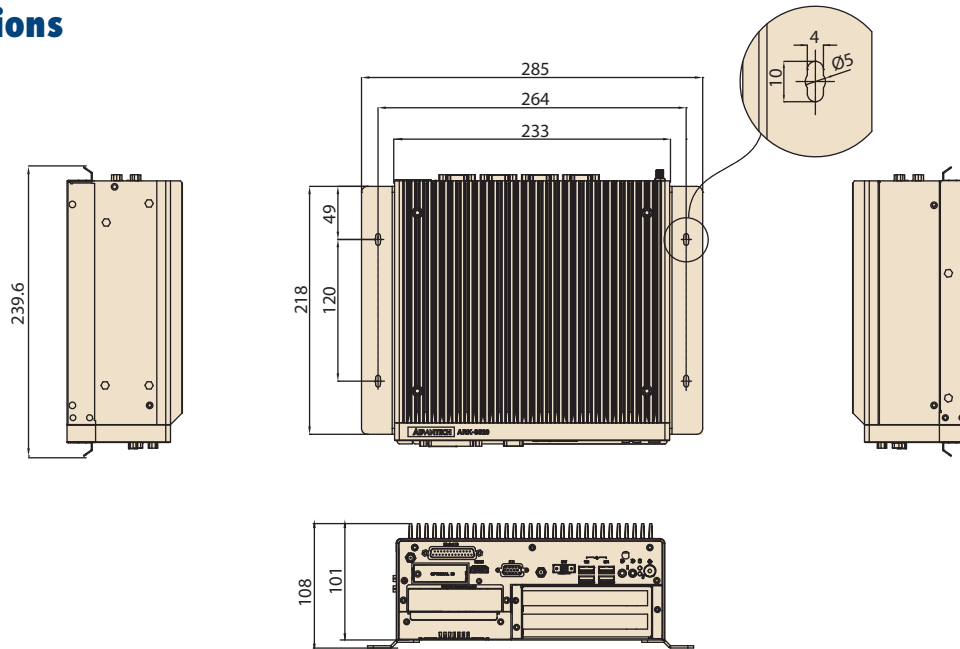
Fanless Embedded Box PCs

All product specifications are subject to change without notice.

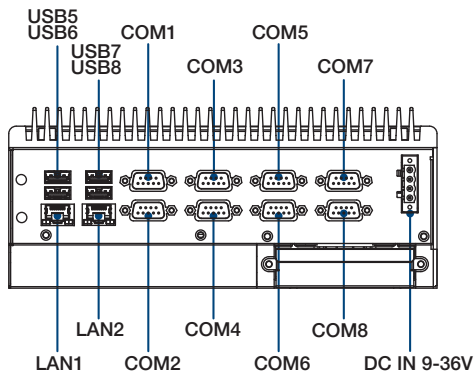
Last updated : 2-Sep-2016

Dimensions

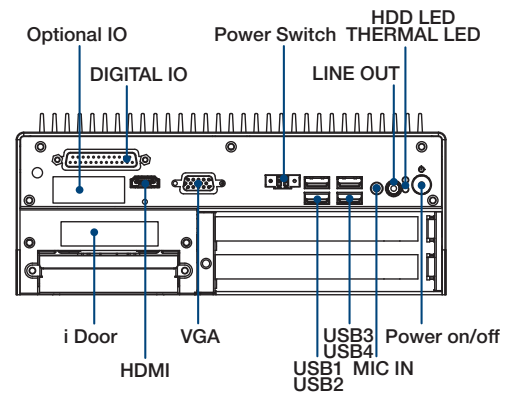
Unit: mm



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	DDR3	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.

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

ARK-3520 Default SKU Option Items

Optional Item for Default SKU

Part Number	Description
96PSA-A150W19P4-1	AC-to-DC Adapter, DC19V 150W
96PSA-A220W24P4-1	AC to DC Adapter, DC 24V 220W
1702002600	Power cable 3-pin 183cm, USA type
1702002605	Power cable 3-pin 183cm, EU type
1702031801	Power cable 3-pin 183cm, UK 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
-	DVI-D module
MIOe-731E	DP module
-	HDMI module

Optional Riser Expansion

Part Number	Description
AMO-R022E	2 x PCIe x 4