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# Datasheet

## **ADVANTECH**

**ARK-1124H**

**ARK-1124U**

**ARK-1124C**

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# ARK-1124C

## Intel Celeron N3350 DC SoC With Four Serial Ports Modular Fanless Box PC

**NEW**



### Features

- Intel Celeron N3350 Dual Core SoC
- VGA Display, 4 x RS-232/422/485, 2 x USB3.0
- 1 x full-size miniPCIe for communication module
- 1 x 2.5" SATA III SSD/HDD and 1 x half-size mSATA
- -20 ~ 60 °C extended operating temperature
- 12V lockable DC jack power input
- Optional 12~24V power module (Dual Layer)
- Advantech iDoor module compatible (Dual Layer)
- Advantech WISE-PaaS/RMM support



WISE-PaaS/RMM

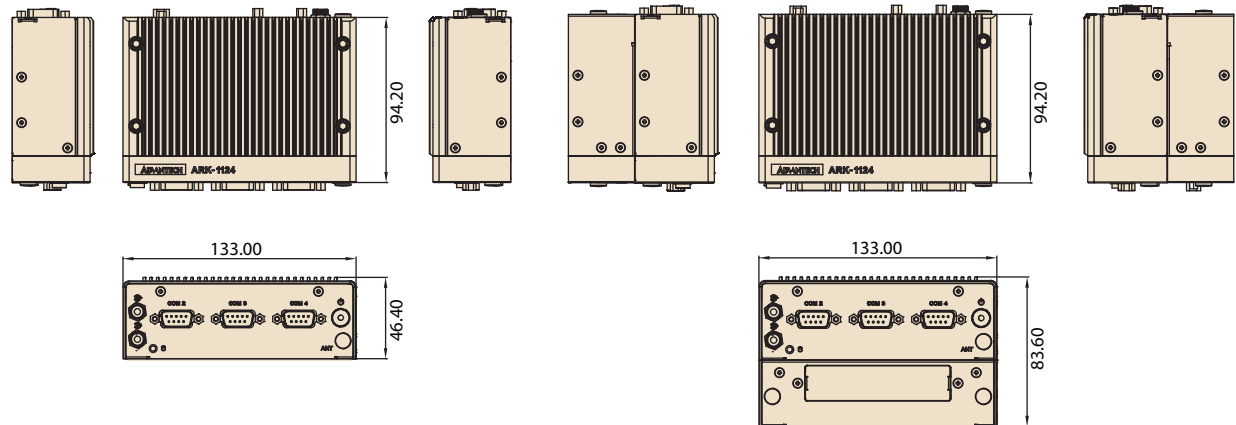


### Specifications

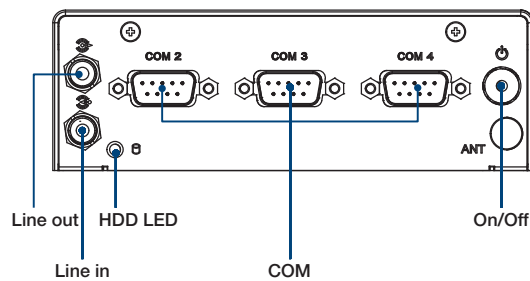
		ARK-1124C-S1A1E
Processor System	CPU	Intel® Celeron® N3350 Dual Core SoC
	Frequency	1.1 GHz, turbo burst 2.4 GHz
	L2 Cache	2 MB
	BIOS	AMI EFI 64 bit
Memory	Technology	DDR3L 1866 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel® HD Graphics 500
	Graphic Engine	4K Codec Decode& Encode for H.264, MPEG2, MVC, VC-1, WMV9, H.265 / HEVC, VP8, JPEG / MJPEG
	VGA	Up to 2048 x 1280 @ 60Hz
Ethernet	LAN	10/100/1000 Mbps Intel i210 GbE, support Wake On Lan
Audio	Interface	Realtek ALC888S, High Definition Audio. Line-out, Line-in
IO Interface	Serial Ports	4 x RS-232/422/485 port with auto flow control
	USB Interface	2 x USB 3.0
Other	Watchdog timer	255 levels timer interval, setup by software
Expansion	Mini PCIe	1 x full-size mPCIe for WLAN/WWAN
	iDoor	1, optional (2nd layer)
Storage	SSD/HDD	Supports 1 x 2.5" SATA III Drive Bay (Compatible with 9.5mm height)
	mSATA	1x Half-size mSATA (by CTOS or T-PN)
Software Support	Microsoft Windows	Win 10 IoT Enterprise LTSB
	Linux	Support by project
Power Requirement	Power Type	AT/ATX
	Power Input Voltage	12V <sub>DC</sub> (Optional 12~24V power module)
	Minimum Power Input	12 V, 3 A
Power Consumption	Power Adapter	AC to DC, DC12 V/3 A, 36 W with lockable DC Jack
	Typical	5.5W
Mechanical	Max.	18.8W
	Construction	Aluminum housing
	Mounting	DIN-Rail/Wall/VESA Mounting Kits (Optional)
	Dimensions (W x H x D)	133 x 46.4 x 94.2mm (5.24" x 1.83" x 3.71")
Environment	Weight	0.7 Kg (1.55lb)
	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. With HDD: 0.5Grms, IEC 60068-2-64, random, 5~500Hz, 1hr/axis
	Shock During Operation	With SSD: 30 G, IEC 60068-2-27, half sine, 11 ms duration With HDD: 10G, IEC 60068-2-27, half sine, 11 ms duration
	EMC	CE/FCC Class B, CCC, BSMI
	Safety Certifications	UL, CB, CCC, BSMI

## Dimensions

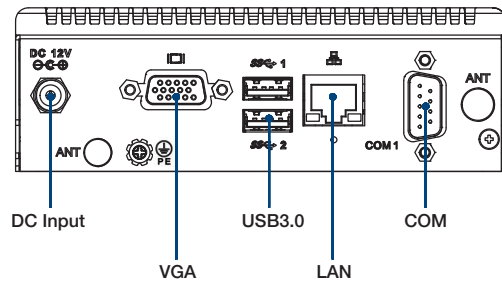
Unit: mm



### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

Part No.	CPU	RAM	VGA	GbE	USB 3.0	RS-232/422/485	Audio	Full-size MiniPCIe	mSATA	2.5" SATA III HDD Bay	Power Input	Operating Temp.
ARK-1124C-S1A1E	Intel Atom N3350 1.1 GHz SoC	Up to 8GB	1	1	2	4	Lin-out, Line-in	1	1 (H/S)	1	12 V <sub>DC</sub>	-20 ~ 60 °C

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

## Packing List

Part Number	Description
-	1 x ARK-1124C Unit
-	1 x User Manual (Simplified Chinese)
96PSA-A36W12W7	A/D 100-240V 36W 12V C6 LOCKABLE DC PLUG
-	LAN clip
-	Wrench for top cover

## Optional Item for Default SKU

Part Number	Description
1700001524	Power Cable 3-pin 180cm, USA type
170203183C	Power Cable 3-pin 180cm, Europe type
170203180A	Power Cable 3-pin 180cm, UK type
AMK-W001E	ARK-112X series Wall mounting kit
AMK-V003E	ARK-112X series VESA mounting kit
AMK-R001E	ARK-112X series DIN-rail mounting kit

## Optional Embedded OS

Part Number	Description
2070015307	Win10 IoT Ent LTSB 2016 64bit ENG

# ARK-1124U

## Intel Celeron N3350 DC SoC With Dual LAN/ Four USB 3.0/M.2/TPM IoT Gateway Modular Fanless Box PC

**NEW**



### Features

- Intel Celeron N3350 Dual Core SoC
- VGA Display/2x RS-232/422/485/4x USB 3.0
- 1 x Full-size miniPCIe with SIM holder for communication module
- 1 x M.2 E-key for WIFI module
- 20 ~ 60 °C extended operating temperature
- TPM 2.0 default built-in
- 12V lockable DC jack power input
- Optional 12~24V power module (Dual Layer)
- Advantech iDoor module compatible (Dual Layer)
- Advantech WISE-PaaS/RMM support



WISE-PaaS/RMM

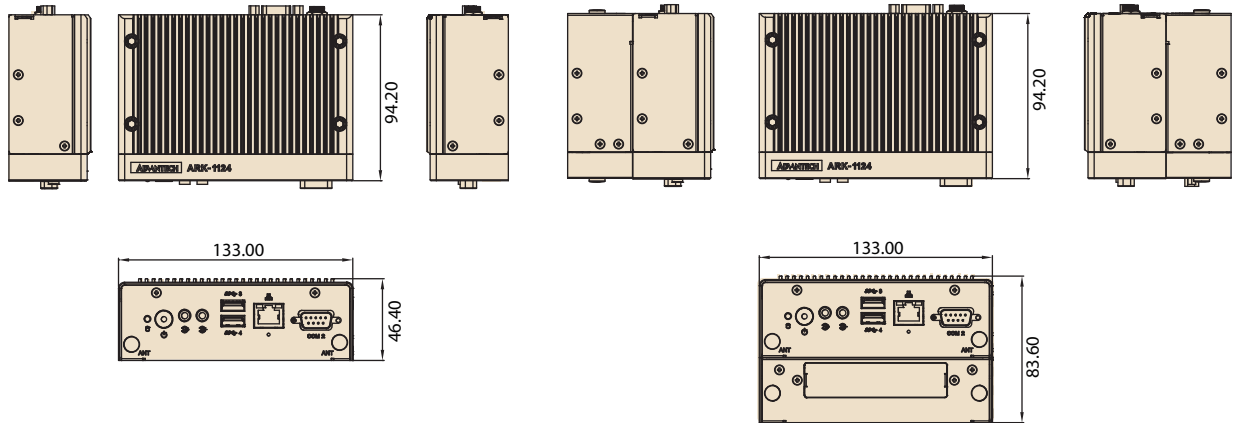


### Specifications

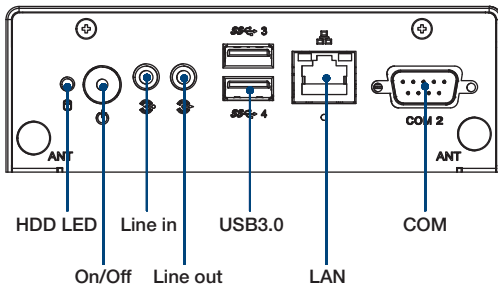
		ARK-1124U-S1A1E
Processor System	CPU	Intel® Celeron® N3350 Dual Core SoC
	Frequency	1.1GHz, turbo burst 2.4 GHz
	L2 Cache	2 MB
	BIOS	AMI EFI 64 bit
Memory	Technology	DDR3L 1866 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel® HD Graphics 500
	Graphic Engine	4K Codec Decode& Encode for H.264, MPEG2, MVC, VC-1, WMV9, H.265 / HEVC, VP8, JPEG / MJPEG
	VGA	Up to 2048 x 1280 @ 60Hz
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,,Line-in
IO Interface	Serial Ports	2 x RS-232/422/485 port with auto flow control
	USB Interface	4 x USB 3.0
Other	Watchdog timer	255 levels timer interval, setup by software
	TPM	Infineon SLB9665XQ 2.0
Expansion	Mini PCIe	1 x full-size mPCIe for WLAN/WWAN with SIM holder
	M.2	1 x M.2 E-key for WIFI (by CTOS or T-PN)
	iDoor	1, optional (2nd layer)
Storage	HDD/SSD	Supports 1 x SATA III Drive Bay (Compatible with 9.5mm height)
Software Support	Microsoft Windows	Win 10 IoT Enterprise LTSB
	Linux	Support by project
Power Requirement	Power Type	AT/ATX
	Power Input Voltage	12V <sub>dc</sub> (Optional 12~24V power module)
	Minimum Power Input	12 V, 5 A
	Power Adapter	AC to DC, DC12 V/5 A, 60 W with lockable DC Jack
Power Consumption	Typical	5W
	Max.	33.7W
Mechanical	Construction	Aluminum housing
	Mounting	DIN-Rail/Wall/VESA Mounting Kits (Optional)
	Dimensions (W x H x D)	133 x 46.4 x 94.2mm (5.24" x 1.83" x 3.71")
	Weight	0.7 Kg (1.55lb)
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 With HDD: 0.5Grms, 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 With HDD: 10G, IEC 60068-2-27, half sine, 11 ms duration
	EMC	CE/FCC Class B, CCC, BSMI
	Safety Certifications	UL, CB, CCC, BSMI

## Dimensions

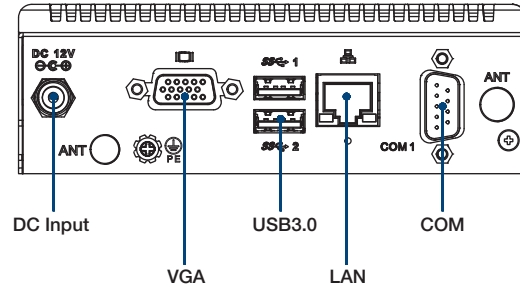
Unit: mm



### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

Part No.	CPU	RAM	VGA	GbE	USB 3.0	RS-232/422/485	Audio	Full-size MiniPCIe	SIM	M.2	2.5" SATA III HDD Bay	Power Input	Operating Temp.
ARK-1124U-S1A1E	Intel Celeron N3350 1.1 GHz Soc	Up to 8GB	1	2	4	2	Lin-out, Line-in	1	1	1	1	12 V <sub>DC</sub>	-20 ~ 60 °C

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

## Packing List

Part Number	Description
-	1 x ARK-1124U Unit
-	1 x User Manual (Simplified Chinese)
96PSA-A60W12W6	1 x A/D 100-240V 60W 12V C14 LOCKABLE DC PLUG
-	LAN clip
-	Wrench for top cover

## Optional Item for Default SKU

Part Number	Description
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-W001E	ARK-112X series Wall mounting kit
AMK-V003E	ARK-112X series VESA mounting kit
AMK-R001E	ARK-112X series DIN-rail mounting kit

## Optional Embedded OS

Part Number	Description
2070015302	Win10 IoT Ent LTSB 2016 64bit, ENG

# ARK-1124H

## Intel Atom™ E3940 QC SoC With Dual HDMI/ Dual LAN/ Four USB Modular Fanless Box PC

Preliminary



### Features

- Intel Atom E3940 Quad Core SoC
- Dual HDMI independent display support 4K2K resolution
- 1 x Full-size miniPCIe with SIM holder for communication module
- 1 x M.2 E Key for WIFI module
- 1 x 2.5" SATA III SSD/HDD and 1 x mSATA
- TPM built in for well security
- 20 ~ 60 °C extended operating temperature
- 12V lockable DC jack power input
- Optional 12~24V power module (Dual Layer)
- Advantech iDoor module compatible (Dual Layer)
- Advantech WISE-PaaS/RMM support

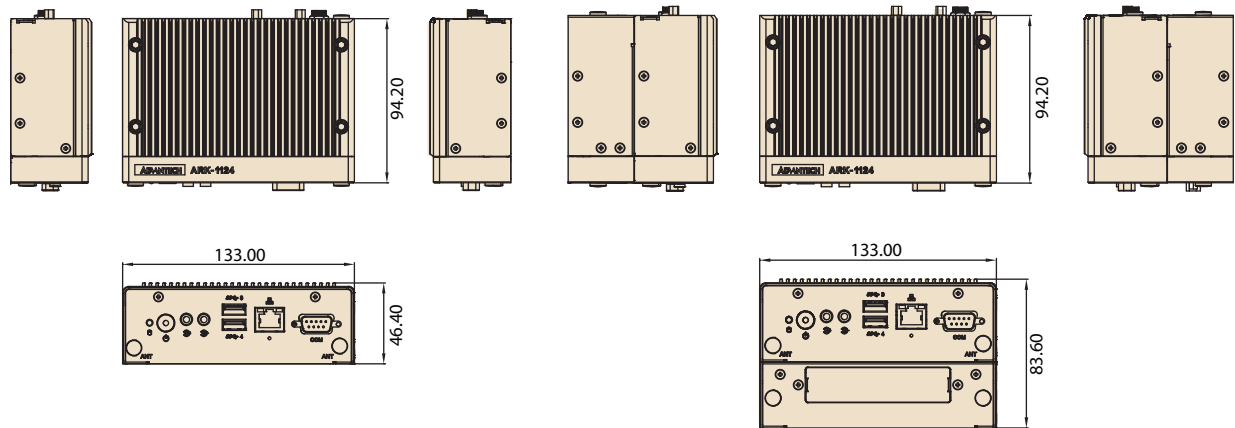


### Specifications

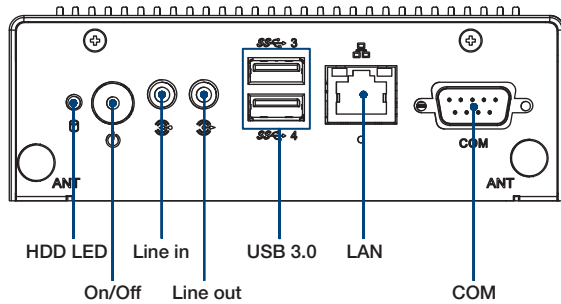
		ARK-1124H-S6A1E
Processor System	CPU	Intel Atom™ E3940 Quad Core Soc
	Frequency	1.6 GHz, turbo burst 1.8 GHz
	L2 Cache	2 MB
	BIOS	AMI EFI 64 bit
Memory	Technology	DDR3L 1866 MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel® HD Graphics 500
	Graphic Engine	4K Codec Decode& Encode for H.264, MPEG2, MVC, VC-1, WMV9, H.265 / HEVC, VP8, JPEG / MJPEG
	HDMI	HDMI 1.4b 3840 x 2160 @ 30Hz
	Dual Display	Yes, HDMI + HDMI, dual display support 4K2K resolution
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, Line-in
IO Interface	Serial Ports	1 x RS-232/422/485 port with auto flow control
	USB Interface	4 x USB 3.0
Other	Watchdog timer	255 levels timer interval, setup by software
Expansion	Mini PCIe	1 x full-size mPCIe for WLAN/WWAN
	M.2	1 x M.2 E-key for WIFI
	iDoor	1, optional (2nd layer)
Storage	SSD/HDD	Supports 1 x 2.5" SATA III Drive Bay (Compatible with 9.5mm height)
	mSATA	1 x Half-size mSATA (by CTOS or T-PN)
Software Support	Microsoft Windows	Windows 10 Enterprise, Windows 10 IoT Core
	Linux	Support by project
Power Requirement	Power Type	AT/ATX
	Power Input Voltage	12V <sub>DC</sub> (Optional 12~24V power module)
	Minimum Power Input	12 V, 5 A
	Power Adapter	AC to DC, DC12 V/5 A, 60 W with lockable DC Jack
Power Consumption	Typical	TBC
	Max.	TBC
Mechanical	Construction	Aluminum housing
	Mounting	DIN-Rail/Wall/VESA Mounting Kits (Optional)
	Dimensions (W x H x D)	133 x 46.4 x 94.2mm (5.24" x 1.83" x 3.71")
	Weight	0.7 Kg (1.55lb)
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. With HDD: 0.5Grms, IEC 60068-2-64, random, 5~500Hz, 3 axes, 1hr/axis
	Shock During Operation	With SSD: 30 G, IEC 60068-2-27, half sine, 11 ms duration With HDD: 10G, IEC 60068-2-27, half sine, 11 ms duration
	EMC	CE/FCC Class B, CCC, BSMI
	Safety Certifications	UL CB, CCC and BSMI

## Dimensions

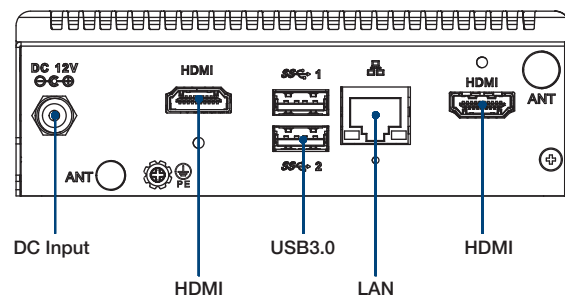
Unit: mm



### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

Part No.	CPU	HDMI	GbE	USB 3.0	RS-232/ 422/485	Audio	Full-size MiniPCIe	mSATA	2.5" SATA III HDD Bay	Power Input	Operating Temp.
ARK-1124H-S6A1E	Intel Atom E3940 1.6 GHz SoC	2	2	4	1	Lin-out, Line-in	1	1 (H/S)	1	12 V <sub>DC</sub>	-20 ~ 60 °C

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

## Packing List

Part Number	Description
-	1 x ARK-1124H Unit
-	1 x User Manual (Simplified Chinese)
96PSA-A60W12W6	A/D 100-240V 60W 12V C14 LOCKABLE DC PLUG
-	LAN clip

## Optional Embedded OS

Part Number	Description
TBC	Win10 IoT LTSB 64bit ENG

## Optional Item for Default SKU

Part Number	Description
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-W001E	ARK-112X series Wall mounting kit
AMK-V003E	ARK-112X series VESA mounting kit
AMK-R001E	ARK-112X series DIN-rail mounting kit
1700023855-01	1M lockable HDMI cable
1700023856-01	3M lockable HDMI cable

# ARK Plus Extended Modules

## ARK-1124 Dual Layer Expansion Option Items

### AMO-1101 iDoor and power module kit



### Specifications

General	
Features	For iDoor and power module
Contents	Mechanical kit for expansion
Dimension	133 x 37 x 94.2 mm
Operating temperature	-20~ 60°C

### Ordering Information

#### Optional ARK Plus Mechanical Kit

P/N	Description
AMO-1101	ARK-1124 ARK Plus kit for 2nd layer expansion

\* Please select iDoor and power module.

\* AMO-1101 support both iDoor module x1 and 12-24V power module x1 (by CTOS)

#### Optional 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-0201E	Isolated RS-232, 2-Ch, DB9, PCIe Interface
MOS-1121Y-0201E	Isolated RS-422/485, 2-Ch, DB9, PCIe Interface
MOS-1120Y-1401E	Non-Isolated RS-232, DB37, 4-Ch, PCIe Interface
MOS-1121Y-1401E	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-2220-Z1101E	High Speed COM module, 1-Ch, USB Interface

#### Optional 12-24V DC Power module

Part Number	Description
AMO-P011	12-24V DC input power module
96PSA-A60W12P2-1	AC to DC ADP, 12V/5A 60W (for AMO-P011)
1700001524	Power cord 3-pin 183cm, USA type (for AMO-P011)
170203183C	Power cord 3-pin 183cm, EU type (for AMO-P011)
170203180A	Power cord 3-pin 183cm, UK type (for AMO-P011)



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