

ARK-2121L A2

Intel® Celeron® Quad Core J1900 SoC with Multiple I/Os Fanless Box PC



Features

- Intel® Celeron® J1900 Quad Core 2.0 GHz SoC with Turbo boost support
- VGA and HDMI dual independent display
- 9 ~ 36 V_{DC} wide range power input
- -20 ~ 70° C extend temperature operating
- Mini PCIe expansion with SIM holder for communication module
- mSATA and 1 x 2.5" SATA storage device
- Advantech iDoor module compatible
- Advantech EMIO miniPCIe module compatible with all-in-one ordering



susiAccess iManager

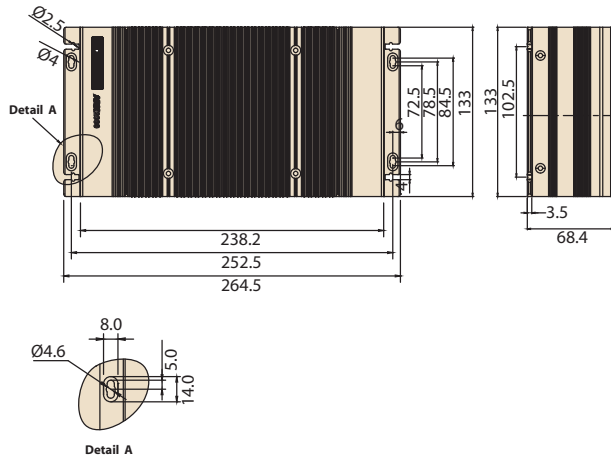


Specifications

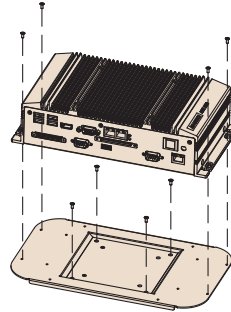
		ARK-2121L-U0A2E
Processor System	CPU	Intel Celeron Processor J1900 Quad Core SoC
	Frequency	2.0 GHz, turbo boost up to 2.42 GHz
	L2 Cache	2 MB
	BIOS	AMI EFI
Memory	Technology	DDR3L 1333 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel Celeron J1900 SoC integrated, 7th Gen. Intel Graphic core
	Graphic Engine	DirectX 11.1, OCL 1.2, OGL 3.2 Encode: H.264, MPEG2/4, VC1, WMV9 Decode: H.264, MPEG2
	VGA	Up to 2048 x 1152 @ 60Hz
	HDMI	HDMI 1.4a for HD video playback, 1080P at 60Hz
	DisplayPort*	Up to 2048 x 1152 at 60Hz(by project only)
Ethernet	LAN1	10/100/1000 Mbps Intel i210 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, Line-in
IO Interface	Serial Ports	2 x RS-232 ports, 2 x RS-232/422/485 port with auto flow control
	USB Interface	1 x USB 3.0, 3 x USB 2.0
Other	Watchdog timer	255 levels timer interval, setup by software
Expansion	Mini PCIe	1 x full size Mini PCIe with SIM holder
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, with USB signal co-lay
Software Support	Microsoft Windows	WES8, Windows 8, WES7, Windows 7
	Linux	Support by project
Power Requirement	Power Type	ATX
	Power Input Voltage	9 ~ 36 V _{DC}
	Minimum Power Input	12 V, 1.5 A
Power Consumption	Power Adapter	AC to DC, DC19 V/3.42 A, 65 W (Optional)
	Typical	7.3W
	Max.	13.3W
Mechanical	Construction	Aluminum housing
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting
	Dimensions (W x H x D)	264.5 x 68.4 x 133.0 mm (10.41" x 2.69" x 5.24")
	Weight	2.3 kg (5.07 lb)
Environment	Operating Temperature	With extended temperature peripherals: -20 ~ 70° C (-4 ~ 158° F) with 0.7m/s air flow With 2.5-inch hard disk 0 ~ 45° C (32 ~ 112° 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 A, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI

* DisplayPort is supported by project only.

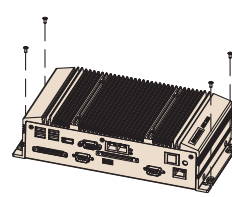
Dimensions



VESA mount

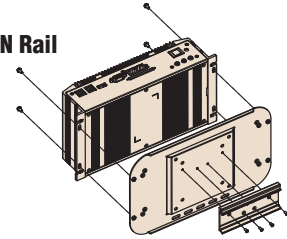


Wall mount

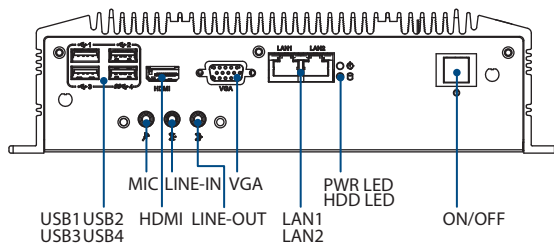


Unit: mm

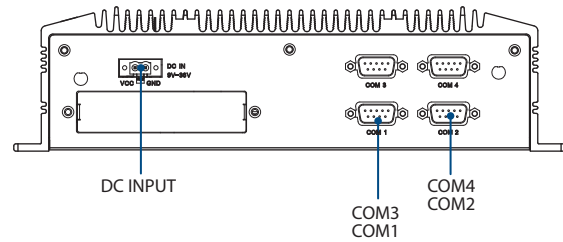
DIN Rail



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	VGA	HDMI/DP*	GbE	USB 2.0	USB 3.0	RS-232	RS-232/422/485	Audio	Full-size MiniPCIe	SIM	mSATA	2.5" SATA II HDD Bay	Power Input	Operating Temp.
ARK-2121L-U0A2E	Intel Celeron J1900 2.0GHz	Yes	Yes	2	3	1	2	2	Lin-out, Line-in, MIC	1	1	1	1	9 ~ 36 V _{DC}	-20 ~ 70° C

Note: Memory, storage and operating system bundled by request.
*DP is support by project only.

Packing List

Part Number	Description
-	1 x ARK-2121 Unit
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS
1700009001	1x 2-pin Phoenix to DC-Jack power cable

Embedded OS

Part Number	Description
2070014047	WES7E 64bit ENG/T-CH/S-CH/JP
2070014394	WES7P 64bit 10MUI
2070015082	Win10 64bit ENG

Note: Default BIOS is for 64bit OS support only. 32bit OS will need to update BIOS (1420036591)

Optional Items

Part Number	Description
96PSA-A65W19P2-2	AC-to-DC Adapter, DC 19V/3.42A 65W, 0 ~ 40° C for Home and Office Use
1700001524	Power cable 3-pin 183cm, USA type
170203183C	Power cable 3-pin 183cm, EU type
170203180A	Power cable 3-pin 183cm, UK type
AMK-V019E	VESA mounting kit
AMK-R005E	DIN-rail mounting kit

Optional MOS modules

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-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, DB37, 4-Ch, PCIe I/F
MOS-1121Y-1402E	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
MOS-2120-Z1201	GigaLAN Ethernet module, mPCIe, RJ45 2-Ch, PCIe I/F

ARK-2150F

3rd Generation Intel® Core™ i7 with
4 x GbE, Isolated DIO & wide range
power Fanless Box PC

NEW



Features

- Intel® Core™ i7 processors + Intel QM77 PCH
- 1 x DDR3/DDR3L SO-DIMM, support up to 8 GB
- DirectX11, OpenGL3.1, OpenCL1.1
- Supports Intel AMT8.0
- Supports 4 x Intel GbE
- Support 4ch digital input and 4ch digital output with 2.5KV isolation
- Supports 3 x USB 3.0, 3 x USB 2.0, 4 COMs ports
- Supports 1 x internal mSATA socket and 1 x 2.5" SATA HDD Bay
- 12~24V wide range DC input with lockable connector
- Supports iManager, SUSIAccess and Embedded Software APIs



susiAccess iManager



Specifications

		ARK-2150F-S7A1E
Processor System	CPU	Intel ULV Core i7 3517UE
	Frequency	Dual Core 1.7 GHz (Max Turbo Frequency 2.8 GHz)
	L3 Cache	4 MB
	System Chipset	Intel QM77
	BIOS	AMI EFI 64Mbit
Memory	Technology	DDR3 1600MHz, DDR3L 1333 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel QM77 Integrated GFX Gen 7
	Graphic Engine	DirectX11, OpenGL 3.1, and Open CL 11 Hardware decode acceleration: AVC/H.264, M PEG-2, VC-1
	VGA	Integrated 340.4MHz RAMDAC, Max resolution up to 2048 x 1536 @ 75Hz
	HDMI/DP*	Supports HDMI 1.4 for HD Video playback (no hotplug support) Max resolution up to 2560 x 1600 @ 60Hz on DisplayPort*, Max resolution up to 1920 x 1200 @ 60Hz on HDMI
	DVI-D	Max resolution up to 1920 x 1200
	Dual independent display	Yes, VGA+HDMI/DisplayPort*, VGA+HDMI/DVI-D, VGA+DVI-D, HDMI/DisplayPort*+DVI-D
Ethernet	LAN1	10/100/1000 Mbps Intel 82579LM GbE, support Wake On Lan
	LAN2/LAN3/LAN4	10/100/1000 Mbps Intel 82583V GbE
Audio	Interface	Realtek ALC892, High Definition Audio. Line-out, Mic-in, Line-in
I/O Interface	Serial Ports	4 x RS-232/422/485 port with auto flow control
	USB Interface	3 x USB 3.0 ports and 3 x USB 2.0 ports
Other	Digital I/O	4ch digital input and 4ch digital output with 2.5KV isolation
	Watchdog timer	255 levels timer interval, setup by software
Expansion	Mini PCIe	2 x Full-size Mini PCIe (Supports mSATA & SIM) 1 x Half-size Mini PCIe
	HDD	Supports one SATA 2.5" HDD Bay (Compatible with 12.5mm height HDD) (Max. Data Transfer Rate 600 MB/s)
Storage	SSD	Supports one internal mSATA socket
	Microsoft Windows	Windows 7, Windows 7 Embedded, XP Professional, XP Embedded
Power Requirement	Linux	Ubuntu 12.04
	Power Type	AT/ATX
	Power Input Voltage	12 ~ 24 V _{DC}
	Minimum Power Input	12 V ~ 24 V, 4.0 A ~ 2 A
Power Consumption	Power Adapter	AC to DC, DC 19V/3.42A 65W (Optional)
	Typical	10.3 Watt
Mechanical	Max.	25.7 Watt
	Construction	Aluminum housing
Environment	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting
	Dimensions (W x H x D)	264.5 x 75.1 x 133.0 mm (10.41" x 2.96" x 5.24")
	Weight	2.8kg (6.17lb)
	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 ~ 112° F) with 0.7m/s air flow
Environment	Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration During Operation	With SSD: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration
	EMC	CE/FCC Class A, CCC, BSMI
	Safety Certifications	UL, CCC, BSMI

*DisplayPort function is supported by project (no hotplug support).

ADVANTECH

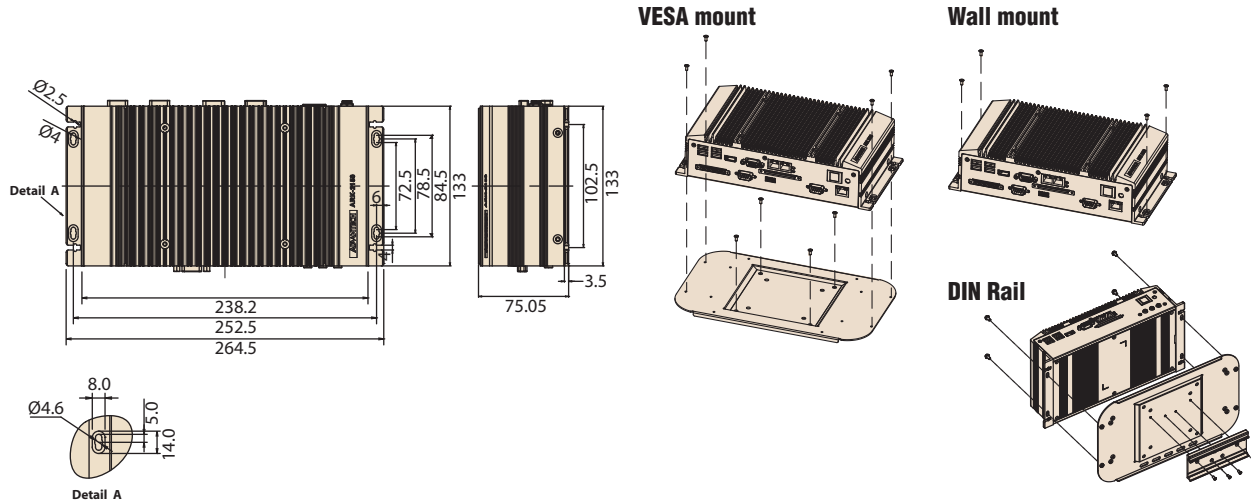
Fanless Embedded Box PCs

All product specifications are subject to change without notice

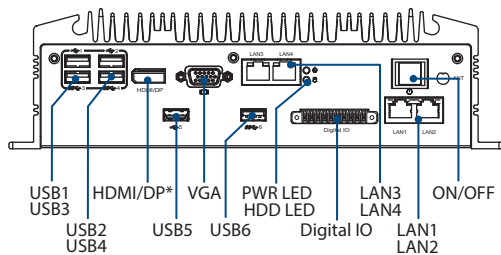
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Dimensions

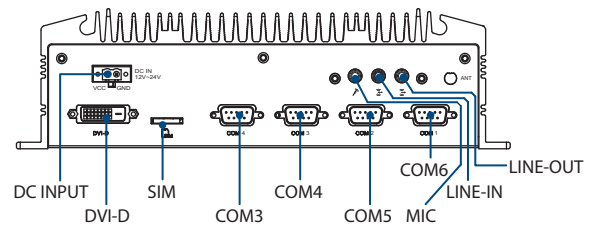
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Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	VGA	HDMI/DP*	DVI-D	GbE	USB 3.0	USB 2.0	RS-232/422/485	DIO	Audio	Half-size Mini PCIe	Full-size Mini PCIe	SIM	2.5" SATAII HDD Bay	Power Input	Operation Temp.
ARK-2150F-S7A1E	Intel Core i7 ULV 1.7GHz 3517UE	Yes	Yes	Yes	4	3	3	4	4ch DI and 4ch DO with 2.5KV isolation	Line-out, Line-in, MIC	1	2	1	1	DC 12-24V 2-pin phoenix head	-20 ~ 60° C

Note: Memory, storage and operating system bundled by request.
*DP is supported by project.

Packing List

Part Number	Description
-	1 x ARK-2150 Unit
-	1 x Utility CD
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS
1700009001	1 x 2-pin Phoenix to DC-Jack power cable

Embedded OS

Part Number	Description
2070011831	Image WES7E SP1 x32 ENG/JP/TC/SC
2070011830	Image WES2009 V4.2 multi 24 language

Optional Items

Part Number	Description
96PSA-A65W19P2-1	AC-to-DC Adapter, DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
XARK-9NA0904747	AC-to-DC Adapter, DC 19V/4.73A 90W, -20 ~ +70° C
1700001524	Power cable 3-pin 180cm, USA type
170203183C	Power cable 3-pin 180cm, EU type
170203180A	Power cable 3-pin 180cm, UK type
1700008921	Power cable 3-pin 180 cm, PSE type
AMK-V004E	VESA mounting kit
AMK-R004E	DIN-rail mounting kit

ARK-2150L

3rd Generation Intel® Core™ i3/i7 with Dual Independent Display Fanless Box PC

NEW



susiAccess iManager



Specifications

		ARK-2150L-S4A1E	ARK-2150L-S6A1E	ARK-2150L-S7A1E
Processor System	CPU	Intel Celeron 1047UE	Intel ULV Core i3 3217UE	Intel ULV Core i7 3517UE
	Frequency	Dual Core 1.4 GHz	Dual Core 1.6 GHz	Dual Core 1.7 GHz (Max Turbo Frequency 2.8 GHz)
	L3 Cache	2 MB	3 MB	4 MB
	System Chipset	Intel QM77		
	BIOS	AMI EFI 64Mbit		
Memory	Technology	DDR3 1600MHz, DDR3L 1333 MHz		
	Max. Capacity	8 GB		
	Socket	1 x 204-pin SO-DIMM		
Graphics	Chipset	Intel QM77 Integrated GFX Gen 7		
	Graphic Engine	DirectX11, OpenGL 3.1, and Open CL 1.1 Hardware decode acceleration: AVC/H.264, M PEG-2, VC-1		
	VGA	Integrated 340.4MHz RAMDAC, Max resolution up to 2048 x 1536 @ 75Hz		
	HDMI/DP*	Supports HDMI 1.4 for HD Video playback (no hotplug support) Max resolution up to 2560 x 1600 @ 60Hz on DisplayPort*, Max resolution up to 1920 x 1200 @ 60Hz on HDMI		
	Dual Display	Yes, VGA + HDMI or VGA + DisplayPort*		
Ethernet	LAN1	10/100/1000 Mbps Intel 82579LM GbE, support Wake On Lan		
	LAN2	10/100/1000 Mbps Intel 82583V GbE, support Wake On Lan		
Audio	Interface	Realtek ALC892, High Definition Audio. Line-out, Mic-in, Line-in		
I/O Interface	Serial Ports	2 x RS-232 ports, 2 x RS-232/422/485 port with auto flow control		
	USB Interface	2 x USB 3.0 ports and 4 x USB 2.0 ports		
Other	Digital I/O	8-bits programmable general purpose input/output		
	Watchdog timer	255 levels timer interval, setup by software		
Expansion	Mini PCIe	2 x Full-size Mini PCIe (One supports mSATA & the other with SIM holder) 1 x Half-size Mini PCIe		
	HDD	Supports one SATA 2.5" SATA HDD Bay (Compatible with 12.5mm height HDD) (Max. Data Transfer Rate 600 MB/s)		
Storage	SSD	Supports one internal mSATA socket		
	Microsoft Windows	Windows 7, Windows 7 Embedded, XP Professional, XP Embedded		
Software Support	Linux	Ubuntu 12.04		
	Power Type	AT/ATX		
Power Requirement	Power Input Voltage	12 V _{DC} , ± 10%		
	Minimum Power Input	12 V, 4 A		
	Power Adapter	AC to DC, DC12 V/5 A, 60 W (Optional)		
Power Consumption	Typical	9.6 Watt (with Intel Core i7 3517UE CPU and 2 GB memory)		
	Max.	24.96 Watt (with Intel Core i7 3517UE CPU and 2 GB memory)		
Mechanical	Construction	Aluminum housing		
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting		
	Dimensions (W x H x D)	264.5 x 75.1 x 133.0 mm (10.41" x 2.96" x 5.24")		
	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 ~ 112° 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: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.		
	Shock During Operation	With SSD: 50 G, IEC 60068-2-27, half sine, 11 ms duration		
	EMC	CE/FCC Class A, CCC, BSMI		
	Safety Certifications	UL, CCC, BSMI		

*DisplayPort function is supported by project (no hotplug support)

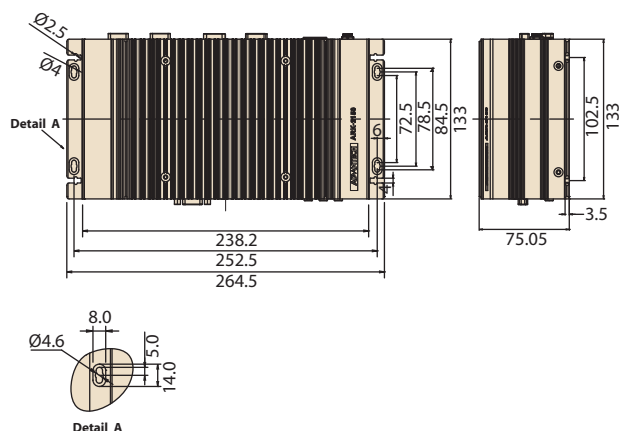
ADVANTECH

Fanless Embedded Box PCs

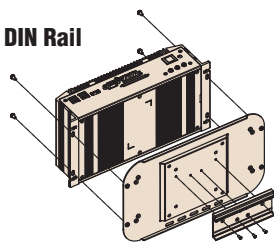
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Last updated : 20-Apr-2016

Dimensions

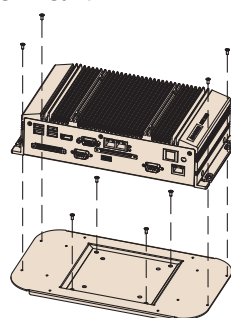


DIN Rail

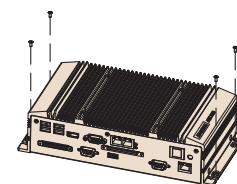


Unit: mm

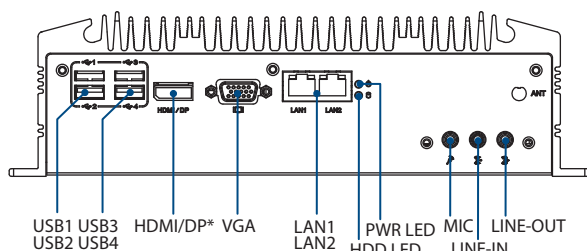
VESA mount



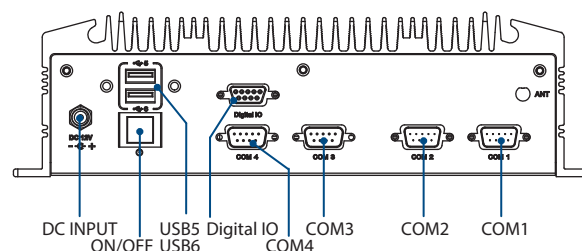
Wall mount



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	RAM	VGA	HDMI/DP*	GbE	USB 3.0	USB 2.0	RS-232	RS-232/422/485	DIO	Half-size Mini PCIe	Full-size Mini PCIe	SIM	2.5" SATAIII HDD Bay	Power Input	Operation Temp.	OS
ARK-2150L-S4A1E	Intel Celeron 1.4GHz 1047UE	upto 8GB	Yes	Yes	2	2	4	2	2	8-bits	1	2	1	1	DC 12V Lockable DC Jack	-20 ~ 60° C	-
ARK-2150L-S6A1E	Intel Core i3 ULV 1.6GHz 3217UE	upto 8GB	Yes	Yes	2	2	4	2	2	8-bits	1	2	1	1	DC 12V Lockable DC Jack	-20 ~ 60° C	-
ARK-2150L-S7A1E	Intel Core i7 ULV 1.7GHz 3517UE	upto 8GB	Yes	Yes	2	2	4	2	2	8-bits	1	2	1	1	DC 12V Lockable DC Jack	-20 ~ 60° C	-
ARK-2150LS-S7A1E	Intel Core i7 ULV 1.7GHz 3517UE	4GB built in	Yes	Yes	2	2	4	2	2	8-bits	1	2	1	500GB HDD built in	DC 12V 1757004339-01 bundled	0 ~ 45° C	WES7E 64 bit built-in ENG/JP/TC/SC

Note: Memory, storage and operating system bundled by request.
*DP function is supported by project.

Packing List

Part Number	Description
-	1 x ARK-2150 Unit
-	1 x Utility CD
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS

Embedded OS

Part Number	Description
2070011831	Image WES7E SP1 x32 ENG/JP/TC/SC
2070011830	Image WES2009 V4.2 multi 24 language

Optional Items

Part Number	Description
96PSA-A60W12W6	AC to DC Adaptor, DC 12V/5A 60W, with lock
1702002600	Power cable 3-pin 180cm, USA type
1702031801	Power cable 3-pin 180cm, UK type
1702002605	Power cable 3-pin 180cm, EU type
1700000237	Power cable 3-pin 180cm, with PSE
AMK-V004E	VESA mounting kit
AMK-R004E	DIN-rail mounting kit

ARK-2230L A2

Intel® Celeron® Quad Core J1900 SoC Modular Fanless Box PC



*Dual Layer model is ARK-2230 with ARK Plus module

Features

- Intel® Celeron® J1900 Quad Core 2.0 GHz SoC
- VGA and HDMI dual independent display
- 12V lockable DC jack power input
- 9-36V power module compatible with all-in-one ordering
- -20 ~ 60 °C extend temperature operating
- Mini PCIe expansion with SIM holder for communication module
- mSATA and 1 x 2.5" SATA storage device
- Advantech iDoor module compatible
- Advantech EMIO miniPCIe module compatible with all-in-one ordering
- Advantech MIOe module compatible with all in one ordering (2 Layers)

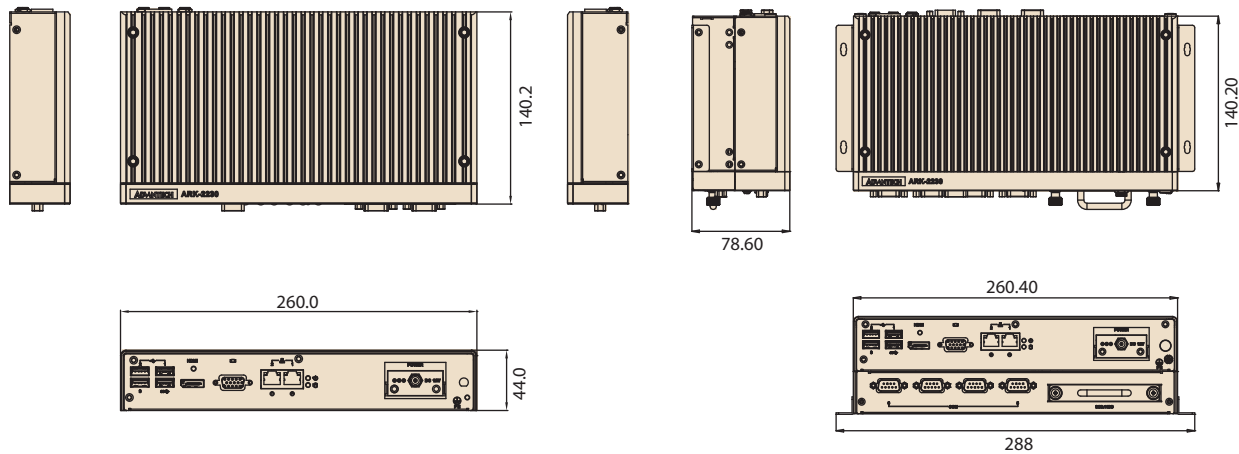


Specifications

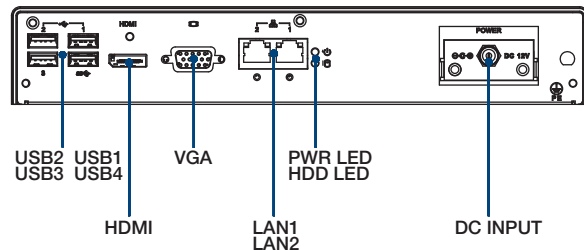
		ARK-2230L-U0A2E
Processor System	CPU	Intel Celeron Processor J1900 Quad Core SoC
	Frequency	2.0 GHz
	L2 Cache	2 MB
	BIOS	AMI EFI
Memory	Technology	DDR3L 1333 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel Celeron J1900 SoC integrated, 7th Gen. Intel Graphic core
	Graphic Engine	DirectX 11.1, OCL 1.2, OGL 3.2 Encode: H.264, MPEG2/4, VC1, WMV9 Decode: H.264, MPEG2
	VGA	Up to 2048 x 1152 @ 60Hz
	HDMI	HDMI 1.4a for HD video playback, 1080P at 60Hz
	Dual Display	Yes, VGA + HDMI
Ethernet	LAN1	10/100/1000 Mbps Intel i210 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, Line-in
IO Interface	Serial Ports	2 x RS-232 ports, 2 x RS-232/422/485 port with auto flow control
	Digital I/O	8bit programmable general purpose input/output
	USB Interface	1 x USB 3.0, 4 x USB 2.0
Other	Watchdog timer	255 levels timer interval, setup by software
Expansion	Mini PCIe	1 x full size Mini PCIe with SIM holder
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, with USB signal co-lay
Software Support	Microsoft Windows	Windows 10, WES8, Windows 8, 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, 1.5 A
	Power Adapter	AC to DC, DC12V/5A, 60W (Optional)
Power Consumption	Typical	7.3W
	Max.	13.3W
Mechanical	Construction	Aluminum housing
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting
	Dimensions (W x H x D)	260 x 44 x 140.2 mm (10.24" x 1.73" 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 ~ 40 °C (32 ~ 104 °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

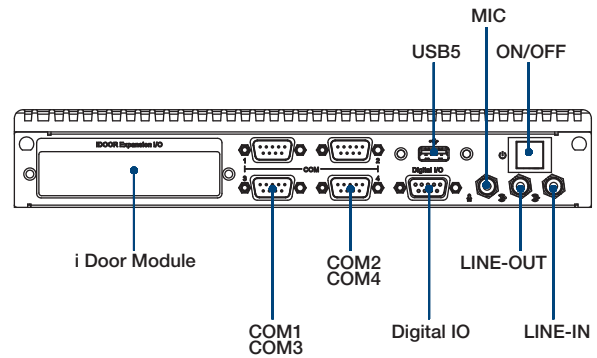


Front Panel External I/O Mechanical Layout/Drawing



*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	RS-232/422/485	Audio	Full-size MiniPCIe	SIM	mSATA	2.5" SATA II HDD Bay	Power Input	Operating Temp.
ARK-2230L-U0A2E	Intel Celeron J1900 2.0GHz	Yes	Yes	2	4	1	2	2	Lin-out, Line-in, MIC	1	1	1	1	12 V _{DC}	-20 ~ 60 °C

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

Packing List

Part Number	Description
ARK-2230L-U0A2E	1 x ARK-2230L Unit
2006K22310	1 x User Manual (Simplified Chinese)
2026K22300	1 x China RoHS
1960071555N001	Wall mounting kit

ARK-2230 Default SKU Option Items

Optional Embedded OS

Part Number	Description
2070013990	WES7E 64bit ENG/T-CH/S-CH/JP
2070015119	WES7P 64bit ENG/T-CH/S-CH/JP
2070014896	Win10Ent 64bit ENG

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-R005E	DIN Rail mount kits
AMK-V019E	VESA mount kits

ARK-2230 Single Layer Expansion Option Items

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-0202E	Isolated RS-232, 2-Ch, DB9, PCIe Interface
MOS-1121Y-0202E	Isolated RS-422/485, 2-Ch, DB9, PCIe Interface
MOS-1120Y-1402E	Non-Isolated RS-232, DB37, 4-Ch, PCIe Interface
MOS-1121Y-1402E	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
MOS-2120-Z1201	GigaLAN Ethernet module, mPCIe, RJ45 2-Ch, PCIe I/F

*Please noted ARK-2230L can support only 1 iDoor for single layer.

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)

ARK-2230 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

* For Win 8.1/Win10, please update BIOS with Advantech part number 1420048117

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 _{oc}
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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

ARK-2232L

Intel® Atom® E3940 SoC Modular Fanless Box PC

NEW



*Dual Layer model is ARK-2232 with ARK Plus module



Features

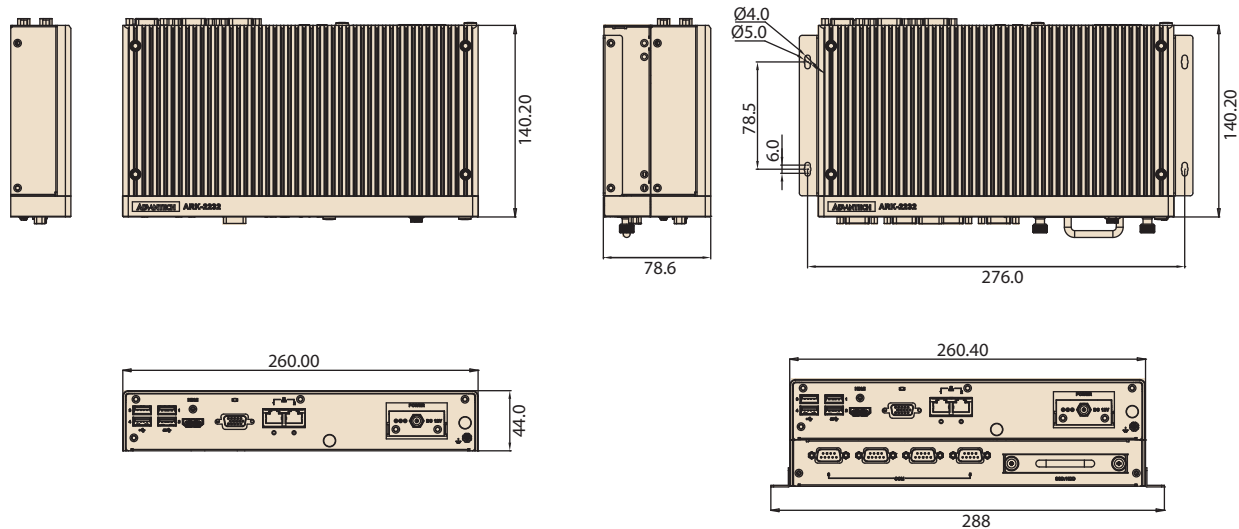
- Intel® Atom® E3940 Quad Core SoC
- Dual independent displays with one 4K HDMI and one VGA
- 12V lockable DC jack power input
- 9-36V power module compatible with all-in-one ordering
- -20 ~ 60 °C extend operating temperature
- Mini PCIe expansion with SIM holder for communication module
- M.2 NGFF 2230 E Key for WiFi communication module
- mSATA and 1 x 2.5" SATA storage device
- Advantech iDoor module compatible
- Advantech EMIO miniPCIe module compatible with all-in-one ordering
- Advantech MIOe module compatible with all-in-one ordering (2 Layers)

Specifications

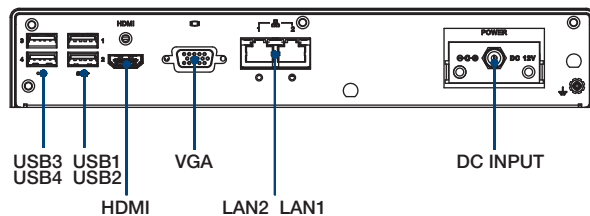
		ARK-2232L-S6A1
Processor System	CPU	Intel Atom E3940 Quad Core SoC
	Frequency	1.6 GHz, turbo burst 1.8 GHz
	L2 Cache	2MB
	BIOS	AMI EFI 64-bit
Memory	Technology	DDR3L 1866 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel HD Graphics 500
	Graphic Engine	4K Codec Decode& Encode for H.264, MPEG2, MVC, VC-1, WMV9, H.265 / HEVC, VP8, JPEG / MJPEG
	VGA	Up to 1920 x 1200 @ 60Hz
	HDMI	HDMI 1.4b for HD video playback, 3840 x 2160 at 30Hz
Ethernet	Dual Display	Yes, VGA + HDMI
	LAN1	10/100/1000 Mbps Intel i210-IT GbE, supports Wake On LAN
IO Interface	LAN2	10/100/1000 Mbps Intel i210-IT GbE, supports Wake On LAN
	Serial Ports	2 x RS-232 ports, 2 x RS-232/422/485 port with auto flow control
	Digital I/O	8-bit programmable general purpose input/output
	USB Interface	2 x USB 3.0, 4 x USB 2.0
Other	TPM	TPM 2.0 power by Infineon SLB9665TT2.0 (by project support)
	Watchdog timer	255 levels timer interval, setup by software
Expansion	Mini PCIe	1 x full size Mini PCIe with SIM holder (PCIex1, USB 2.0, UIM, SATA III)
	M.2	1 x M.2 2230 E Key (PCIex1, UBS 2.0)
Storage	HDD	Supports one SATA 2.5" HDD Bay (Compatible with 12.5mm height HDD) (Max. Data Transfer Rate 300 MB/s)
	mSATA	1 x full size mSATA socket (share with miniPCIe)
Software Support	Microsoft Windows	Windows 10
	Linux	Support by project
Power Requirements	Power Type	AT/ATX
	Power Input Voltage	12V _{DC} (9-36V as option)
	Minimum Power Input	12 V, 5 A
	Power Adapter	AC to DC, DC12V/5A, 60W (Optional)
Power Consumption (CPU/Memory only)	Typical	7.79W
	Max.	17.48W
Mechanical	Construction	Aluminum housing
	Mounting	Desk/Wall-mounting (Default), Din-Rail mounting (Optional kit), VESA mounting (Optional kit)
	Dimensions (W x H x D)	260 x 44 x 140.2 mm (10.24" x 1.73" x 5.52")
	Weight	Net Weight: 1.9kg (4.19 lbs); Gross Weight: 2.9kg (6.39 lbs)
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 ~ 40 °C (32 ~ 104 °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, CB, CCC, BSMI

Dimensions

Unit: mm

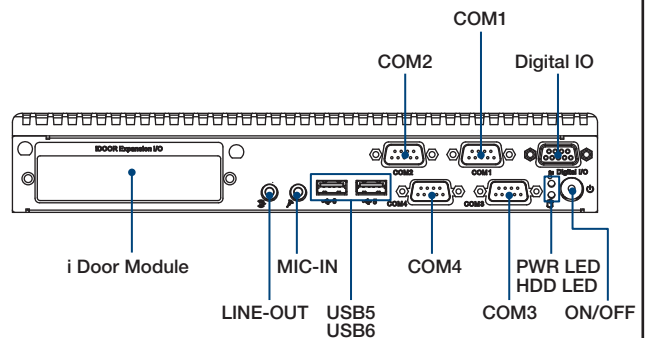


Front Panel External I/O Mechanical Layout/Drawing



*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	RS-232/422/485	Audio	Full-size MiniPCIe	M.2	SIM	mSATA	2.5" SATA III HDD Bay	Power Input	Operating Temp.
ARK-2232L-S6A1	Intel Atom E3940 1.6 GHz SoC	Yes	Yes	2	4	2	2	2	Lin-out, MIC-IN	1	1	1	1	1	12 V _{DC}	-20 ~ 60 °C

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

Packing List

Part Number	Description
-	1 x ARK-2232L Unit
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS
-	Wall mounting kit
-	RMM 3.2 Utility CD Package

ARK-2232 Default SKU Option Items

Optional Embedded OS

Part Number	Description
20706WX6ES0019	W10 16EL ARK-2232 64bit 1709 ENG

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-R005E	DIN Rail mount kits
AMK-V019E	VESA mount kits

ARK-2232 Single Layer Expansion Option Items

Optional MOS Modules for iDoor Expansion

Part Number	Description
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-0202E	Isolated RS-232, 2-Ch, DB9, PCIe Interface
MOS-1121Y-0202E	Isolated RS-422/485, 2-Ch, DB9, PCIe Interface
MOS-1120Y-1402E	Non-Isolated RS-232, DB37 to 4-ch DB9, PCIe Interface
MOS-1121Y-1402E	Non-Isolated RS-422/485, DB37 to 4-ch DB9, 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
MOS-2220-Z1101E	High Speed COM USB module, 1-Ch, PCIe Interface
MOS-2120-Z1201	Dual Intel I210 GbE LAN iDoor, 2-Ch, PCIe Interface
MOS-2230-Z1201E	CANBus module, 2-Ch, USB Interface

*ARK-2232L can support only one iDoor.

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)

ARK-2232 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-2202E (2 nd Layer)	4x10/100/1000Base T(X) PoE
AMO-2203E (2 nd Layer)	2-Port isolated CAN-Bus
AMO-2204E (2 nd Layer)	3-port GbE + iDoor

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")
Environment	
Operating Temp.	0 ~ 40 °C

Ordering Information

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

AMO-2202E (AMO-I018)

4 x 10/100/1000Base T(X) PoE



Specifications

General	
Bus interface	MIOe
Ports	4 x RJ45 10/100/1000 Mbps PoE ports
Power consumption	Typical 15W, Max: 60W
Compatibility	IEEE 802.3, IEEE 802.3u, IEEE802.3ab, IEEE802.3x, IEEE802.3af Powered Device (PD) auto detection and classification Supports IEEE 802.3u Auto-Negotiation
Power	
Input	12 V _{DC} power input 4 pin phoenix power (Change System Power input Cable)
Output PoE Power	15W at 48 V _{DC} per PoE port
Mechanical	
Dimension	260 x 34.6 x 140.2 mm (10.24" x 1.36" x 5.52")
Environment	
Operating Temp.	0 ~ 40 °C

Ordering Information

P/N	Description
AMO-2202E	4 x 10/100/1000Base T(X) PoE

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}
Mechanical	
Dimension	260 x 34.6 x 140.2 mm (10.24" x 1.36" x 5.52")
Environment	
Operating Temp.	0 ~ 40 °C

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")
Environment	
Operating Temp.	0 ~ 40 °C

Ordering Information

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

*ARK-2232 supports one iDoor only.