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
- Support TPM2.0
- 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
	Cache	8 MB	6 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 i219 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	3 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 Programable DI/DO	
Other	Watchdog timer	255 levels timer interval, setup by software	
	TPM	TPM2.0 (Infineon SLB9665)	
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 - StandardDC 48/72/110V - Options	
	Regulation	EN50155 S2/C1 Compliant	
	Intelligent Ignition Management	Selectable boot-up & shut-down timer	
	Connector	M12 A-Coded (5Pin)	
	Power Adapter	24V/ 180W (Option)	
Power Consumption	Typical	22W	
	Max.	55W	
Mechanical	Construction	Aluminum housing	
	Mounting	Wall mounting kit	
	Dimensions (W x H x D)	260 x 73 x 160.2mm	
	Weight	3.2 Kg	
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, EN50121-3-2, EN50121-4	
	Safety Certifications	UL, CCC, BSMI, CB, EN50155 (No RED certification)	

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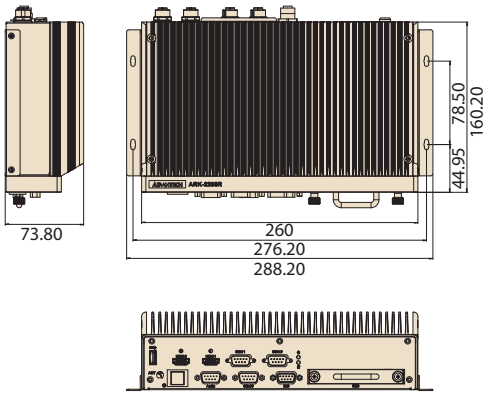
All product specifications are subject to change without notice.

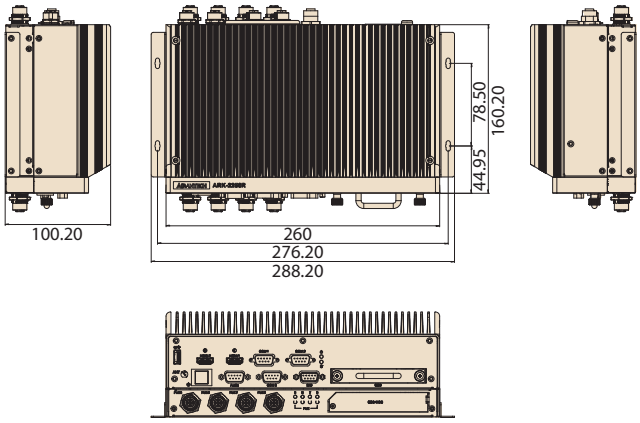
Dimensions

Unit: mm

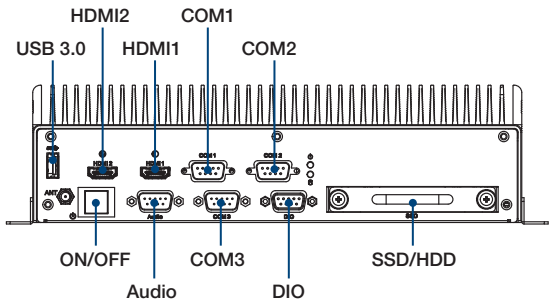
ARK-2250R



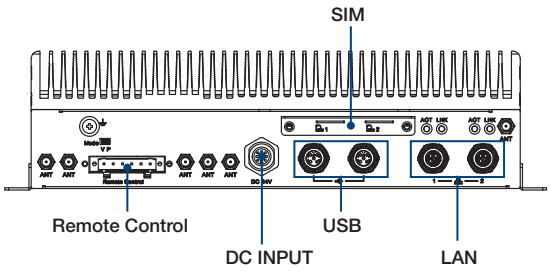
ARK-2250R+AMK-R100E



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	2.5" SATA Drive Bay	Operating Temp.
ARK-2250R-U0A1E	Intel Core i7-6822EQ QC	0	2	2	2	1	8 bit	3	Lin-out, Line-in, MIC	2	1	2	1	-40 ~ 70 °C
ARK-2250R-U0A1EPOE*	Intel Core i7-6822EQ QC	0	2	2	2	1	8 bit	3	Lin-out, Line-in, MIC	2	1	2	1	-40 ~ 70 °C
ARK-2250R-S9A1E	Intel Core i5-6442EQ QC	0	2	2	2	1	8 bit	3	Lin-out, Line-in, MIC	2	1	2	1	-40 ~ 70 °C
ARK-2250R-S9A1EPOE*	Intel Core i5-6442EQ QC	0	2	2	2	1	8 bit	3	Lin-out, Line-in, MIC	2	1	2	1	-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
-	1 x ARK-2250R Unit
1960071555N011	2 x Wall Mounting Brackets
1652001524	1 x Terminal Block 6P 5.00mm
1652000177	1 x Terminal Block 5P 5mm

Optional Embedded OS

Part Number	Description
20706WX6HS0010	Win10 IoT Ent LTSB 2016 MultLang 64bit (ARK-2250R-U0A1E)
20706WX6VS0017	Win10 IoT Ent LTSB 2016 MultLang 64bit (ARK-2250R-S9A1E)
20706WE7ES0011	WES7E 64bit ASIA 4 MUI

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

Optional Item for Default SKU

Part Number	Description
XARK-FSP180-AAAN2	AC-to-DC Adapter, DC24V/180W
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

Note: When installing PoE extension modules with ARK-2250 series, please check ordering information or contact us for details.