ARK-2231R

EN50155 Intel® Atom E3845 SoC Rolling Stock Fanless System

Features

- Intel® E3845 Quad Core 1.91 GHz SoC
- Stackable extension design, option extension kit for applications
- DC 24V EN50155 S2/C1 compliant, DC 48/72/110V by project
- -40 ~ 70 °C wide temperature support with EN50155 TX compliant
- Solid connection for LAN/USB/Audio/COM and power input
- Anti-vibration/shock proof, IEC61373 Category1, ClassB
- Built-in Advantech remote management software WISE-PaaS/RMM

Specifications

		ARK-2231R-S9A2E
Processor System	CPU	Intel® E3845 Quad Core
	Frequency	1.91 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® Gen7 Graphics
	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 2560 x 1600 @ 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, M12 X-Coded
	LAN2	10/100/1000 Mbps Intel i210 GbE, support Wake On Lan, M12 X-Coded
Audio	Interface	Realtek ALC888S, High Definition Audio. Line-out,Mic-in,Line-in
IO Interface	Serial Ports	2 x RS-232/422/485 port with auto flow control
	USB Interface	1 x USB2.0/3.0 Water-proof, 1 x USB2.0 M12 A-Coded, 1 x USB2.0 Type A
	GPIO	8bit Programable DI/DO
Other	Watchdog timer	255 levels timer interval, setup by software
Expansion	Mini PCIe	1 x Full-size Mini PCIe (SATA/PCIe/USB) 1 x Full-size Mini PCIe (PCIe/USB) 1 x Full-size Mini PCIe (USB) w/Accessible SIM socket
Storage	SSD/HDD	1 x 2.5" SATA drive bay
	mSATA	1 x full size mSATA socket
Software Support	Microsoft Windows	Win7, Win10
	Linux	Support by project
Power Requirement	Power Type	ATX
	Power Input Voltage	DC 24V - StandardDC 48/72/110V - by project
	Regulation	EN50155 S2/C1 Compliant
	Power Adapter	24V/ 150W (Option)
Power Consumption	Typical	18W
	Max.	45W
Mechanical	Construction	Aluminum housing
	Mounting	Wall / VESA / DIN-Rail Kit options
	Dimensions (W x H x D)	260 x 57 x 160.2 mm
	Weight	2.3 kg (5.07 lb)
Environment	Operating Temperature	With extended temperature peripherals: -40 ~ 70 °C EN50155 TX
	Storage Temperature	- 40 ~ 85 °C (-40 ~ 185 °F)
	Relative Humidity	95% @ 40 °C (non-condensing)
	Vibration During Operation	IEC61373 Category1, Class B
	Shock During Operation	IEC61373 Category1, Class B
	EMC	CE/FCC Class B, CCC, BSMI, EN50155
	Safety Certifications	UL, CCC, BSMI, CB, EN50155 (No RED certification)

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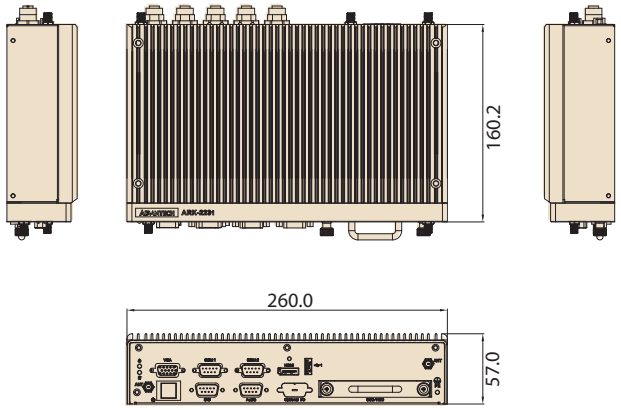
All product specifications are subject to change without notice.

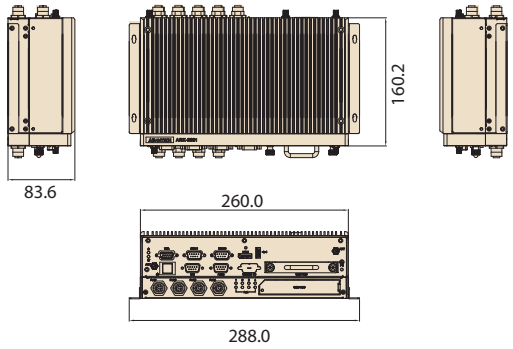
Dimensions

Unit: mm

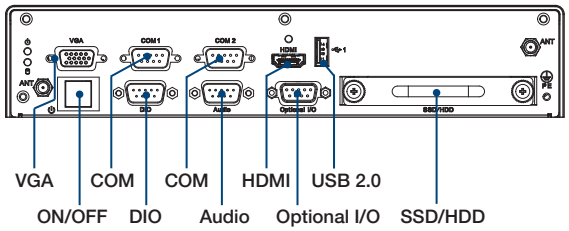
ARK-2231R



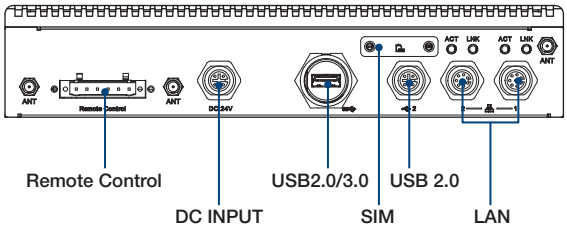
ARK-2231R+AMK-R100E



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	RAM	Display	GbE	USB 2.0	USB 2.0/ 3.0	DIO	RS-232/ 422/485	Audio	Full-size MiniPCIe	SIM	mSATA	2.5" SATA II Drive Bay	Power Input	Operating Temp.
ARK-2231R-S9A2E	Intel® Atom E3845 DC 1.91GHz	Up to 8G	1 x HDMI 1 x VGA	2	2	1	8 bit	2	Lin-out, Line-in, MIC	3	1	1	1	24 V_{DC}	-40 ~ 70 °C
ARK-2231R-S9A2EPOE*	Intel® Atom E3845 DC 1.91GHz	Up to 8G	1 x HDMI 1 x VGA	2	2	1	8 bit	2	Lin-out, Line-in, MIC	3	1	1	1	24 V_{DC}	-40 ~ 70 °C

* : This P/N is for AMK-R100E / AMK-R101E / AMK-R104E / AMK-R105E application
Note: Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
ARK-2231R-S9A1E	1 x ARK-2231R Unit
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS
1960071555N011	2 x Wall mounting brackets for ARK-2231R
1652001524	1 x Terminal Block 6P 5.00mm

Optional Item for Default SKU

Part Number	Description
XARK-FSP180-AAAN3	AC-to-DC Adapter, DC24V/150W
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-C002E	M12 A-coded to USB type A female cable, 10cm
AMK-C005E	M12 X-coded to RJ-45 female cable, 10cm

Optional Embedded OS

Part Number	Description
2070015162	ARK-2231R WES7E OS image
20706WX9ES0048	ARK-2231R W10 19EL image

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

ARK-R Extended Modules

ARK-2231R+AMK-R100E

Extra 8 x GbE PoE + removable 2.5" drive bay

Specifications

General	
PoE	8 x 10/100/1000Base T(X) PoE+, 802.3at compliant, Total: 60W
PoE Connector	M12 X-coded, 8PIN
Drive bay	1 x Removable 2.5" drive bay
Mechanical	
Dimension	260 x 26.5 x 160.2
Environment	
Operating temperature	-40 ~ 70 °C, EN50155 TX
Shock/Vibration	IEC61373 Category1, Class B

Ordering Information

P/N	Description
AMK-R100E	8 x GbE PoE M12 X-coded, 1 x removable 2.5" drive bay

ARK-2231R+AMK-R101E

Extra 4 x GbE PoE + removable 2.5" drive bay

Specifications

General	
PoE	4 x 10/100/1000Base T(X) PoE+, 802.3at compliant, Total: 60W
PoE Connector	M12 X-coded, 8PIN
Drive bay	1 x Removable 2.5" drive bay
Mechanical	
Dimension	260 x 26.5 x 160.2
Environment	
Operating temperature	-40 ~ 70 °C, EN50155 TX
Shock/Vibration	IEC61373 Category1, Class B

Ordering Information

P/N	Description
AMK-R101E	4 x GbE PoE M12 X-coded, 1 x removable 2.5" drive bay

ARK-2231R+AMK-R104E

Extra 8 x 10/100 Mbps PoE + removable 2.5" drive bay

Specifications

General	
PoE	8 x 10/100 Base T(X) PoE+, 802.3at compliant, Total: 60W
PoE Connector	M12 D-coded, 4PIN
Drive bay	1 x Removable 2.5" drive bay
Mechanical	
Dimension	260 x 26.5 x 140
Environment	
Operating temperature	-40 ~ 70 °C, EN50155 TX
Shock/Vibration	IEC61373 Category1, Class B

Ordering Information

P/N	Description
AMK-R104E	8 x 10/100 Mbps PoE M12 D-Coded, 1 x removable 2.5" drive bay

ARK-2231R+AMK-R105E

Extra 4 x 10/100 Mbps PoE + removable 2.5" drive bay

Specifications

General	
PoE	4 x 10/100 Base T(X) PoE+, 802.3at compliant, Total: 60W
PoE Connector	M12 D-coded, 4PIN
Drive bay	1 x Removable 2.5" drive bay
Mechanical	
Dimension	260 x 26.5 x 140
Environment	
Operating temperature	-40 ~ 70 °C, EN50155 TX
Shock/Vibration	IEC61373 Category1, Class B

Ordering Information

P/N	Description
AMK-R105E	4 x 10/100 Mbps PoE M12 D-Coded, 1 x removable 2.5" drive bay

Note: When installing PoE extension modules with ARK-2231R, please check ordering information or contact us for details.