

ARK-2250R

6th Gen Intel Core i7-6822EQ QC/i5-6442EQ QC
Rolling Stock Fanless System



Features

- Intel i7-6822EQ QC/ Intel i5-6442EQ QC SoC
- Stackable extension design, option extension kit for applications
- DC 24V EN50155 S2/C1 compliant, DC 48/72/110V options
- Supports intelligent boot-up & shutdown timing management
- 40 ~ 70 °C wide temperature support with EN50155 TX compliant
- Railway EMC comply with EN50121-3-2, EN50121-4
- Solid connection for LAN/USB/Audio/COM and power input
- Anti-vibration/shock proof, IEC 61373 Category1, ClassB
- Built-in Advantech remote management software WISE-PaaS/RMM



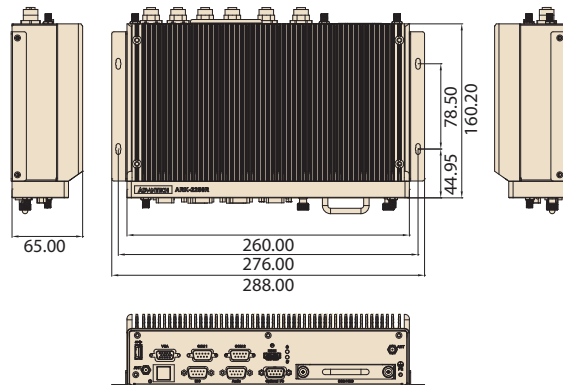
Specifications

		ARK-2250R-U0A1E	ARK-2250R-S9A1E	
Processor System	CPU	Intel i7-6822EQ QC SoC	Intel i5-6442EQ QC SoC	
	Frequency	2.0GHz	1.9GHz	
	L2 Cache	2 MB		
	BIOS	AMI EFI		
Memory	Technology	DDR4 2133MHz		
	Max. Capacity	32G		
	Socket	2 x 260-pin SO-DIMM		
Graphics	Chipset	QM170		
	Graphic Engine		DirectX 11.3, OGL 4.4, OCL 2.1 Encode: H.264, MPEG2/4, VC1, WMV9 Decode: H.264, MPEG2 EHVC: H.265	
		VGA	Up to 1920 x 1200 @ 60Hz	
		HDMI	HDMI 1.4a for HD video playback, 1080P at 60Hz	
		Dual Display	Dual HDMI (Std.) or VGA + HDMI (by project)	
Ethernet	LAN1	10/100/1000 Mbps Intel i210 GbE, support Wake On Lan, M12 X-Coded		
	LAN2	10/100/1000 Mbps Intel i219 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	2 x USB2.0 A-Coded, 1x USB3.0 Type A		
	GPIO	8bit Programmable DI/DO		
Other	Watchdog timer	255 levels timer interval, setup by software		
Expansion	Mini PCIe	#1, Full-size Mini PCIe (SATA/PCIe/USB) w/external SIM socket		
		#2, Full-size Mini PCIe (PCIe/USB) w/external SIM socket		
		#3, M.2 2230 E key		
Storage	SSD/HDD	1 x 2.5" SATA drive bay		
	mSATA	1 x full size mSATA socket (Mini PCIe #1)		
Software Support	Microsoft Windows	Win7, WES7, Win8, WSE8, Win10		
	Linux	Support by project		
Power Requirement	Power Type	ATX		
	Power Input Voltage	DC 24V - Standard DC 48/72/110V - Options		
	Regulation	EN50155 S2/C1 Compliant		
	Intelligent Ignition Management	Selectable boot-up & shut-down timer		
	Connector	M12 A-Coded (5Pin)		
Power Consumption	Power Adapter	24V/ 150W (Option)		
	Typical	TBD		
Mechanical	Max.	TBD		
	Construction	Aluminum housing		
	Mounting	Wall mounting kit		
	Dimensions (W x H x D)	260 x 73 x 160.2mm		
Environment	Weight	3.2 Kg		
	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, EN50121-3-2, EN50121-4		
Safety Certifications	UL, CCC, BSMI, CB, EN50155			

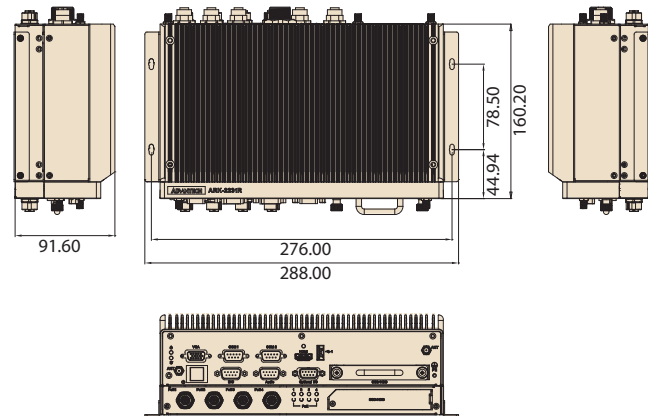
Dimensions

Unit: mm

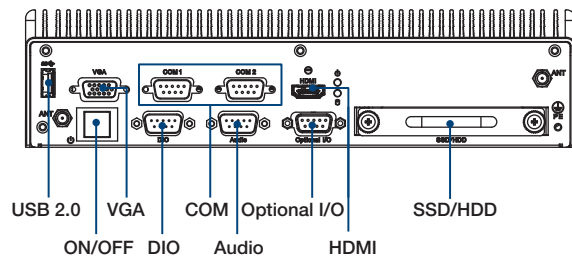
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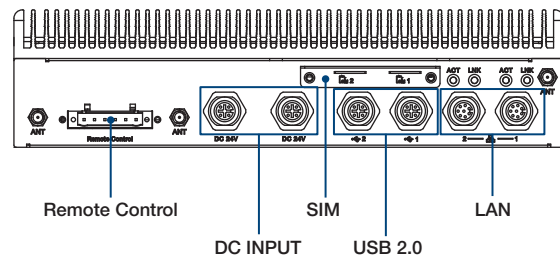
ARK-2250R+AMK-R100E



Front Panel External I/O Mechanical Layout/Drawing



Rear Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	VGA	HDMI	GbE	USB 2.0	USB 3.0	DIO	RS-232/422/485	Audio	MiniPCIe	M.2	SIM	mSATA	2.5" SATA Drive Bay	Power Input	Operating Temp.
ARK-2250R-U0A1E	Intel Core i7-6822EQ QC	1	1	2	2	1	8 bit	2	Lin-out, Line-in, MIC	2	1	2	1	1	24 V _{DC}	-40 ~ 70 °C
ARK-2250R-S9A1E	Intel Core i5-6442EQ QC	1	1	2	2	1	8 bit	2	Lin-out, Line-in, MIC	2	1	2	1	1	24 V _{DC}	-40 ~ 70 °C

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

Packing List

Part Number	Description
-	1 x ARK-2250R Unit
-	1 x User Manual (Simplified Chinese)
-	1 x China RoHS

Optional Embedded OS

Part Number	Description
TBD	WES7E 64bit ENG/T-CH/S-CH/JP
TBD	WES8E 64bit ENG/T-CH/S-CH/JP

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

Optional Item for Default SKU

Part Number	Description
TBD	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

ARK-R Extended Modules

ARK-2250R+AMK-R100E

Extra 8 x GbE PoE + removable 2.5" drive bay



Specifications

General	
Bus interface	MIOe
PoE	8 x 10/100/1000Base T(X) PoE, 802.3at compliant
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-2250R+AMK-R101E

Extra 4 x GbE PoE + removable 2.5" drive bay



Specifications

General	
Bus interface	MIOe
PoE	4 x 10/100/1000Base T(X) PoE, 802.3at compliant
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-2250R+AMK-R104E

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



Specifications

General	
Bus interface	MIOe
PoE	8 x 10/100 Base T(X) PoE, 802.3at compliant
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-2250R+AMK-R105E

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



Specifications

General	
Bus interface	MIOe
PoE	4 x 10/100 Base T(X) PoE, 802.3at compliant
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