ARK-2121V

In-Vehicle NVR w/4 PoE Ports Intel® Atom E3825 / Atom E3845 SoC Fanless Box PC

Features

- Intel® Atom E3825 Dual Core 1.33 GHz & E3845 Quad Core 1.91 GHz SoC
- 4 PoE Ports to Support Mainstream IP Cameras
- Isolated COM ports and DIO
- Diversity Communication Abilities, ex. WWAN, WLAN
- Intelligent Vehicle Power Ignition
- 11 ~ 36 V_{DC}* Wide Power Input w/isolation
- 1 x Removable 2.5" drive bay
- Supports iManager, SUSIAccess and Embedded Software APIs
- Up to -40 ~ 70 °C wide temperature support (by project)

Specifications

		ARK-2121V-S9A2E	ARK-2121V-S3A2E
Processor System	CPU	Intel Atom E3845 QC SoC	Intel Atom E3825 DC SoC
	Frequency	1.91 GHz	1.33 GHz
	L2 Cache	2 MB	1 MB
	BIOS	AMI EFI 64 Mbit	
Memory	Technology	DDR3L 1333 MHz	DDR3L 1066 MHz
	Max. Capacity	8 GB	
	Socket	1 x 204-pin SO-DIMM	
Graphics	Chipset	Intel Gen7 Graphics	
	Graphic Engine	DirectX11, OpenGL3.2, OpenCL1.1 Full HW acceleration, decode: H.264, MPEG2/4, VC-1, WMV9. Encode: H.264, MPEG2	
	VGA	Up to 2560 x 1600 @ 60Hz	
	HDMI	Lockable HDMI connector, up to 1080p	
Audio	Main System	Realtek ALC888S, High Definition Audio (HD), Line-in, Line out, Mic-in	
Ethernet	LAN #1	10/100/1000 Mbps Intel I210-IT GbE, support Wake on LAN	
	LAN #2	10/100/1000 Mbps Intel I210-IT GbE, support Wake on LAN	
I/O Interface	Power over Ethernet, PoE	4 x 10/100 Mbps - 4ports full-load, IEEE802.3af Class 2 (7Watt) - 2ports full-load, IEEE802.3af Class 3 (15.4Watt)	N/A
	Serial Ports	2x non-isolated RS-232/422/485 with auto flow control	2x isolated RS-232/422/485 with auto flow control (3KV isolation) 2x non-isolated RS-232/422/485 with auto flow control
	CANBus	Option, 2ch CANBus 2.0A/B (1xCOM will be replaced)	
	GPIO	6 x DI & 2 x DO w/ 3KV isolation Input Voltage: 0 to 30 V_{DC}, Output Current: Max. 500 mA per channel On-state Voltage: 24 V_{DC} nominal, open collector to 30 V_{DC}	
	USB	3 x USB 2.0 & 1 x USB3.0	
Other	Watchdog timer	255-level timer interval, setup by software	
Expansion	Mini PCIe #1	Full-size Mini PCIe (USB, SATA interface)	
	Mini PCIe #2	Full-size Mini PCIe w/SIM holder (PCIe, USB interface)	
	Mini PCIe #3/4	2 x Full-size Mini PCIe w/SIM holders (USB interface)	
Storage	2.5" Drive Bay	1 x removable 2.5" drive bay (Standard 9.5mm height, 15mm height support by project)	
	mSATA	Laverage MiniPCIe #1 slot	
Software Support	Microsoft Windows	Win7, Win10	
	Linux	Support by project	
Power Requirement	Power Type	ATX/AT	
	Power Input Voltage*	11 ~ 36 V_{DC} w/isolation	
	Vehicle Power Ignition	Selectable boot-up & shut-down voltage, on/off delay time	
	Power Consumption	16W (Typical), 66W (Max)	16W (Typical), 36W (Max)
	Isolation	1.5KV Isolated	
Mechanical	Construction	Aluminum housing, Silver	
	Mounting	Din-Rail mounting, Desk/wall-mounting, VESA mounting	
	Dimensions (W x H x D)	264.5 x 69.2 x 133.0 mm	
Environment	Operating Temperature	With extended temperature peripherals: -40 ~ 70 °C with 0.7m/s air flow (standard) With standard temperature peripherals: 0 ~ 45 °C with 0.7m/s air flow	With extended temperature peripherals: -40 ~ 70 °C with 0.7m/s air flow (standard) With standard temperature peripherals: 0 ~ 45 °C with 0.7m/s air flow
	Storage Temperature	-40 ~ 85 °C (-40~185 °F)	
	Relative Humidity	95% @ 40 °C (non-condensing)	
	Vibration/Shock	With mSATA/SSD: IEC 60721-3-5 Class 5M3	
Regulation	EMC	CE/FCC Class A, CCC, BSMI (No RED certification)	
	Safety	UL, CCC, BSMI, E-Mark (E13)	
	In-Vehicle Power	ISO7637-2 Lev.4	

* Power Input Constraint at low voltage: 9~10.9V.

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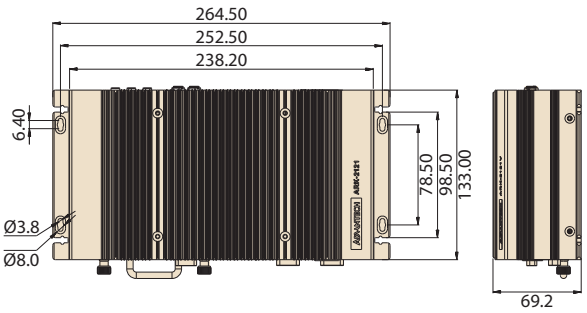
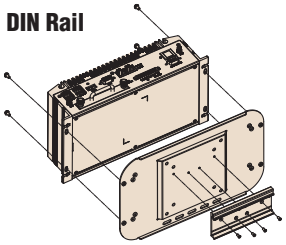
All product specifications are subject to change without notice.

Dimensions

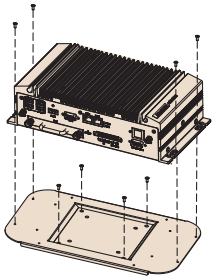
Unit: mm



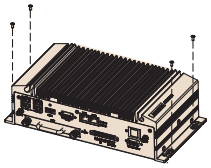
DIN Rail



VESA mount

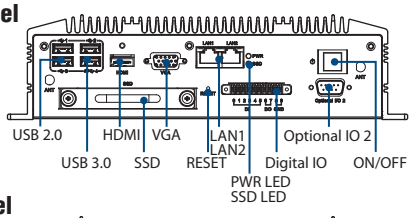


Wall mount

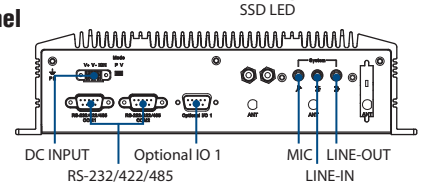


ARK-2121V-S3A2E External I/O Mechanical Layout/Drawing

Front Panel

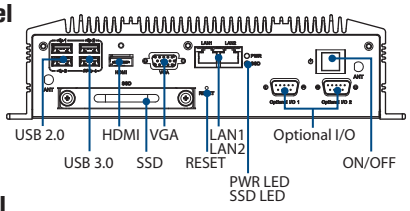


Rear Panel

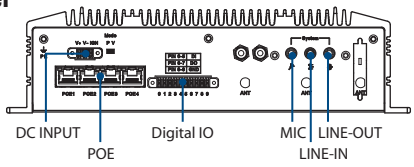


ARK-2121V-S9A2E External I/O Mechanical Layout/Drawing

Front Panel



Rear Panel



Ordering Information

Part Number	Intel CPU	RAM	2.5" Drive	mSATA	Display	GbE	PoE	USB	DIO	RS-232/422/485	MiniPCIe	SIM Holder	Power Input	Operating Temperature
ARK-2121V-S3A2E	Intel Atom E3825 DC 1.33 GHz	Up to 8GB	1	1	1 x HDMI 1 x VGA	2	N/A	3 x USB2.0 1 x USB3.0	6Di 2Do	4	4 x Full Size	3	11 ~ 36 V_{DC}	-40 ~ +70 °C
ARK-2121V-S9A2E	Intel Atom E3845 QC 1.91 GHz						4			2				-40 ~ +70 °C

Packing List

Part Number	Description
-	1 x ARK-2121 Unit
-	1 x Driver/Utility CD/Manual
-	1 x User Manual (Simplified Chinese)
1652000049	3-pole phoenix power block 3.81mm
1652003235	10-Pin DIO plug in block

Optional Items

Part Number	Description
96PSA-A120W19T2	AC-to-DC Adapter
1702002600	Power Cable 3-pin 180cm, USA type
1702002605-02	Power Cable 3-pin 183cm, Europe type
1700018704	Power Cable 3-pin 183cm, UK type
AMK-V004E	VESA mounting kit
AMK-R004E	DIN-rail mounting kit

Embedded OS

Part Number	Description
2070013555	ARK-2121V-S3A2E WES7 OS image
20706WE7ES0013	ARK-2121V-S9A2E WES7 OS image
20706WX6ES0002	ARK-2121V Win10 IoT Enterprise OS image (US, 64bit)

*Default BIOS is supported for 64-bit OS installation, BIOS 32-bit OS is supported by project