











# Edge AI Computing

Series		NVIDIA Jetson Platform			
Model No.		EAC-5000/5100	EAC-6000	EAC-6100/6200	EAC-3000/3000F
Product Image					
System	CPU	Up to 12-core Arm® Cortex®-A78AE v8.2 64-bit CPU	Up to 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU	Up to 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU	8-core NVIDIA Carmel Arm®-v8.2 64-bit CPU
	GPU	Up to 2048-core NVIDIA Ampere™ architecture GPU with 64 Tensor Cores	Up to 1024-core NVIDIA Ampere™ architecture GPU with 32 Tensor Cores	Up to 1024-core NVIDIA Ampere™ architecture GPU with 32 Tensor Cores	512-cores NVIDIA Volta™ GPU with 64 Tensor cores
	AI Accelerator	2x NVDLA Engines	Up to 2x NVDLA Engines	Up to 2x NVDLA Engines	2x NVDLA Engines
	Memory	Up to 64GB LPDDR5 DRAM	Up to 16GB LPDDR5 DRAM	Up to 16GB LPDDR5 DRAM	Up to 64GB LPDDR4x DRAM
	eMMC	64GB	NA	NA	64GB
	Ethernet	RealTek RTL8211F, Intel® I210	Intel® I210	Intel® I210	Microchip LAN7800, Intel® I210
	Software Support	- Linux - NVIDIA JetPack SDK	- Linux - NVIDIA JetPack SDK	- Linux - NVIDIA JetPack SDK	- Linux - NVIDIA JetPack SDK
Graphics	Video Encode	- HEVC : 2x 4K @60 - H.264 : 1x 4K @60	- HEVC : 1x 4K @60 - H.264 : 1x 4K @60	- HEVC : 1x 4K @60 - H.264 : 1x 4K @60	- HEVC : 4x 4K @60 - H.264 : 4x 4K @60
	Video Decode	- HEVC : 1x 8K @30 - H.264 : 1x 4K @60	- HEVC : 1x 8K @30 - H.264 : 1x 4K @60	- HEVC : 1x 8K @30 - H.264 : 1x 4K @60	- HEVC : 2x 8K @30 - H.264 : 4x 4K @60
Camera	GMSL	8 (Optional)	NA	4 (Optional)	8
Display I/O	Digital Display	1	1	1	2
I/O Interface	Serial	2 RS232/422/485	2 RS 232/422/485	2 RS 232/422/485	2 RS-232/422/485
	USB 3.0/3.1/3.2	5	3	3	4
	USB 2.0	1 (Micro USB w/ OTG)	1 (Micro USB w/ OTG)	1 (Micro USB w/ OTG)	1 (Micro USB w/ OTG)
	GigE LAN	6 (4 w/ PoE*, Optional)	2	6 (4 w/ PoE*, Optional)	5 (4 w/ PoE*)
	PoE LAN	4 (IEEE 802.3at, Optional)	NA	4 (IEEE 802.3at, Optional)	4 (IEEE 802.3at)
	M12	6 (X-coded, Optional)	2 (X-coded, Optional)	6 (X-coded, Optional)	NA
	CAN Bus	2 CAN-FD (Isolated)	NA	1 CAN-FD	2 CAN-FD (Isolated)
	Audio	NA	NA	NA	NA
	Isolated DIO/ GPIO	16 (8DI, 8DO)	7 GPIO	7 GPIO	NA
	Console	1 (Micro USB)	1 (Micro USB)	1 (Micro USB)	1 (Micro USB)
Storage	SATA III	NA	NA	NA	NA
	M.2	2 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
	Micro SD	1	1	1	1
Expansion	Mini PCIe	NA	NA	NA	NA
	PCIe	1 PCIe x8	NA	NA	NA
	SIM Card	2 (External)	2 (External)	2 (External)	2 (External)
	M.2	- 1 Key B 3042/3052 - 1 Key E 2230	- 2 Key B 3042/3052 - 1 Key E 2230	- 2 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230
	SUMIT	NA	NA	NA	1 (Optional)
	Power	Input	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V
Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block	
Ignition Control	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	
Remote Switch	Yes	Yes	Yes	Yes	
Dimensions (W x L x H)		260 x 182 x 69 mm (10.24" x 7.17" x 2.72")	193 x 132 x 55 mm (7.6" x 5.2" x 2.17")	193 x 132 x 80 mm (7.6" x 5.2" x 3.15")	213 x 150 x 60 mm (8.4" x 5.9" x 2.4")
Weight		3.8 g (8.39 lb)	1.7 kg (3.74 lb)	1.9 kg (4.19 lb)	2.4 kg (5.3 lb)
Mounting		Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail
Operating Temperature		-20°C to 70°C (-4°F to 158°F)	-20°C to 70°C (-4°F to 158°F)	-20°C to 70°C (-4°F to 158°F)	-20°C to 70°C (-4°F to 158°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		MIL-STD-810G	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G
Shock		MIL-STD-810G	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

		RISC/Edge AI Computing			
EAC-2000	EAC-2100	EIC-2000	EIC-1000	VAC-1100	VAC-1000
					
6-core NVIDIA Carmel Arm® v8.2 64-bit CPU	6-core NVIDIA Carmel Arm® v8.2 64-bit CPU	NXP i.MX8M Plus Arm® Quad-core Cortex®-A53	Rockchip RK3399 Arm® Dual-core Cortex-A72 + Quad-core Cortex-A53	Foxconn FXN3102 Arm® 24-core Cortex-A53 Processor	Foxconn FXN3102 Arm® 24-core Cortex-A53 Processor
384-core NVIDIA Volta™ GPU with 48 Tensor Cores	384-core NVIDIA Volta™ GPU with 48 Tensor Cores	GC7000UL	ARM Mali-T860MP4	NA	NA
2x NVDLA Engines	2x NVDLA Engines	NN Accel, Max 2.3 TOPS	NA	Hailo-8™ AI Processor, Max 26 TOPS	Lightspeur® 2801S, Max 5.6 TOPS
Up to 16GB LPDDR4x DRAM	Up to 16GB LPDDR4x DRAM	4GB LPDDR4 SDRAM	2GB DDR3L SDRAM	16GB DDR4 with ECC	16GB DDR4 with ECC
16GB	16GB	32GB	32GB	64GB	64GB
Intel® I350	Intel® I350	Realtek RTL8211F	RealTek RTL8211E	Realtek RTL8211F	Realtek RTL8211F
- Linux - NVIDIA JetPack SDK	- Linux - NVIDIA JetPack SDK	Linux Ubuntu 20.04	Linux Debian 9.0, Android 7.1	Linux Ubuntu 18.04	Linux Ubuntu 18.04
- HEVC : 2x 2K @60 - H.264 : 2x 2K @60	- HEVC : 2x 2K @60 - H.264 : 2x 2K @60	- HEVC : 1080p @60 - H.264 : 1080p @60	- H.264 : 1080p @30	NA	NA
- HEVC : 2x 4K @30 - H.264 : 2x 2K @60	- HEVC : 2x 4K @30 - H.264 : 2x 2K @60	- HEVC : 1080p @60 - H.264 : 1080p @60	- HEVC : 1080p @60 - H.264 : 1080p @60	NA	NA
NA	4	NA	NA	NA	NA
1	1	1	1	NA	NA
2 RS-232/485	2 RS-232/485	2 RS-232/422/485	2 RS-232/422/485	NA	NA
4	4	2	1	2	2
1 (Micro USB w/ OTG)	1 (Micro USB w/ OTG)	NA	1 (Internal)	NA	NA
4 (2 w/ PoE*)	4 (2 w/ PoE*)	2	1	2	2
2 (IEEE 802.3at)	2 (IEEE 802.3at)	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
NA	1 CAN Bus	2 (Optional)	NA	NA	NA
NA	NA	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	NA	NA
NA	NA	4 (Optional)	NA	NA	NA
1 (Micro USB)	1 (Micro USB)	1 (Micro USB)	NA	1 (Micro USB)	1 (Micro USB)
NA	NA	NA	NA	1	1
1 Key M 2280	1 Key M 2280	NA	NA	1 Key M 2280	1 Key M 2280
1	1	1	1	NA	NA
NA	NA	1	1	NA	NA
NA	NA	NA	NA	NA	NA
1 (External)	1 (External)	2	1	NA	NA
- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	1 Key B 3042/3052	NA	NA	NA
NA	NA	NA	NA	NA	NA
DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 55V	DC-in 9V to 55V	DC-in 9V to 55V	DC-in 9V to 55V
Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
150 x 106 x 50 mm (5.9" x 4.2" x 2.0")	150 x 106 x 62 mm (5.9" x 4.2" x 2.4")	130 x 78.5 x 42 mm (5.1" x 3.1" x 1.7")	136 x 110 x 47 mm (5.4" x 4.3" x 1.8")	170 x 118 x 40 mm (6.7" x 4.6" x 1.6")	170 x 118 x 40 mm (6.7" x 4.6" x 1.6")
1.2 kg (2.6 lb)	1.3 kg (2.9 lb)	0.5 kg (1.1 lbs)	0.4 kg (0.9 lb)	0.9 kg (2.0 lb)	0.9 kg (2.0 lb)
Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail
-20°C to 70°C (-4°F to 158°F)	-20°C to 65°C (-4°F to 149°F)	-25°C to 70°C (-13°F to 158°F)	0°C to 70°C (32°F to 158°F)	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
MIL-STD-810G	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G
MIL-STD-810G	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

1  
Edge AI Computing

2  
IoT Gateway

3  
System On Module (SOM)

4  
Industrial Multi-Touch Computers

5  
Embedded Peripherals

# EAC-5000

NVIDIA® Jetson AGX Orin™ Embedded AI Computing System



## Features

- Advanced NVIDIA® Jetson AGX Orin™ platform delivers up to 275 TOPS AI performance
- The latest NVIDIA Ampere™ architecture, featuring with 2048 NVIDIA® CUDA® cores and 64 Tensor cores
- Supports 8 GMSL 1/2 automotive cameras with Fakra-Z connectors
- 1 PCIe Gen4 x8 expansion slot supports optional multiple 10GigE/PoE LAN/USB connections
- 2 Isolated CAN Bus support Flexible Data-rate, 2 COM RS-232/422/485
- 2 GigE LAN, 5 USB 3.1, 1 Digital Display supports 8K60
- Supports device remote management by Allxon
- DC 9V to 50V wide range power input, Ignition Power Control



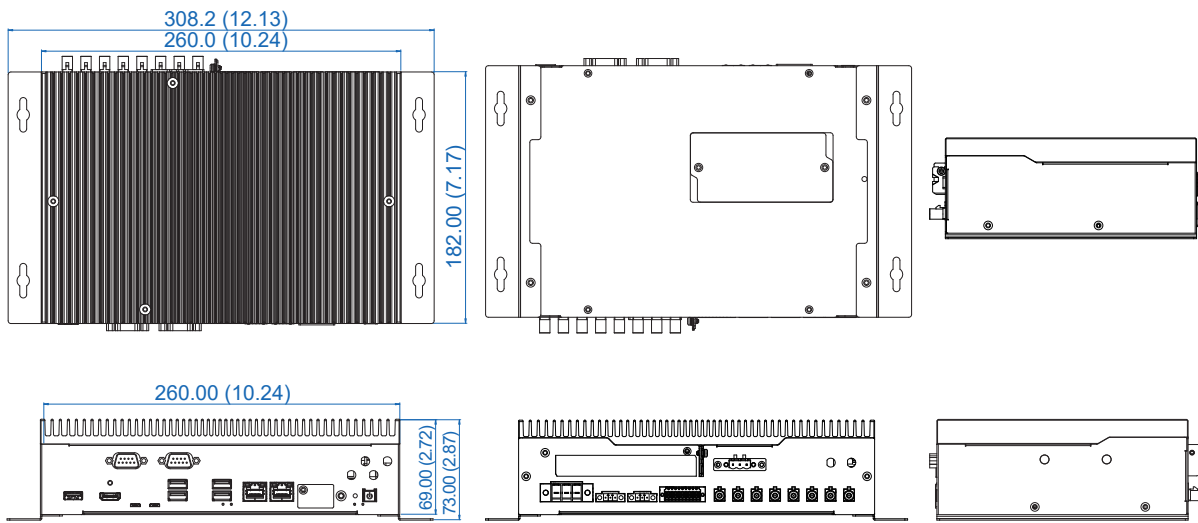
## Specifications

System	
<b>CPU</b>	EAC-5000-R32 : 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU EAC-5000-R64 : 12-core Arm® Cortex®-A78AE v8.2 64-bit CPU
<b>GPU</b>	EAC-5000-R32 : 1792-core NVIDIA Ampere™ architecture GPU with 56 Tensor Cores EAC-5000-R64 : 2048-core NVIDIA Ampere™ architecture GPU with 64 Tensor Cores
<b>DL Accelerator</b>	2x NVDLA Engines
<b>Memory</b>	EAC-5000-R32 : 1 32GB LPDDR5 DRAM EAC-5000-R64 : 1 64GB LPDDR5 DRAM
<b>Software Support</b>	<ul style="list-style-type: none"> <li>▪ Linux</li> <li>▪ NVIDIA JetPack SDK</li> </ul>
I/O Interface	
<b>USB</b>	<ul style="list-style-type: none"> <li>▪ 1 USB 3.1 Gen 2, supports up to 10Gbps</li> <li>▪ 4 USB 3.1, support up to 5Gbps</li> </ul>
<b>Serial</b>	2 COM RS-232/422/485
<b>CAN Bus</b>	2 Isolated CAN Bus support CAN FD
<b>DIO</b>	16 Isolated DIO (8 DI, 8 DO)
<b>Micro USB</b>	<ul style="list-style-type: none"> <li>▪ 1 Micro USB console debug port</li> <li>▪ 1 Micro USB OS flash port</li> </ul>
<b>Button</b>	<ul style="list-style-type: none"> <li>▪ 1 Power Button</li> <li>▪ 1 Force Recovery Button</li> <li>▪ 1 Reset Button</li> </ul>
<b>LED</b>	Power, HDD, 2 User Programmable
<b>SIM</b>	2 SIM Card Socket
<b>Antenna</b>	6 Antenna for WiFi/4G/5G/LTE/GPRS/UMTS
Expansion	
<b>PCIe Slot</b>	1 PCIe Gen4 x8 Slot
<b>M.2</b>	<ul style="list-style-type: none"> <li>▪ 1 M.2 Key B Socket (3042/3052)</li> <li>▪ 1 M.2 Key E Socket (2230)</li> </ul>
Graphics	
<b>Interface</b>	1 Digital Display, up to 8K60
<b>Video Encode</b>	EAC-5000-R32 : 1x 4K @60, 3x 4K @30, 6x 1080p @60, 12x 1080p @30 (HEVC) EAC-5000-R64 : 2x 4K @60, 4x 4K @30, 8x 1080p @60, 16x 1080p @30 (HEVC)
<b>Video Decode</b>	EAC-5000-R32 : 1x 8K @30, 2x 4K @60, 4x 4K @30, 9x 1080p @60, 18x 1080p @30 (HEVC) EAC-5000-R64 : 1x 8K @30, 3x 4K @60, 7x 4K @30, 11x 1080p @60, 22x 1080p @30 (HEVC)

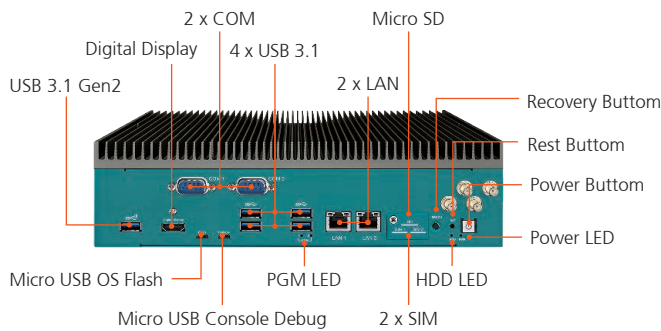
Camera	
<b>GMSL</b>	8 Fakra-Z connectors for GMSL 1/2 automotive cameras
Storage	
<b>M.2</b>	2 M.2 Key M Socket (2280)
<b>eMMC</b>	1 eMMC 5.1, 64GB
<b>SD</b>	1 Micro SD (External)
Ethernet	
<b>LAN 1 to LAN 2</b>	10/100/1000 Base-T Ethernet GigE LAN, RJ45 Connector (Optional X-coded M12 Connector)
Power	
<b>Power Input</b>	DC 9V to 50V
<b>Power Interface</b>	3-pin Terminal Block : V+, V-, Frame Ground
<b>Ignition Control</b>	16-mode Software Ignition Control
<b>Remote Switch</b>	3-pin Remote Switch Terminal Block
<b>OOB Management</b>	Remote Power On/Off and Remote Reset Control (Optional)
Mechanical	
<b>Dimensions (W x L x H)</b>	260 mm x 182 mm x 69 mm (10.24" x 7.17" x 2.72")
<b>Weight</b>	3.8 kg (8.39 lb)
<b>Mounting</b>	<ul style="list-style-type: none"> <li>▪ Wallmount</li> <li>▪ DIN Rail and VESA Mount (Optional)</li> </ul>
Environment	
<b>Operating Temp.</b>	30W TDP Mode : -20°C to 70°C (-4°F to 158°F) 40/50W TDP Mode : -20°C to 55°C (-4°F to 131°F)
<b>Storage Temp.</b>	-40°C to 85°C (-40°F to 185°F)
<b>Humidity</b>	5% to 95% Humidity, non-condensing
<b>Relative Humidity</b>	95% @70°C
<b>Shock</b>	Operating, MIL-STD-810G, Method 516.7, Procedure I
<b>Vibration</b>	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
<b>EMC</b>	CE, FCC, EN50155, EN50121-3-2

# Dimensions

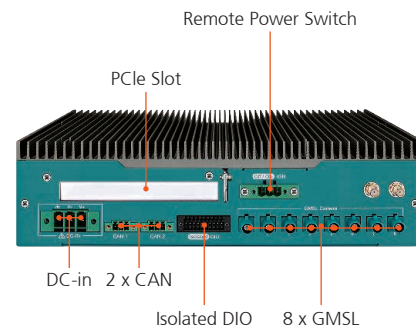
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

Model Name	Platform	RAM	LAN	USB 3.1	Serial	Iso. CAN	Iso. DIO	PCIe Slot	GMSL	SIM	M.2
EAC-5000-R32	Jetson AGX Orin	32GB	2	5	2	2	16	1	8	2	4
EAC-5000-R64		64GB									

### Accessories

<b>PWA-160WB-WT</b>	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>PWA-180WB</b>	180W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
<b>PWA-280WB-WT</b>	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>VESA Mount</b>	VESA Mounting Kit
<b>DIN-RAIL</b>	DIN Rail and VESA Mounting Kit
<b>GMSL Camera Kit</b>	GMSL Camera with Fakra-Z connector
<b>M.2 Storage Module</b>	M.2 Key M/Key B PCIe Storage Module
<b>5G Module</b>	5G Module with Antenna
<b>4G Module</b>	4G/GPS Module with Antenna
<b>WiFi &amp; Bluetooth</b>	WiFi & Bluetooth Module with Antenna
<b>OOB Module</b>	On-board Out-of-Band Management Module

1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals



# EAC-3000/3000F

NVIDIA® Jetson AGX Xavier™ Edge AI Computing System



## Features

- Compact NVIDIA® Jetson AGX Xavier™ supports workstation-grade up to 32 TOPS AI performance with rich AI tools and workflows
- NVIDIA Volta architecture with 512 NVIDIA® CUDA® cores and 64 Tensor cores
- DC 9V to 50V wide range power input, Ignition Power Control
- 5 GigE LAN with 4 PoE+, 4 USB 3.0, 2 Digital Display
- Supports 8 GMSL2 automotive cameras with Fakra-Z
- 2 CAN Bus support Flexible Data-rate, 2 COM RS-232/422/485
- M.2 supports 5G/4G/LTE/WiFi/BT/GPS
- Support 24/7 secure remote monitoring, control, and OTA deployment empowered by Allxon



## Specifications

System	
CPU	8-core NVIDIA Carmel Arm® v8.2 64-bit CPU
GPU	NVIDIA Volta architecture with 512 NVIDIA® CUDA® cores and 64 Tensor cores
DL Accelerator	2x NVDLA Engines
Memory	1 LPDDR4x DRAM, Up to 64GB
Software Support	<ul style="list-style-type: none"> <li>▪ Linux</li> <li>▪ NVIDIA JetPack SDK</li> </ul>
I/O Interface	
USB	4 USB 3.0 Type A
Serial	2 COM RS-232/422/485
CAN Bus	2 CAN Bus support CAN FD (Optional Isolation)
Micro USB	<ul style="list-style-type: none"> <li>▪ 1 Micro USB console debug port</li> <li>▪ 1 Micro USB OS flash port</li> </ul>
Button	<ul style="list-style-type: none"> <li>▪ 1 Power Button</li> <li>▪ 1 Force Recovery Button</li> <li>▪ 1 Reset Button</li> </ul>
LED	Power, HDD, 2 User Programmable
SIM	2 SIM Card Socket
Antenna	6 Antenna for WiFi/4G/5G/LTE/GPRS/UMTS
Expansion	
M.2	<ul style="list-style-type: none"> <li>▪ 1 M.2 Key B Socket (3042/3052)</li> <li>▪ 1 M.2 Key E Socket (2230)</li> </ul>
Graphics	
Interface	2 Digital Display, up to 4Kx2K @30Hz
Video Encode	<ul style="list-style-type: none"> <li>▪ HEVC : Up to 4x4K @60, 8x4K @30, 16x1080p @60, 32x1080p @30</li> <li>▪ H.264 : Up to 4x4K @60, 8x4K @30, 14x1080p @60, 30x1080p @30</li> </ul>
Video Decode	<ul style="list-style-type: none"> <li>▪ HEVC : 2x8K @30, 6x4K @60, 12x4K@30, 26x1080p @60, 52x1080p @30</li> <li>▪ H.264 : 4x4K @60, 8x4K @30, 16x1080p @60, 32x1080p @30</li> </ul>
Camera	
GMSL	8 Fakra-Z connectors for GMSL 1/GMSL 2 automotive cameras

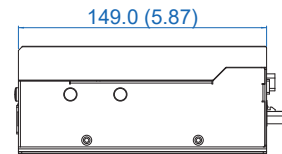
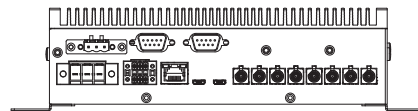
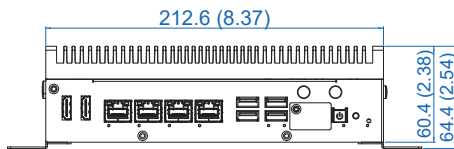
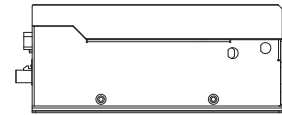
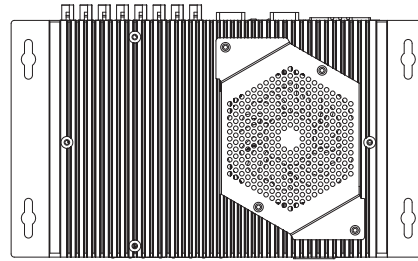
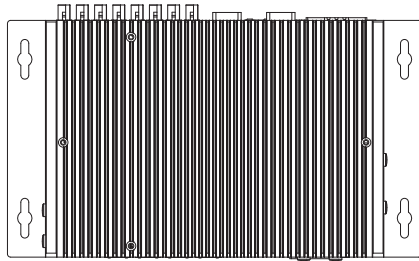
Storage	
M.2	1 M.2 Key M Socket (2280)
eMMC	1 eMMC 5.1, 32GB
SD	1 Micro SD (External)
Ethernet	
LAN 1	10/100/1000 Base-T Ethernet GigE LAN, RJ45 Connector
PoE	
LAN 2 to LAN 5	IEEE 802.3at (25.5W/48V) GigE PoE+ LAN, RJ45 Connector
Power	
Power Input	DC 9V to 50V
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16-mode Software Ignition Control
Remote Switch	3-pin Remote Switch Terminal Block
Mechanical	
Dimensions	212.6mm x 149.0mm x 60.4mm (8.37" x 5.87" x 2.38")
Weight	2.4 kg (5.29 lb)
Mounting	<ul style="list-style-type: none"> <li>▪ Wallmount</li> <li>▪ DIN Rail Mount (Optional)</li> </ul>
Environment	
Operating Temp.	<b>30W TDP Mode</b> : -20°C to 70°C (-4°F to 158°F), Fanless <b>MAX TDP Mode</b> : -20°C to 70°C (-4°F to 158°F), with Fan Sink
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @70°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
EMC	CE, FCC, EN50155, EN50121-3-2

# Dimensions

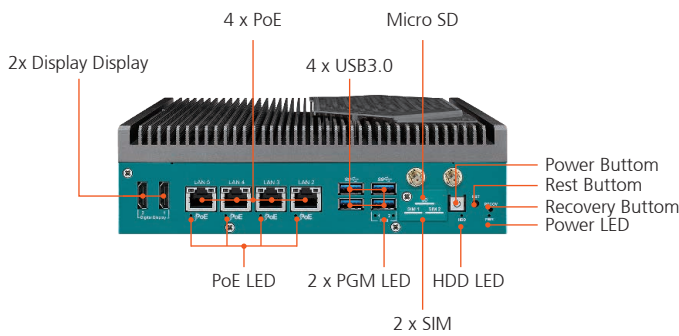
Unit : mm/ inch

EAC-3000

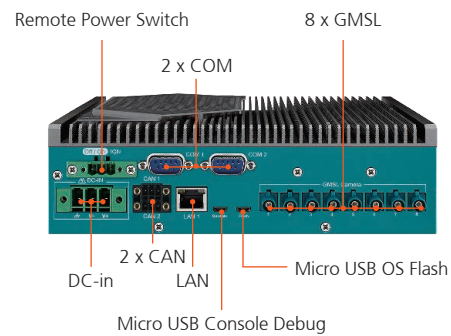
EAC-3000F



## Front I/O



## Rear I/O



## Order Information

Model Name	Platform	RAM	LAN	PoE+	USB 3.0	M.2	Serial	SIM	CAN	GMSL
EAC-3000-R64	Jetson AGX Xavier	64GB	5	4	4	3	2	2	2	8
EAC-3000-R32		32GB								

### Accessories

PWA-160WB-WT	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-180WB	180W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
PWA-280WB-WT	280W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
VESA Mount	VESA Mounting Kit
DIN-RAIL	DIN Rail and VESA Mounting Kit
GMSL Camera Kit	GMSL Camera with Fakra-Z connector
M.2 Storage Module	M.2 Key M/Key B PCIe Storage Module
5G Module	5G Module with Antenna
4G Module	4G/GPS Module with Antenna
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna

1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# EAC-2100

NVIDIA® Jetson Xavier™ NX Edge AI Computing System



## Features

- Small form factor NVIDIA® Jetson Xavier™ NX supports up to 21 TOPS AI performance
- Advanced NVIDIA Volta™ architecture with 384 NVIDIA® CUDA® cores and 48 Tensor cores
- 4 GigE LAN with 2 PoE+, 4 USB 3.1, 1 Digital Display
- Supports 4 GMSL2 automotive cameras with Fakra-Z
- M.2 for 5G/4G/LTE/WiFi/BT/GPRS/UMTS
- Storage : M.2 PCIe NVMe SSD, External Micro SD
- DC 9V to 50V wide range power input
- Support 24/7 secure remote monitoring, control, and OTA deployment empowered by Allxon



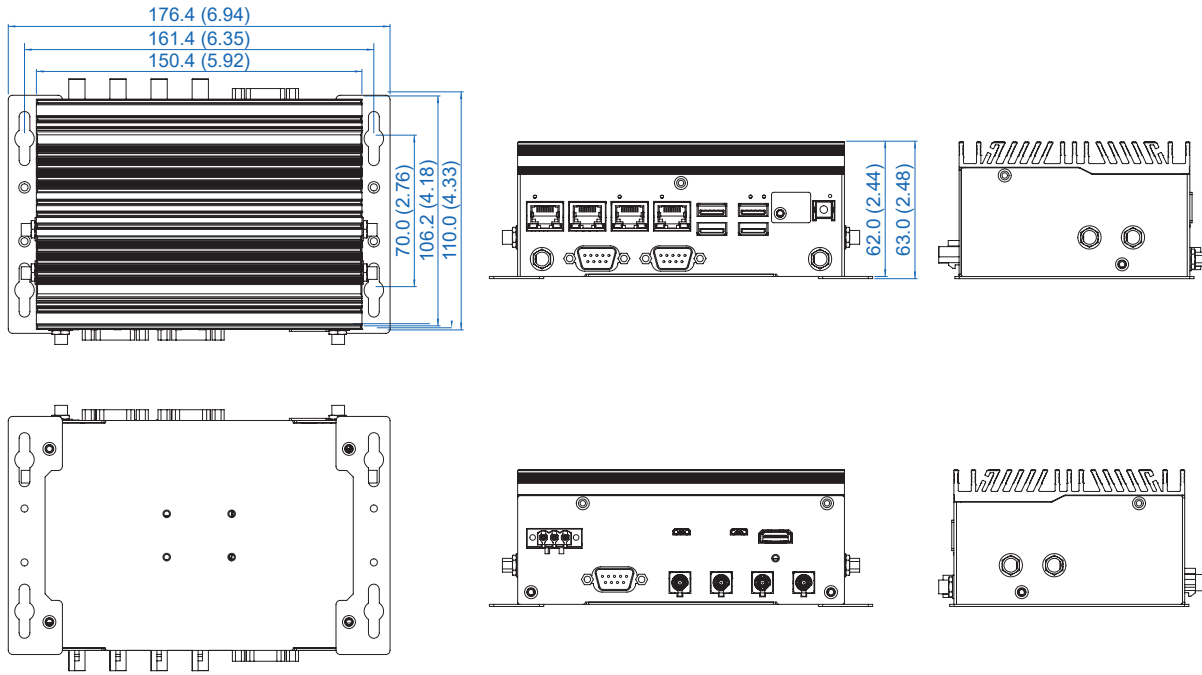
## Specifications

System	
CPU	6-core NVIDIA Carmel Arm® v8.2 64-bit CPU
GPU	384-core NVIDIA Volta™ GPU with 48 Tensor Cores
DL Accelerator	2x NVDLA Engines
Memory	1 LPDDR4x DRAM, 8GB
Software Support	<ul style="list-style-type: none"> <li>▪ Linux</li> <li>▪ NVIDIA JetPack SDK</li> </ul>
I/O Interface	
USB	4 USB 3.1 Type A
Serial	2 COM RS-232/485
CAN Bus	1 CAN Bus 2.0 A/B
Micro USB	<ul style="list-style-type: none"> <li>▪ 1 Micro USB console debug port</li> <li>▪ 1 Micro USB OS flash port</li> </ul>
Button	<ul style="list-style-type: none"> <li>▪ 1 User-Define Button</li> <li>▪ 1 Force Recovery Button</li> </ul>
LED	2 PoE, 2 User Programming
SIM	1 Nano SIM Card Socket
Antenna	6 Antenna for 5G/WiFi/4G/LTE/GPRS/UMTS
Expansion	
M.2	<ul style="list-style-type: none"> <li>▪ 1 M.2 Key B Socket (3042/3052)</li> <li>▪ 1 M.2 Key E Socket (2230)</li> </ul>
Graphics	
Interface	1 Digital Display, up to 3840 x 2160 @60Hz
Video Encode	<ul style="list-style-type: none"> <li>▪ HEVC : Up to 2x2160p @60, 4x2160p @30, 10x1080p @60, 22x1080p @30</li> <li>▪ H.264 : Up to 2x2160p @60, 4x2160p @30, 10x1080p @60, 20x1080p @30</li> </ul>
Video Decode	<ul style="list-style-type: none"> <li>▪ HEVC : Up to 2x4320p @30, 6x2160p @60, 12x2160p @30, 22x1080p @60, 44x1080p @30</li> <li>▪ H.264 : Up to 2x2160p @60, 6x2160p @30, 10x1080p @60, 22x1080p @30</li> </ul>
Camera	
GMSL	4 Fakra-Z connectors for GMSL 1/2 automotive cameras

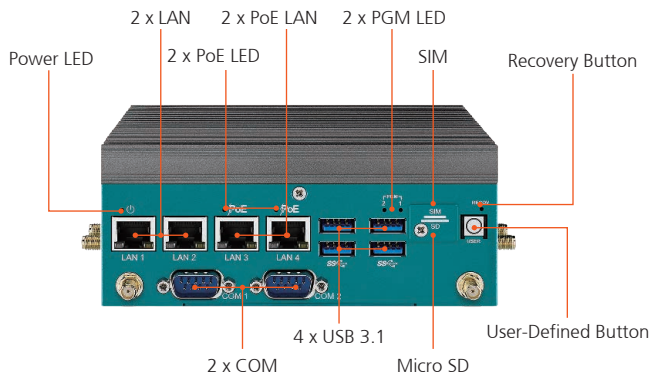
Storage	
M.2	1 M.2 Key M Socket (2280)
eMMC	1 eMMC 5.1, 16GB
SD	1 Micro SD (External)
Ethernet	
LAN 1	10/100/1000 Base-T Ethernet GigE LAN, RJ45 Connector
LAN 2	10/100/1000 Base-T Ethernet GigE LAN, RJ45 Connector
PoE	
LAN 3	IEEE 802.3at (25.5W/48V) GigE PoE+ LAN, RJ45 Connector
LAN 4	IEEE 802.3at (25.5W/48V) GigE PoE+ LAN, RJ45 Connector
Power	
Power Input	DC 9V to 50V
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Mechanical	
Dimensions	150.4mm x 106.2mm x 62.0mm (5.92" x 4.18" x 2.44")
Weight	1.3 kg (2.9 lb)
Mounting	<ul style="list-style-type: none"> <li>▪ Wallmount by mounting bracket</li> <li>▪ DIN Rail Mount (Optional)</li> </ul>
Environment	
Operating Temp.	15W TDP : -20°C to 60°C (-4°F to 140°F) 10W TDP : -20°C to 65°C (-4°F to 149°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @70°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
EMC	CE, FCC, EN50155, EN50121-3-2

## Dimensions

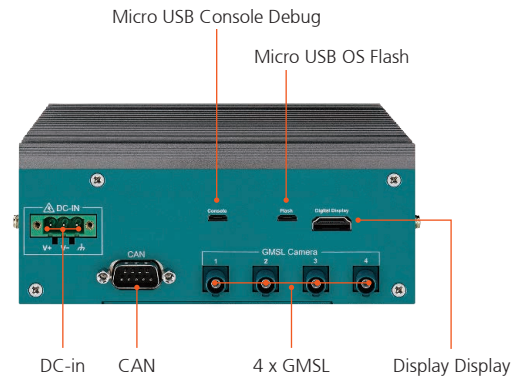
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

Model Name	Platform	LAN	PoE+	USB 3.1	M.2	Serial	SIM	GMSL	CAN
EAC-2100	Jetson Xavier NX	4	2	4	3	2	1	4	1

## Accessories

<b>PWA-120W1</b>	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
<b>PWA-160W-WT</b>	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>DIN-RAIL</b>	DIN Rail Kit
<b>GMSL Camera Kit</b>	GMSL Camera with Fakra-Z connector
<b>M.2 Storage Module</b>	M.2 Key M/Key B PCIe Storage Module
<b>5G Module</b>	5G Module with Antenna
<b>4G Module</b>	4G/GPS Module with Antenna
<b>WiFi &amp; Bluetooth</b>	WiFi & Bluetooth Module with Antenna

1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# EAC-2000

NVIDIA® Jetson Xavier™ NX Edge AI Computing System



## Features

- Small form factor NVIDIA® Jetson Xavier™ NX supports up to 21 TOPS AI performance
- Advanced NVIDIA Volta™ architecture with 384 NVIDIA® CUDA® cores and 48 Tensor cores
- Fanless -20°C to 70°C operation
- 4 GigE LAN with 2 PoE+, 4 USB 3.1, 1 Digital Display
- M.2 for 5G/4G/LTE/WiFi/BT/GPRS/UMTS
- Storage : M.2 PCIe NVMe SSD, External Micro SD
- DC 9V to 50V wide range power input
- Support 24/7 secure remote monitoring, control, and OTA deployment empowered by Alixon



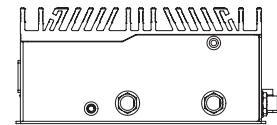
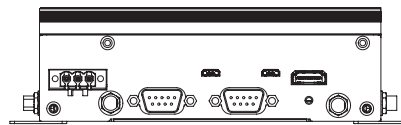
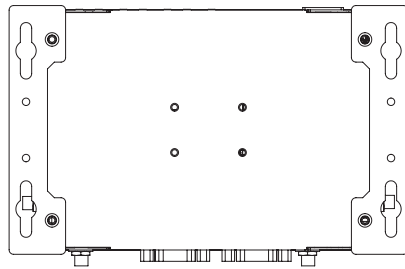
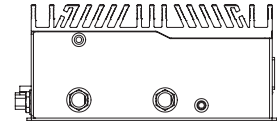
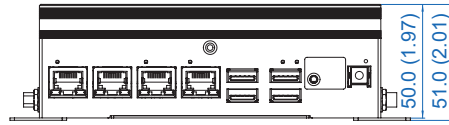
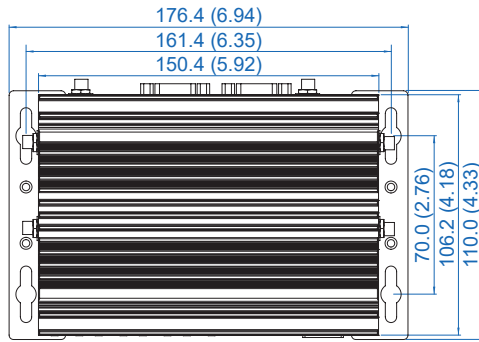
## Specifications

System	
CPU	6-core NVIDIA Carmel Arm® v8.2 64-bit CPU
GPU	384-core NVIDIA Volta™ GPU with 48 Tensor Cores
DL Accelerator	2x NVDLA Engines
Memory	1 LPDDR4x DRAM, 8GB
Software Support	<ul style="list-style-type: none"> <li>▪ Linux</li> <li>▪ NVIDIA JetPack SDK</li> </ul>
I/O Interface	
USB	4 USB 3.1 Type A
Serial	2 COM RS-232/485
Micro USB	<ul style="list-style-type: none"> <li>▪ 1 Micro USB console debug port</li> <li>▪ 1 Micro USB OS flash port</li> </ul>
Button	<ul style="list-style-type: none"> <li>▪ 1 User-Define Button</li> <li>▪ 1 Force Recovery Button</li> </ul>
LED	2 PoE, 2 User Programming
SIM	1 Nano SIM Card Socket
Antenna	6 Antenna for 5G/WiFi/4G/LTE/GPRS/UMTS
Expansion	
M.2	<ul style="list-style-type: none"> <li>▪ 1 M.2 Key B Socket (3042/3052)</li> <li>▪ 1 M.2 Key E Socket (2230)</li> </ul>
Graphics	
Interface	1 Digital Display, up to 3840 x 2160 @60Hz
Video Encode	<ul style="list-style-type: none"> <li>▪ HEVC : Up to 2x2160p @60, 4x2160p @30, 10x1080p @60, 22x1080p @30</li> <li>▪ H.264 : Up to 2x2160p @60, 4x2160p @30, 10x1080p @60, 20x1080p @30</li> </ul>
Video Decode	<ul style="list-style-type: none"> <li>▪ HEVC : Up to 2x4320p @30, 6x2160p @60, 12x2160p @30, 22x1080p @60, 44x1080p @30</li> <li>▪ H.264 : Up to 2x2160p @60, 6x2160p @30, 10x1080p @60, 22x1080p @30</li> </ul>
Storage	
M.2	1 M.2 Key M Socket (2280)
eMMC	1 eMMC 5.1, 16GB
SD	1 Micro SD (External)

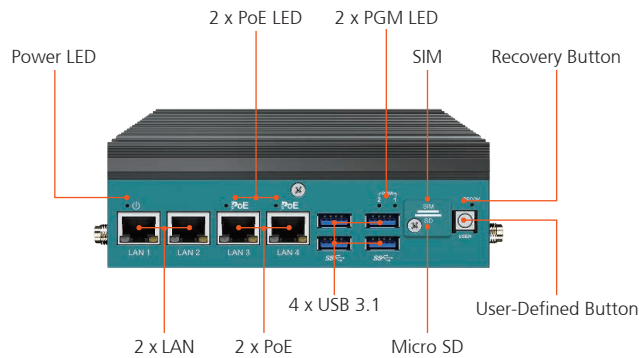
Ethernet	
LAN 1	10/100/1000 Base-T Ethernet GigE LAN, RJ45 Connector
LAN 2	10/100/1000 Base-T Ethernet GigE LAN, RJ45 Connector
PoE	
LAN 3	IEEE 802.3at (25.5W/48V) GigE PoE+ LAN, RJ45 Connector
LAN 4	IEEE 802.3at (25.5W/48V) GigE PoE+ LAN, RJ45 Connector
Power	
Power Input	DC 9V to 50V
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Mechanical	
Dimensions	150.4mm x 106.2mm x 50.0mm (5.92" x 4.18" x 1.97")
Weight	1.2 kg (2.6 lb)
Mounting	<ul style="list-style-type: none"> <li>▪ Wallmount by mounting bracket</li> <li>▪ DIN Rail Mount (Optional)</li> </ul>
Environment	
Operating Temp.	15W TDP : -20°C to 65°C (-4°F to 149°F) 10W TDP : -20°C to 70°C (-4°F to 158°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @70°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
EMC	CE, FCC, EN50155, EN50121-3-2

## Dimensions

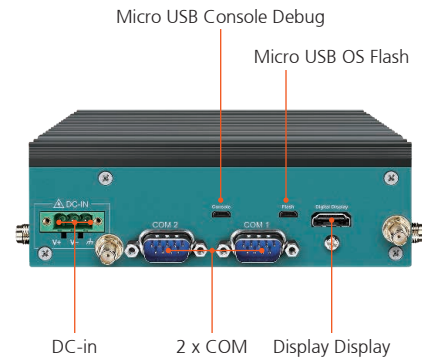
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

Model Name	Platform	LAN	PoE+	USB 3.1	M.2	Serial	SIM
EAC-2000	Jetson Xavier NX	4	2	4	3	2	1

### Accessories

<b>PWA-120W1</b>	120W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block
<b>PWA-160W-WT</b>	160W, 24V, 85V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>DIN-RAIL</b>	DIN Rail Kit
<b>GMSL Camera Kit</b>	GMSL Camera with Fakra-Z connector
<b>M.2 Storage Module</b>	M.2 Key M/Key B PCIe Storage Module
<b>5G Module</b>	5G Module with Antenna
<b>4G Module</b>	4G/GPS Module with Antenna
<b>WiFi &amp; Bluetooth</b>	WiFi & Bluetooth Module with Antenna

1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals



# EIC-2000

NXP i.MX 8M Plus Edge AI Computing System



## Features

- Industrial-grade NXP i.MX 8M Plus Quad Core Arm Cortex-A53 Processor, embedded Neural Processing Unit, up to 2.3 TOPS AI performance
- Supports up to 3840 x 2160 4K UHD
- 2 GigE LAN with 1 TSN supported
- 2 SIM sockets for multiple WiFi/BT/5G/4G/LTE/GPRS/UMTS
- Optional 4-bit GPIO and 2 CAN Bus supports Flexible Data-rate
- 9V to 55V wide range DC Power Input
- Fanless -25°C to 70°C



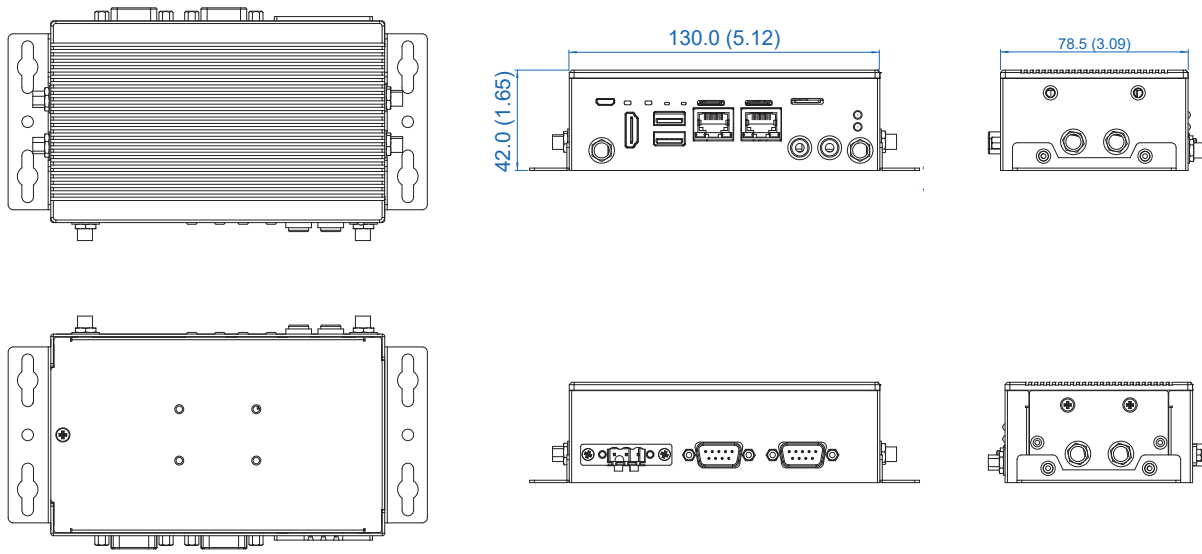
## Specifications

System	
CPU	NXP i.MX 8M Plus Quad Core Arm Cortex-A53 processor
Memory	1 LPDDR4 SDRAM, 4GB
Software Support	Ubuntu 20.04 LTS
I/O Interface	
USB	2 USB 3.0 Type A
Serial	2 COM RS-232/422/485
GPIO	4-bit GPIO (Optional)
CAN Bus	2 CAN Bus support CAN FD (Optional)
Micro USB	1 Micro USB console debug port
Button	<ul style="list-style-type: none"> <li>▪ 1 User-define Button</li> <li>▪ 1 Reset Button</li> </ul>
LED	Power, Ready, 2 WLAN
SIM	2 Nano SIM Card Socket
Antenna	6 Antenna for WiFi/BT/5G/4G/LTE/GPRS/UMTS
Expansion	
M.2	1 M.2 Key B Socket (3042/3052)
Mini PCIe	1 Full-size Mini PCIe Socket
Graphics	
Interface	1 Digital Display, up to 3840 x 2160 @30Hz
Video Encode	<ul style="list-style-type: none"> <li>▪ HEVC : Up to 1080p @60</li> <li>▪ H.264 : Up to 1080p @60</li> </ul>
Video Decode	<ul style="list-style-type: none"> <li>▪ HEVC : Up to 1080p @60</li> <li>▪ H.264 : Up to 1080p @60</li> </ul>

Storage	
eMMC	1 eMMC, 32GB
SD	1 Micro SD, supports SDHC (External)
Ethernet	
LAN 1	10/100/1000 Base-T Ethernet GigE LAN, RJ45 Connector
LAN 2	10/100/1000 Base-T Ethernet GigE LAN supports TSN, RJ45 Connector
Power	
Power Input	DC 9V to 55V
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Mechanical	
Dimensions	130 mm x 78.5 mm x 42 mm (5.12" x 3.09" x 1.65")
Weight	0.5 kg (1.1 lbs)
Mounting	<ul style="list-style-type: none"> <li>▪ Wallmount by mounting bracket</li> <li>▪ DIN Rail Mount (Optional)</li> </ul>
Environment	
Operating Temp.	-25°C to 70°C (-13°F to 158°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @70°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
EMC	CE, FCC, EN50155, EN50121-3-2

# Dimensions

Unit : mm/ inch



1 Edge AI Computing

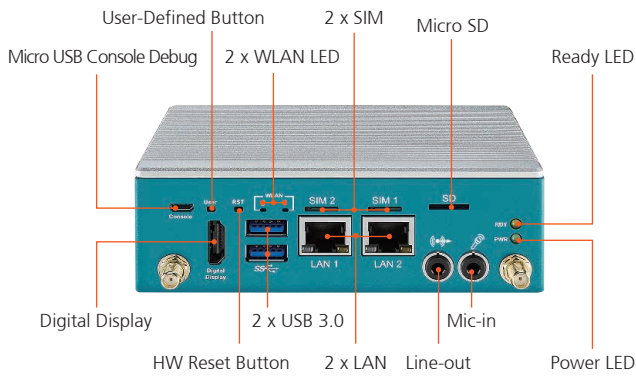
2 IoT Gateway

3 System On Module (SOM)

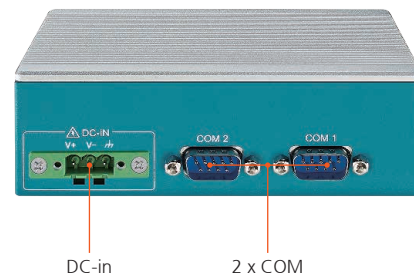
4 Industrial Multi-Touch Computers

5 Embedded Peripherals

## Front I/O



## Rear I/O



## Order Information

Model Name	Platform	LAN	USB 3.0	Serial	Digital Display	M.2	SIM
EIC-2000	NXP i.MX 8M Plus	2	2	2	1	1	2

### Accessories

<b>PWA-60WP3-WT</b>	60W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>PWA-60WP3-WT-12V</b>	60W, 12V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>DIN-RAIL</b>	DIN Rail Kit
<b>5G Module</b>	5G Module with Antenna
<b>4G Module</b>	4G/GPS Module with Antenna
<b>WiFi &amp; Bluetooth</b>	WiFi & Bluetooth Module with Antenna

# EIC-1000

Arm-Based Rockchip Edge Computing System



## Features

- Rockchip Dual Cortex-A72, Quad Cortex-A53 Processor
- 2GB DDR3 SDRAM, 32GB eMMC, 1 External Micro SD Socket
- Pre-installed with Debian 9.0 or Android 7.1
- 1 Digital Display, up to 4K resolution
- 1 GigE LAN, 1 USB 3.1, 1 USB 2.0
- 2 COM RS-232/422/485, Audio Mic-in and Line-out
- 1 Half-size Mini PCIe for WiFi/Bluetooth
- DC 9V to 55V wide range power input
- Fanless, 0°C to 70°C Operating Temperature



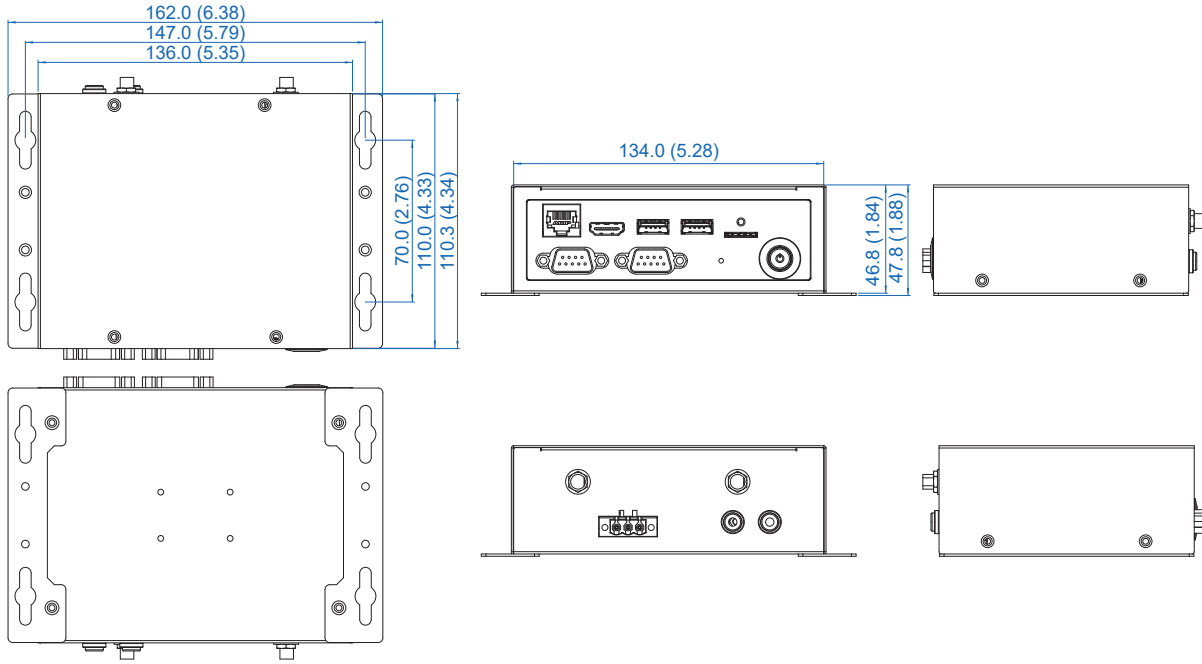
## Specifications

System	
CPU	Rockchip RK3399 Arm Dual-core Cortex-A72 @2.0GHz + Quad-core Cortex-A53 @1.8GHz
Memory	1 DDR3L 1066MHz SDRAM, 2GB
Software Support	<ul style="list-style-type: none"> <li>▪ Android 7.1</li> <li>▪ Linux Debian 9.0</li> </ul>
I/O Interface	
USB	<ul style="list-style-type: none"> <li>▪ 1 USB 3.1 Type A</li> <li>▪ 1 USB 2.0 Type A</li> </ul>
Serial	2 COM RS-232/422/485
Button	<ul style="list-style-type: none"> <li>▪ 1 Power Button</li> <li>▪ 1 Reset Button</li> </ul>
Antenna	2 Antenna for WiFi/Bluetooth
Expansion	
Mini PCIe	1 Half-size Mini PCIe Socket for PCIe Card
Graphics	
Interface	1 Digital Display, up to 4Kx2K @60fps
Graphics Processor	ARM Mali-T860MP4, AFBC supported
Video Encode	H.264/MVC/VP8 encoders by 1080p @30fps
Video Decode	<ul style="list-style-type: none"> <li>▪ H.264/H.265, 10bit, up to 4Kx2K @60fps</li> <li>▪ VP9, 8bit, up to 4Kx2K @60fps</li> <li>▪ MPEG-4/MPEG-2/VP8 up to 1080p @60fps</li> </ul>
Storage	
eMMC	1 eMMC, 32GB
SD	1 Micro SD (External)

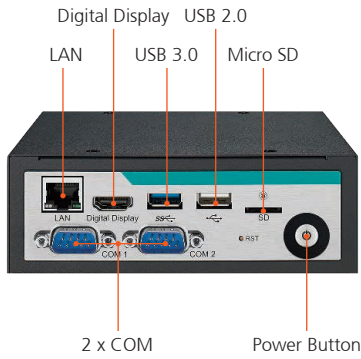
Audio	
Audio Codec	Realtek ALC5640 low power stereo codec
Audio Interface	1 Mic-in, 1 Line-out
Ethernet	
LAN	10/100/1000 Base-T Ethernet GigE LAN, RJ45 Connector
Power	
Power Input	DC 9V to 55V
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Mechanical	
Dimensions	136.0mm x 110.0mm x 46.8mm (5.35" x 4.33" x 1.84")
Weight	0.4kg (0.9 lb)
Mounting	<ul style="list-style-type: none"> <li>▪ Wallmount by mounting bracket</li> <li>▪ DIN Rail Mount (Optional)</li> </ul>
Environment	
Operating Temp.	0°C to 70°C (32°F to 158°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @70°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
EMC	CE, FCC, EN50155, EN50121-3-2

# Dimensions

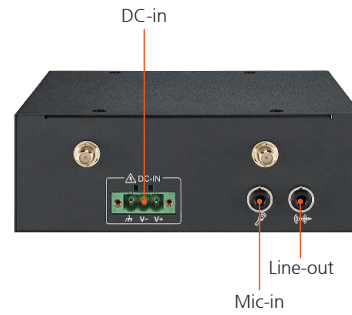
Unit : mm/ inch



## Front I/O



## Rear I/O



## Order Information

Model Name	OS	Platform	GigE LAN	USB 3.1	USB 2.0	Serial	Mini PCIe
EIC-1000-DB	Debian 9.0	Rockchip	1	1	1	2	1
EIC-1000-AD	Android 7.1						

### Accessories

PWA-60WP3-WT	60W, 24V, 90V AC to 264V AC Power Adapter with 3-pin 3.5mm Terminal Block, Wide Temperature -30°C to +70°C
PWA-60WP3-WT-12V	60W, 12V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
DIN-RAIL	DIN Rail Kit
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna

1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# VAC-1100

24-core Foxconn Cortex-A53 MPU with Hailo AI Accelerator Card  
Arm-based Edge AI Computing System for Intelligent Surveillance



## Features

- 24-core Foxconn Cortex-A53 Server-grade Computing
- Advanced AI Accelerator supports up to 26 Tera-Operations Per Second (TOPS)
- 1 DDR4 2133MHz Memory with ECC, support up to 16GB
- 9V to 55V wide range DC Power Input
- 1 GigE LAN, 1 IPMI, 2 USB 3.0, 1 Micro USB
- M.2 Key M 2280 for PCIe NVMe SSD
- Support Cross-Platform IP video management system (VMS) for real-time public safety



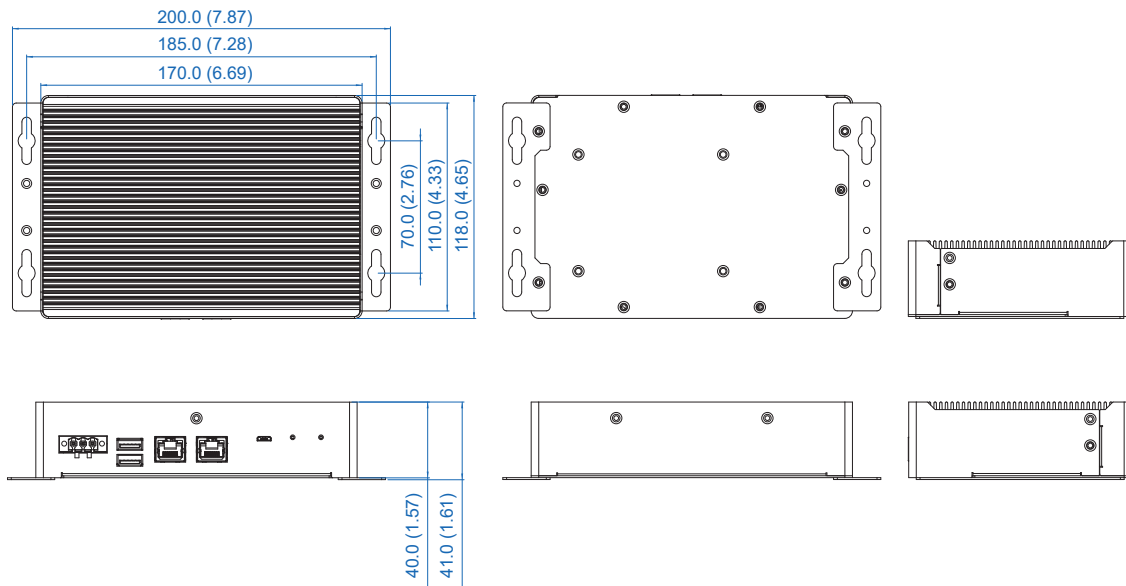
## Specifications

System	
Processor	24-core Arm Cortex-A53 Processor (Foxconn FXN3102)
Memory	1 DDR4 2133MHz 16GB ECC SO-DIMM
Flash	1 SPI Flash, 512MB
EEPROM	1 SPI EEPROM, up to 512KB
Software Support	Ubuntu Server 18.04 LTS
AI Accelerator	
Processor	Hailo-8™ AI Processor, up to 26 TOPS
Framework	TensorFlow, ONNX
I/O Interface	
USB	2 USB 3.0 Type A
Micro USB	<ul style="list-style-type: none"> <li>▪ 1 Micro USB console port for debug (External)</li> <li>▪ 1 Micro USB console port for firmware update (Internal)</li> </ul>
LED	Power, SSD
Storage	
SATA	1 SATA III (6Gbps)
M.2	1 M.2 Key M Socket (2280, PCIe)
eMMC	1 64GB eMMC, supports MMC4.41/HS200
Ethernet	
LAN	10/100/1000 Base-T Ethernet GigE LAN, RJ45 connector
IPMI	10/100/1000 Base-T Ethernet IPMI, RJ45 connector
Power	
Power Input	DC 9V to 55V
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground

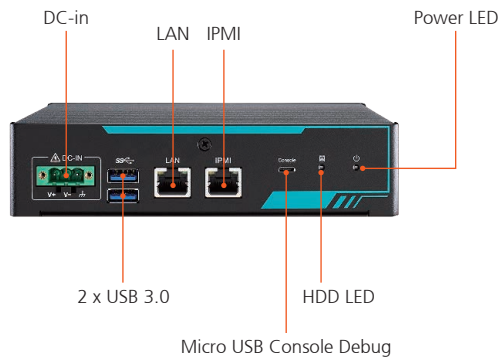
Software Support	
Operation System	<ul style="list-style-type: none"> <li>▪ Ubuntu Server 18.04 LTS (Linux kernel 4.14.0)</li> <li>▪ Supports bootup from Flash drive / eMMC</li> <li>▪ Supports backup from Flash drive</li> <li>▪ File System : EXT4</li> </ul>
Toolchain	gcc-linaro-6.4.1-2017.11-x86_64_aarch64-linux-gnu
Script Language	Python
Mechanical	
Dimensions	170mm x 118mm x 40mm (6.7" x 4.6" x 1.6")
Weight	0.9 kg (2.0 lb)
Mounting	<ul style="list-style-type: none"> <li>▪ Wallmount by mounting bracket</li> <li>▪ DIN Rail Mount (Optional)</li> </ul>
Environment	
Operating Temp.	VAC-1100-W16E : -40°C to 70°C (-40°F to 158°F) VAC-1100-16E : 0°C to 55°C (32°F to 131°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @55°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
EMC	CE, FCC, EN50155, EN50121-3-2

## Dimensions

Unit : mm/ inch



## Front I/O



## Order Information

Model Name	CPU	GigE LAN	IPMI	USB 3.0	M.2	SSD Bracket	AI Accelerator	RAM
VAC-1100-W16E	FXN3102	1	1	2	1	1	Hailo	16GB, IT
VAC-1100-16E	FXN3102	1	1	2	1	1	Hailo	16GB, CT

### Optional Software

NX Witness VMS	Network Optix IP Video Management System (VMS) and Video Surveillance Software
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### Accessories

PWA-60WP3-WT	60W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-60WP3-WT-12V	60W, 12V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
DIN-RAIL	DIN Rail Kit
M.2 Storage Module	M.2 Key M PCIe Storage Module

1

Edge AI Computing

2

IoT Gateway

3

System On Module (SOM)

4

Industrial Multi-Touch Computers

5

Embedded Peripherals



# VAC-1000

24-core Foxconn Cortex-A53 MPU with Lightspeur AI Accelerator Card  
Arm-based Edge AI Computing System for Intelligent Surveillance



## Features

- 24-core Foxconn Cortex-A53 Server-grade Computing
- Advanced AI Accelerator supports up to 5.6 Tera-Operations Per Second (TOPS)
- 1 DDR4 2133MHz Memory with ECC, support up to 16GB
- 9V to 55V wide range DC Power Input
- 1 GigE LAN, 1 IPMI, 2 USB 3.0, 1 Micro USB
- M.2 Key M 2280 for PCIe NVMe SSD
- Support Cross-Platform IP video management system (VMS) for real-time surveillance



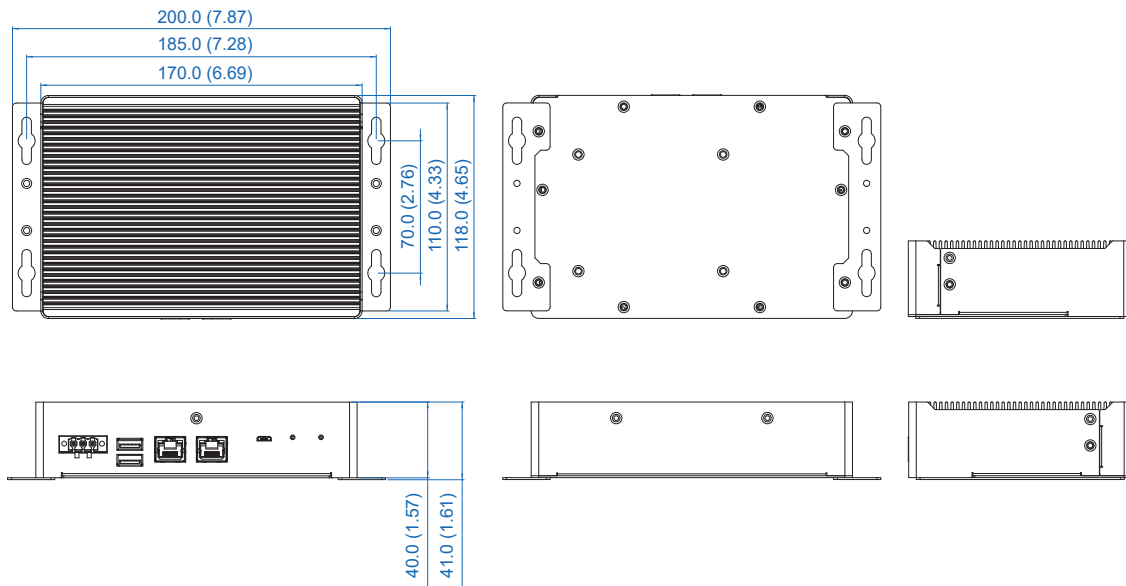
## Specifications

System	
Processor	24-core Arm Cortex-A53 Processor (Foxconn FXN3102)
Memory	1 DDR4 2133MHz 16GB ECC SO-DIMM
Flash	1 SPI Flash, 512MB
EEPROM	1 SPI EEPROM, up to 512KB
Software Support	Ubuntu Server 18.04 LTS
AI Accelerator	
Processor	Lightspeur® 2801S Neural Accelerator, up to 5.6 TOPS
Framework	TensorFlow, Caffe, PyTorch
I/O Interface	
USB	2 USB 3.0 Type A
Micro USB	<ul style="list-style-type: none"> <li>▪ 1 Micro USB console port for debug (External)</li> <li>▪ 1 Micro USB console port for firmware update (Internal)</li> </ul>
LED	Power, SSD
Storage	
SATA	1 SATA III (6Gbps)
M.2	1 M.2 Key M Socket (2280, PCIe)
eMMC	1 64GB eMMC, supports MMC4.41/HS200
Ethernet	
LAN	10/100/1000 Base-T Ethernet GigE LAN, RJ45 connector
IPMI	10/100/1000 Base-T Ethernet IPMI, RJ45 connector
Power	
Power Input	DC 9V to 55V
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground

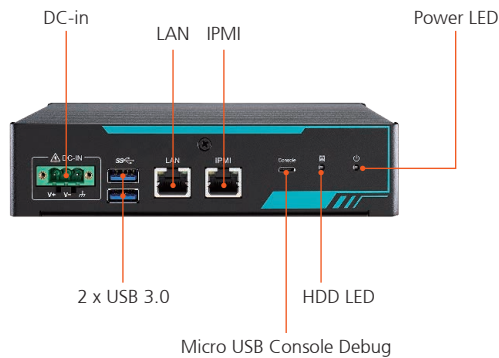
Software Support	
Operation System	<ul style="list-style-type: none"> <li>▪ Ubuntu Server 18.04 LTS (Linux kernel 4.14.0)</li> <li>▪ Supports bootup from Flash drive / eMMC</li> <li>▪ Supports backup from Flash drive</li> <li>▪ File System : EXT4</li> </ul>
Toolchain	gcc-linaro-6.4.1-2017.11-x86_64_aarch64-linux-gnu
Script Language	Python
Mechanical	
Dimensions	170mm x 118mm x 40mm (6.7" x 4.6" x 1.6")
Weight	0.9 kg (2.0 lb)
Mounting	<ul style="list-style-type: none"> <li>▪ Wallmount by mounting bracket</li> <li>▪ DIN Rail Mount (Optional)</li> </ul>
Environment	
Operating Temp.	VAC-1000-W16E : -40°C to 70°C (-40°F to 158°F) VAC-1000-16E : 0°C to 55°C (32°F to 131°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @55°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
EMC	CE, FCC, EN50155, EN50121-3-2

## Dimensions

Unit : mm/ inch



## Front I/O



## Order Information

Model Name	CPU	GigE LAN	IPMI	USB 3.0	M.2	SSD Bracket	AI Accelerator	RAM
VAC-1000-W16E	FXN3102	1	1	2	1	1	Lightspeur®	16GB, IT
VAC-1000-16E	FXN3102	1	1	2	1	1	Lightspeur®	16GB, CT

### Optional Software

<b>NX Witness VMS</b>	Network Optix IP Video Management System (VMS) and Video Surveillance Software
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### Accessories

<b>PWA-60WP3-WT</b>	60W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>PWA-60WP3-WT-12V</b>	60W, 12V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>DIN-RAIL</b>	DIN Rail Kit
<b>M.2 Storage Module</b>	M.2 Key M PCIe Storage Module

1

Edge AI Computing

2

IoT Gateway

3

System On Module (SOM)






4







Industrial Multi-Touch Computers

5

Embedded Peripherals






# High-performance Fanless Systems






Series		IVX-1000		ECX-3000		
Model No.		IVX-1000	IVX-1000 ICY	ECX-3025R	ECX-3025	ECX-3000-PoER
Product Image						
System	CPU	Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)	Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)	Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)	Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)	Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)
	Chipset	Intel® R680E	Intel® R680E	Intel® R680E	Intel® R680E	Intel® R680E
	BIOS	AMI	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR5 4800MHz	260-pin SO-DIMM, DDR5 4800MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz
	Memory Capacity	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
	Graphics	Intel® UHD 770	Intel® UHD 770	Intel® UHD 770	Intel® UHD 770	Intel® UHD 770
	Ethernet	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows10, Linux	Windows10, Linux	Windows10, Linux	Windows10, Linux	Windows10, Linux
Display I/O	VGA	1	1	NA	NA	NA
	DVI-I	NA	NA	1	1	1
	DVI-D	NA	NA	NA	NA	NA
	DisplayPort	2	2	2	2	2
	Serial	4 Isolated RS-232/422/485	4 Isolated RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
I/O Interface	USB 3.0/3.1/3.2	4 (External)	4 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	1 (External, A-coded)	1 (External, A-coded)	NA	NA	NA
	GigE LAN	10 (9-port 2.5G, 4 w/PoE*)	10 (9-port 2.5G, 4 w/PoE*)	9 (8-port 2.5G, 4 w/PoE*)	9 (8-port 2.5G, 4 w/PoE*)	6 (5-port 2.5G, 4 w/PoE*)
	PoE LAN	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)
	SFP	NA	NA	NA	NA	NA
	M12	8 (X-coded)	8 (X-coded)	NA	NA	NA
	CAN Bus	NA	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA	NA
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)
	Others	2 SSD/HDD Tray (External)	6 SSD/HDD Tray (External 15mm in height)	2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)
Storage	SATA III	2	6	2	2	2
	SATA II	NA	NA	NA	NA	NA
	CFast	NA	NA	NA	NA	NA
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
	M.2	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
	Micro SD	NA	NA	1 (External)	1 (External)	1 (External)
	Mini PCIe	1	1	1	1	1
Expansion	SIM Card	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)
	M.2	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230
	SUMIT A, B	NA	NA	NA	NA	2 (Optional)
Power	Input	DC-in 16V to 160V	DC-in 16V to 160V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V
	Connector	Terminal Block	Terminal Block	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
	Ignition Control	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)
	Remote Switch	Yes	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		360 x 228 x 88 mm (14.2" x 8.9" x 3.5")	360 x 228 x 171mm (14.2" x 8.9" x 6.7")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")
Weight		7.1 kg (15.65 lb)	10.6 kg (23.43 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)
Mounting		Wallmount, 2U Rackmount	Wallmount, 4U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
Operating Temperature		-25°C to 45°C (-6°F to 113°F)	-25°C to 45°C (-6°F to 113°F)	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)	-40°C to 75°C (-40°F to 167°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 61373 : 2010	IEC 61373 : 2010	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 61373 : 2010	IEC 61373 : 2010	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

ECX-3000-PoES	ECX-3000-PoE	ECX-3000-4R	ECX-3000-4G	ECX-3000-2R	ECX-3000-2G
					
Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)	Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)	Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)	Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)	Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)	Intel® Core™ i9/17/15/13 Processor (RPL-S/ADL-S)
Intel® R680E	Intel® R680E	Intel® R680E	Intel® R680E	Intel® R680E	R680E
AMI	AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz
Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
Intel® UHD 770	Intel® UHD 770	Intel® UHD 770	Intel® UHD 770	Intel® UHD 770	Intel® UHD 770
Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows10, Linux	Windows10, Linux	Windows10, Linux	Windows10, Linux	Windows10, Linux	Windows10, Linux
NA	NA	NA	NA	NA	NA
1	1	1	1	1	1
NA	NA	NA	NA	NA	NA
2	2	2	2	2	2
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
6 (External)	6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
NA	NA	NA	NA	NA	NA
6 (5-port 2.5G, 4 w/PoE*)	6 (5-port 2.5G, 4 w/PoE*)	4 (3-port 2.5G)	4 (3-port 2.5G)	2 (1-port 2.5G)	2 (1-port 2.5G)
4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	16 GPIO	16 GPIO	16 GPIO	16 GPIO
16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA	NA	NA	NA
4 M.2 SSD Tray (External)	NA	2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)	NA
2	2	2	2	2	2
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
1 (External)	1 (External)	1 (External)	1 (External)	1 (External)	1 (External)
1	1	1	1	1	1
2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)
- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230
2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V
Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)
Yes	Yes	Yes	Yes	Yes	Yes
260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")
3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

- 1 High-performance Fanless Systems
- 2 AI Computing Systems
- 3 10GigE Embedded Systems
- 4 Expandable Embedded Systems
- 5 Ultra-compact Fanless Systems
- 6 Rackmount Systems
- 7 Industrial Multi-Touch Computers/Displays
- 8 Industrial Motherboards
- 9 COM Express
- 10 Embedded Peripherals

# High-performance Fanless Systems

Series		ECX-2000				
Model No.		ECX-2025R/ ECX-2025FR	ECX-2025/ ECX-2025F	ECX-2000-PoE/ ECX-2000F-PoE	ECX-2000-PoE/ ECX-2000F-PoE	ECX-2000-6FR/ ECX-2000F-6FR
Product Image						
System	CPU	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)
	Chipset	Intel® W480E	Intel® W480E	Intel® W480E	Intel® W480E	Intel® W480E
	BIOS	AMI	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz
	Memory Capacity	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
	Graphics	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
	Ethernet	Intel® I219LM, Intel® I210, Intel® I225	Intel® I219LM, Intel® I210, Intel® I225	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210, Intel® I350
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	NA	NA	NA	NA	NA
	DVI-I	1	1	1	1	1
	DVI-D	1	1	1	1	1
	DisplayPort	1	1	1	1	1
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
	GigE LAN	9 (3-port 2.5G, 4 w/PoE*)	9 (3-port 2.5G, 4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)	6 (2 w/SFP+)
	PoE LAN	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA
	SFP	NA	NA	NA	NA	2
	M12	NA	NA	NA	NA	NA
	CAN Bus	NA	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA	16 GPIO
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA
Others	2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)	
Storage	SATA III	2	2	2	2	2
	SATA II	NA	NA	NA	NA	NA
	CFast	NA	NA	NA	NA	NA
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
	M.2	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
	Micro SD	1 (External)	1 (External)	1 (External)	1 (External)	1 (External)
Expansion	Mini PCIe	1	1	1	1	1
	SIM Card	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)
	M.2	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230
	SUMIT A, B	NA	NA	2 (Optional)	2 (Optional)	NA
Power	Input	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V
	Connector	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
	Ignition Control	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)
	Remote Switch	Yes	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")
Weight		3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)
Mounting		Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
Operating Temperature		-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

ECX-2000-6F/ ECX-2000F-6F	ECX-2000-4R/ ECX-2000F-4R	ECX-2000-4G/ ECX-2000F-4G	ECX-2000-2R/ ECX-2000F-2R	ECX-2000-2G/ ECX-2000F-2G
				
Intel® Xeon®/Core™ i9/7/5/3 Processor (CML-S)	Intel® Xeon®/Core™ i9/7/5/3 Processor (CML-S)	Intel® Xeon®/Core™ i9/7/5/3 Processor (CML-S)	Intel® Xeon®/Core™ i9/7/5/3 Processor (CML-S)	Intel® Xeon®/Core™ i9/7/5/3 Processor (CML-S)
Intel® W480E	Intel® W480E	Intel® W480E	Intel® W480E	Intel® W480E
AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz
Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
NA	NA	NA	NA	NA
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
6 (2 w/SFP+)	4	4	2	2
NA	NA	NA	NA	NA
2	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
16 GPIO	16 GPIO	16 GPIO	16 GPIO	16 GPIO
NA	NA	NA	NA	NA
NA	2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)	NA
2	2	2	2	2
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
1 (External)	1 (External)	1 (External)	1 (External)	1 (External)
1	1	1	1	1
2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)
- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230
NA	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V
Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)
Yes	Yes	Yes	Yes	Yes
260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")
3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GiE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems

**7**  
Industrial Multi-  
Touch Computers/  
Displays






**8**  
Industrial  
Motherboards






**9**  
COM  
Express

**10**  
Embedded  
Peripherals







# High-performance Fanless Systems



Series		ECX-1000				
Model No.		ECX-1000-9R	ECX-1000-9GD	ECX-1000-PoER	ECX-1000-PoE	ECX-1000-6FR
Product Image						
System	CPU	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
	Chipset	Intel® C246	Intel® C246	Intel® C246	Intel® C246	Intel® C246
	BIOS	AMI	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
	Memory Capacity	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
	Graphics	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
	Ethernet	Intel® I219LM, Intel® I210, Intel® 82574L	Intel® I219LM, Intel® I210, Intel® 82574L	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210, Intel® I350
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	NA	NA	NA	NA	NA
	DVI-I	1	1	1	1	1
	DVI-D	1	1	1	1	1
	DisplayPort	1	1	1	1	1
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
	GigE LAN	9 (4 w/PoE*)	9 (4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)	6 (2 w/SFP+)
	PoE LAN	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA
	SFP	NA	NA	NA	NA	2
	M12	NA	NA	NA	NA	NA
	CAN Bus	NA	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA	16 GPIO
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA
	Others	2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)
	Storage	SATA III	2	2	2	2
SATA II		NA	NA	NA	NA	NA
CFast		1	1	1	1	1
mSATA		2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
M.2		1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
Micro SD		NA	NA	NA	NA	NA
Mini PCIe		2	2	2	2	2
Expansion	SIM Card	2 (External)	2 (External)	2 (External)	2 (External)	2 (External)
	M.2	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230
	SUMIT A, B	NA	NA	2 (Optional)	2 (Optional)	NA
	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Power	Connector	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
	Ignition Control	Yes	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes	Yes
Dimensions (W x L x H)	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	
Weight	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	
Mounting	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	
Operating Temperature	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

ECX-1000-6F	ECX-1000-4R	ECX-1000-4G	ECX-1000-2R	ECX-1000-2G
				
Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
Intel® C246	Intel® C246	Intel® C246	Intel® C246	Intel® C246
AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
NA	NA	NA	NA	NA
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
6 (2 w/SFP+)	4	4	2	2
NA	NA	NA	NA	NA
2	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
16 GPIO	16 GPIO	16 GPIO	16 GPIO	16 GPIO
NA	NA	NA	NA	NA
NA	2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)	NA
2	2	2	2	2
NA	NA	NA	NA	NA
1	1	1	1	1
2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
NA	NA	NA	NA	NA
2	2	2	2	2
2 (External)	2 (External)	2 (External)	2 (External)	2 (External)
1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230
NA	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")
3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, N50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

- 1 High-performance Fanless Systems
- 2 AI Computing Systems
- 3 10GiGE Embedded Systems
- 4 Expandable Embedded Systems
- 5 Ultra-compact Fanless Systems
- 6 Rackmount Systems
- 7 Industrial Multi-Touch Computers/Displays
- 8 Industrial Motherboards
- 9 COM Express
- 10 Embedded Peripherals

# High-performance Fanless Systems

Series		ECX-1000 AIO		SPC-5600	
Model No.		ECX-1200 AIO	ECX-1100 AIO	SPC-5600	SPC-5600A
Product Image					
System	CPU	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
	Chipset	Intel® C246	Intel® C246	Intel® H310	Intel® H310
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
	Memory Capacity	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
	Graphics	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
	Ethernet	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	1	1	NA	NA
	DVI-I	NA	NA	NA	NA
	DVI-D	1	1	1	1
	DisplayPort	2	2	2	2
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	4 (External)	4 (External)
	USB 2.0	1 (Internal)	1 (Internal)	2 (Internal)	2 (Internal)
	GigE LAN	6 (4 w/PoE*)	2	4	4
	PoE LAN	4 (IEEE 802.3at)	NA	NA	NA
	SFP	NA	NA	NA	NA
	M12	NA	NA	NA	NA
	CAN Bus	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	32 (16 DI, 16 DO)	16 GPIO	NA	NA
	Isolated DIO	NA	NA	NA	NA
	AIO	32 AI, 2 AO	32 AI, 2 AO	NA	NA
	Others	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	NA	NA
	Storage	SATA III	2	2	2
SATA II		NA	NA	NA	NA
CFast		1 (External)	1 (External)	NA	NA
mSATA		2 (Mini PCIe)	2 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
M.2		1 Key B 2280, 1 Key M 2280	1 Key B 2280, 1 Key M 2280	NA	NA
Micro SD		NA	NA	NA	NA
Mini PCIe		2	2	2	2
Expansion	SIM Card	3 (External)	3 (External)	1 (Internal)	1 (Internal)
	M.2	1 Key E 2230	1 Key E 2230	NA	NA
	SUMIT A, B	2 (Optional)	2 (Optional)	NA	NA
	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 12V	DC-in 9V to 36V
Power	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes	Yes	NA	NA
	Remote Switch	Yes	Yes	Yes	Yes
	Dimensions (W x L x H)	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	209 x 151 x 75 mm (8.2" x 5.9" x 3.0")	209 x 151 x 75 mm (8.2" x 5.9" x 3.0")
Weight	4.6 kg (10.14 lb)	4.6 kg (10.14 lb)	2.4 kg (5.29 lb)	2.7 kg (5.95 lb)	
Mounting	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail	Wallmount, DIN Rail	
Operating Temperature	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-25°C to 60°C (-13°F to 140°F)	-25°C to 60°C (-13°F to 140°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

Series		HPS-1000			
Model No.		HPS-1000-4S	HPS-1000-4R	HPS-1000-4G	
Product Image					
System	CPU	AMD Ryzen™ 7 Pro 5000 Series Processors	AMD Ryzen™ 7 Pro 5000 Series Processors	AMD Ryzen™ 7 Pro 5000 Series Processors	
	Chipset	AMD X570	AMD X570	AMD X570	
	BIOS	AMI	AMI	AMI	
	Memory Type	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	
	Memory Capacity	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	
	Graphics	AMD Radeon™	AMD Radeon™	AMD Radeon™	
	Ethernet	Intel® I210, Intel® I225	Intel® I210, Intel® I225	Intel® I210, Intel® I225	
	Audio	Realtek® ALC888S-VD	Realtek® ALC888S-VD	Realtek® ALC888S-VD	
	Super I/O	Fintek F81966	Fintek F81966	Fintek F81966	
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	
Display I/O	VGA	NA	NA	NA	
	DVI-I	NA	NA	NA	
	DVI-D	NA	NA	NA	
	DisplayPort	3	3	3	
	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	
I/O Interface	USB 3.0/3.1/3.2	- 3 USB 3.1 - 3 USB 3.2 Gen2	- 3 USB 3.1 - 3 USB 3.2 Gen2	- 3 USB 3.1 - 3 USB 3.2 Gen2	
	USB 2.0	NA	NA	NA	
	GigE LAN	4 (1 port 2.5G, 2 w/PoE*)	4 (1 port 2.5G, 2 w/PoE*)	4 (1 port 2.5G, 2 w/PoE*)	
	PoE LAN	2 (IEEE 802.3at)	2 (IEEE 802.3at)	2 (IEEE 802.3at)	
	SFP	NA	NA	NA	
	M12	NA	NA	NA	
	CAN Bus	NA	NA	NA	
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	
	GPIO	NA	NA	NA	
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	
	Others	2 2.5" SSD/HDD Bracket (Internal)	2 2.5" SSD/HDD Tray (External)	1 2.5" SSD/HDD Tray (External) 2 M.2 Key M SSD Tray (External)	
	SATA III	2	2	2	
	SATA II	NA	NA	NA	
	CFast	1	1	1	
mSATA	NA	NA	NA		
Storage	M.2	- 1 Key M 2280 - 1 Key B 2280 (share)	- 1 Key M 2280 - 1 Key B 2280 (share)	- 1 Key M 2280 - 1 Key B 2280 (share)	
	Micro SD	NA	NA	NA	
	Expansion	Mini PCIe	NA	NA	NA
		SIM Card	1	1	1
		M.2	- 1 Key B 2280/3042/3052 - 1 Key E 2230	- 1 Key B 2280/3042/3052 - 1 Key E 2230	- 1 Key B 2280/3042/3052 - 1 Key E 2230
	SUMIT A, B	1 SUMIT B (Optional)	1 SUMIT B (Optional)	1 SUMIT B (Optional)	
	Power	Input	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V
Connector		Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	
Ignition Control		Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	
Remote Switch		Yes	Yes	Yes	
Dimensions (W x L x H)		260 x 188 x 88mm (10.24" x 7.40" x 3.46")	260 x 188 x 88mm (10.24" x 7.40" x 3.46")	260 x 188 x 88mm (10.24" x 7.40" x 3.46")	
Weight		3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	
Mounting		Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	
Operating Temperature		-40°C to 60°C (-40°F to 140°F)	-40°C to 60°C (-40°F to 140°F)	-40°C to 60°C (-40°F to 140°F)	
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration		MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	
Shock		MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

1 High-performance Fanless Systems

2 AI Computing Systems

3 10GiGE Embedded Systems

4 Expandable Embedded Systems

5 Ultra-compact Fanless Systems

6 Rackmount Systems





7 Industrial Multi-Touch Computers/Displays






8 Industrial Motherboards

9 COM Express

10 Embedded Peripherals

# AI Computing Systems

Series		EVS-2000 (MXM)			ECX-3000 PEG
Model No.		EVS-2000	EVS-2000F	EVS-2000 LIQ	ECX-3800 PEG
Product Image					
System	CPU	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)
	Chipset	Intel® W480E	Intel® W480E	Intel® W480E	Intel® R680E
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR5 4800MHz
	Memory Capacity	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
	Graphics/AI Accelerator	- Intel® UHD 630 - MXM Graphics (By request)	- Intel® UHD 630 - MXM Graphics (By request)	- Intel® UHD 630 - MXM Graphics (By request)	Intel® UHD 770
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I226
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	1	1	1	NA
	DVI-I	NA	NA	NA	1
	DVI-D	1	1	1	NA
	DisplayPort	2	2	2	2
I/O Interface	Serial	3 RS-232/422/485	3 RS-232/422/485	3 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	6 (External)	- 6 USB 3.2 Type A - 1 USB 3.2 Gen 2x2 Type C
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	NA
	GigE LAN	2	2	2	6 (5 port 2.5G, 4 w/PoE <sup>+</sup> )
	PoE LAN	NA	NA	NA	4 2.5G PoE <sup>+</sup> (IEEE 802.3at)
	M12	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
	Others	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)
Storage	SATA III	2	2	2	4
	CFast	NA	NA	NA	NA
	mSATA	2 (Mini PCIe)	2 (Mini PCIe)	1 (Mini PCIe)	NA
	M.2	- 1 Key B 2280 - 1 Key M 2280	- 1 Key B 2280 - 1 Key M 2280	- 1 Key B 2280 - 1 Key M 2280	1 Key M 2280
	Micro SD	1	1	1	NA
	Mini PCIe	1	1	1	1
Expansion	SIM Card	1 (Nano SIM, External)	1 (Nano SIM, External)	1 (Nano SIM, External)	3 (Nano SIM, External)
	M.2	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 2 Key B 2280/3042/3052 - 1 Key E 2230
	PCI/PCIe	1 PCI/PCIe x4	1 PCI/PCIe x4	1 PCI/PCIe x4	2 PCIe x8, 2 PCIe x4
	SUMIT A, B	2 (Optional)	2 (Optional)	2 (Optional)	NA
	Power	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 12V to 50V
Power	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)
	Remote Switch	Yes	Yes	Yes	Yes
	Dimensions (W x L x H)	280 x 215 x 79 mm (11.0" x 8.5" x 3.1")	280 x 215 x 86.5 mm (11.0" x 8.5" x 3.4")	260 x 215 x 93 mm (10.2" x 8.5" x 3.7")	260 x 240 x 142mm (10.24" x 9.45" x 5.59")
Weight	4.9 kg (10.80 lb)	5.0 kg (11.02 lb)	5.0 kg (11.02 lb)	7.5 kg (16.53 lb)	
Mounting	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail	
Operating Temperature	-25°C to 55°C (-13°F to 140°F)	-25°C to 55°C (-13°F to 140°F)	5°C to 55°C (41°F to 131°F)	-20°C to 45°C (-4°F to 113°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	MIL-STD-810G, Procedure I	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	MIL-STD-810G, Procedure I	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

ECX-3600 PEG	ECX-3400 PEG	ECX-3200MX PEG (M12)	ECX-3200 PEG	ECX-3100 PEG
				
Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)	Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)	Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)	Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)	Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)
Intel® R680E	Intel® R680E	Intel® R680E	Intel® R680E	Intel® R680E
AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR5 4800MHz	260-pin SO-DIMM, DDR5 4800MHz	260-pin SO-DIMM, DDR5 4800MHz	260-pin SO-DIMM, DDR5 4800MHz	260-pin SO-DIMM, DDR5 4800MHz
Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
Intel® UHD 770	Intel® UHD 770	Intel® UHD 770	Intel® UHD 770	Intel® UHD 770
Intel® I219LM, Intel® I226	Intel® I219LM, Intel® I226	Intel® I219LM, Intel® I226	Intel® I219LM, Intel® I226	Intel® I219LM, Intel® I226
Realtek® ALC888S-VD	Realtek® ALC888S-VD	Realtek® ALC888S-VD	Realtek® ALC888S-VD	Realtek® ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
NA	NA	NA	NA	NA
1	1	1	1	1
NA	NA	NA	NA	NA
2	2	2	2	2
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
- 6 USB 3.2 Type A - 1 USB 3.2 Gen 2x2 Type C	- 6 USB 3.2 Type A - 1 USB 3.2 Gen 2x2 Type C	- 6 USB 3.2 Type A - 1 USB 3.2 Gen 2x2 Type C	- 6 USB 3.2 Type A - 1 USB 3.2 Gen 2x2 Type C	- 6 USB 3.2 Type A - 1 USB 3.2 Gen 2x2 Type C
NA	NA	NA	NA	NA
6 (5 port 2.5G, 4 w/PoE <sup>+</sup> )	6 (5 port 2.5G, 4 w/PoE <sup>+</sup> )	6 (5 port 2.5G, 4 w/PoE <sup>+</sup> )	6 (5 port 2.5G, 4 w/PoE <sup>+</sup> )	2 (1 port 2.5G)
4 2.5G PoE <sup>+</sup> (IEEE 802.3at)	4 2.5G PoE <sup>+</sup> (IEEE 802.3at)	4 2.5G PoE <sup>+</sup> (IEEE 802.3at)	4 2.5G PoE <sup>+</sup> (IEEE 802.3at)	NA
NA	NA	4 2.5G (X-coded, PoE <sup>+</sup> )	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	NA	NA	16 GPIO
32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	NA
4 SSD/HDD Tray (External)	4 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)
4	4	2	2	2
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
NA	NA	NA	NA	NA
1	1	1	1	1
3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)
- 2 Key B 2280/3042/3052 - 1 Key E 2230	- 2 Key B 2280/3042/3052 - 1 Key E 2230	- 2 Key B 2280/3042/3052 - 1 Key E 2230	- 2 Key B 2280/3042/3052 - 1 Key E 2230	- 2 Key B 2280/3042/3052 - 1 Key E 2230
2 PCIe x8, 1 PCIe x4	1 PCIe x16, 1 PCIe x4	1 PCIe x16	1 PCIe x16	1 PCIe x16
NA	NA	NA	NA	NA
DC-in 12V to 50V	DC-in 12V to 50V	DC-in 12V to 50V	DC-in 12V to 50V	DC-in 12V to 50V
Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)
Yes	Yes	Yes	Yes	Yes
260 x 240 x 120 mm (10.24" x 9.45" x 4.72")	260 x 240 x 104 mm (10.24" x 9.45" x 4.09")	260 x 240 x 79 mm (10.24" x 9.45" x 3.11")	260 x 240 x 79 mm (10.24" x 9.45" x 3.11")	260 x 240 x 79 mm (10.24" x 9.45" x 3.11")
6.5 kg (14.33 lb)	5.5 kg (12.13 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)
Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I
MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GiE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems

**7**  
Industrial Multi-  
Touch Computers/  
Displays






**8**  
Industrial  
Motherboards







**9**  
COM  
Express

**10**  
Embedded  
Peripherals



# AI Computing Systems

Series		ECX-2000 PEG				
Model No.		ECX-2600 PEG/ ECX-2600F PEG	ECX-2400 AI/ ECX-2400F AI	ECX-2400S PEG/ ECX-2400SF PEG	ECX-2400 PEG/ ECX-2400F PEG	ECX-2300 PEG/ ECX-2300F PEG
Product Image						
System	CPU	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)
	Chipset	Intel® W480E	Intel® W480E	Intel® W480E	Intel® W480E	Intel® W480E
	BIOS	AMI	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz
	Memory Capacity	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
	Graphics/ AI Accelerator	- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - AI Accelerator up to 64TOPS	- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)
	Ethernet	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Window 10, Linux	Window 10, Linux	Window 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	1	1	1	1	1
	DVI-I	NA	NA	NA	NA	NA
	DVI-D	1	1	1	1	1
	DisplayPort	2	2	2	2	2
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	NA	NA	NA	NA	NA
	GigE LAN	6 (4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)	2
	PoE LAN	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA	16 GPIO
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	NA
	Others	4 SSD/HDD Tray (External)	4 SSD/HDD Tray (External)	- 1 SSD/HDD Tray (External) - 2 M.2 SSD Tray (External)	4 SSD/HDD Tray (External)	4 SSD/HDD Tray (External)
	Storage	SATA III	4	4	2	4
CFast		NA	NA	NA	NA	NA
mSATA		2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
M.2		1 Key M 2280	1 Key M 2280	3 Key M 2280	1 Key M 2280	1 Key M 2280
Micro SD		1 (External)	1 (External)	1 (External)	1 (External)	1 (External)
Expansion		Mini PCIe	2	2	2	2
	SIM Card	3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)
	M.2	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230
	PCI/PCle	2 PCle x8, 1 PCle x4	1 PCle x4	1 PCle x16, 1 PCle x4	1 PCle x16, 1 PCle x4	1 PCle x16, 1 PCle x4
	SUMIT A, B	NA	NA	NA	NA	NA
Power	Input	DC-in 12V to 50V	DC-in 12V to 50V	DC-in 12V to 50V	DC-in 12V to 50V	DC-in 12V to 50V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)
	Remote Switch	Yes	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		260 x 240 x 123 mm (10.2" x 9.4" x 4.8")	260 x 240 x 104 mm (10.2" x 9.4" x 4.1")	260 x 240 x 104 mm (10.2" x 9.4" x 4.1")	260 x 240 x 104 mm (10.2" x 9.4" x 4.1")	260 x 240 x 104 mm (10.2" x 9.4" x 4.1")
Weight		6.5 kg (14.33 lb)	5.5 kg (12.13 lb)	5.5 kg (12.13 lb)	5.5 kg (12.13 lb)	5.5 kg (12.13 lb)
Mounting		Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail
Operating Temperature		-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

ECX-1000 PEG					
ECX-2200 PEG/ ECX-2200F PEG	ECX-2100 PEG/ ECX-2100F PEG	ECX-1400 PEG	ECX-1300 PEG	ECX-1200 PEG	ECX-1100 PEG
					
Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
Intel® W480E	Intel® W480E	Intel® C246	Intel® C246	Intel® C246	Intel® C246
AMI	AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)
Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
1	1	1	1	1	1
NA	NA	NA	NA	NA	NA
1	1	1	1	1	1
2	2	2	2	2	2
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
6 (External)	6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
NA	NA	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
6 (4 w/PoE*)	2	6 (4 w/PoE*)	2	6 (4 w/PoE*)	2
4 (IEEE 802.3at)	NA	4 (IEEE 802.3at)	NA	4 (IEEE 802.3at)	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	16 GPIO	NA	16 GPIO	NA	16 GPIO
32 (16 DI, 16 DO)	NA	32 (16 DI, 16 DO)	NA	32 (16 DI, 16 DO)	NA
2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	4 SSD/HDD Tray (External)	4 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)
2	2	4	4	2	2
NA	NA	1 (External)	1 (External)	1 (External)	1 (External)
2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
1 Key M 2280	1 Key M 2280	1 Key B 2280	1 Key B 2280	1 Key B 2280, 1 Key M 2280	1 Key B 2280, 1 Key M 2280
1 (External)	1 (External)	NA	NA	NA	NA
2	2	2	2	2	2
3 (Nano SIM, External)	3 (Nano SIM, External)	3 (External)	3 (External)	3 (External)	3 (External)
- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230
1 PCIe x16	1 PCIe x16	1 PCIe x16, 1 PCIe x4	1 PCIe x16, 1 PCIe x4	1 PCIe x16	1 PCIe x16
NA	NA	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
DC-in 12V to 50V	DC-in 12V to 50V	DC-in 12V to 36V	DC-in 12V to 36V	DC-in 12V to 36V	DC-in 12V to 36V
Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Yes (SW IGN)	Yes (SW IGN)	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
260 x 240 x 79 mm (10.2" x 9.4" x 3.1")	260 x 240 x 79 mm (10.2" x 9.4" x 3.1")	260 x 215 x 104 mm (10.2" x 8.5" x 4.1")	260 x 215 x 104 mm (10.2" x 8.5" x 4.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")
4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	5.5 kg (12.13 lb)	5.5 kg (12.13 lb)	4.8 kg (10.58 lb)	4.8 kg (10.58 lb)
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)	-20°C to 45°C (-4°F to 113°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010
IEC 60068-2-27	IEC 60068-2-27	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GiE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems





**7**  
Industrial Multi-  
Touch Computers/  
Displays







**8**  
Industrial  
Motherboards

**9**  
COM  
Express

**10**  
Embedded  
Peripherals





# AI Computing Systems





Series		RCX-2000 PEG			
Model No.		RCX-2700R PEG	RCX-2700 PEG	RCX-2400R PEG	RCX-2400 PEG
Product Image					
System	CPU	Intel® Xeon®/Core™ i7/i5 Processor (RKL-S)	Intel® Xeon®/Core™ i7/i5 Processor (RKL-S)	Intel® Xeon®/Core™ i7/i5 Processor (RKL-S)	Intel® Xeon®/Core™ i7/i5 Processor (RKL-S)
	Chipset	Intel® W580	Intel® W580	Intel® W580	Intel® W580
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 3200 MHz	260-pin SO-DIMM, DDR4 3200 MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz
	Memory Capacity	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM
	Graphics/AI Accelerator	- Intel® UHD P750/750 - PEG (By request)	- Intel® UHD P750/750 - PEG (By request)	- Intel® UHD P750/750 - PEG (By request)	- Intel® UHD P750/750 - PEG (By request)
	Ethernet	Intel® I219LM, Intel® I225IT	Intel® I219LM, Intel® I225IT	Intel® I219LM, Intel® I225IT	Intel® I219LM, Intel® I225IT
	Audio	Realtek® ALC888S-VD	Realtek® ALC888S-VD	Realtek® ALC888S-VD	Realtek® ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	NA	NA	NA	NA
	DVI-I	NA	NA	NA	NA
	DVI-D	NA	NA	NA	NA
	DisplayPort	3	3	3	3
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
	GigE LAN	2 (1-port 2.5G)	2 (1-port 2.5G)	2 (1-port 2.5G)	2 (1-port 2.5G)
	PoE LAN	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
	Others	4 SSD/HDD Tray (External)	NA	4 SSD/HDD Tray (External)	NA
	Storage	SATA III	4	4	4
CFast		NA	NA	NA	NA
mSATA		2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
M.2		- 1 Key M 2280 - 1 Key B 2280	- 1 Key M 2280 - 1 Key B 2280	- 1 Key M 2280 - 1 Key B 2280	- 1 Key M 2280 - 1 Key B 2280
Micro SD		NA	NA	NA	NA
Expansion		Mini PCIe	2	2	2
	SIM Card	3 (External)	3 (External)	3 (External)	3 (External)
	M.2	- 1 Key B 3042/3052/2280 - 1 Key E 2230	- 1 Key B 3042/3052/2280 - 1 Key E 2230	- 1 Key B 3042/3052/2280 - 1 Key E 2230	- 1 Key B 3042/3052/2280 - 1 Key E 2230
	PCI/PCIe	2 PCIe x8, 3 PCIe x4	2 PCIe x8, 3 PCIe x4	1 PCIe x16, 2 PCIe x4	1 PCIe x16, 2 PCIe x4
	SUMIT A, B	NA	NA	NA	NA
Power	Input	DC-in 9V to 55V	DC-in 9V to 55V	DC-in 9V to 55V	DC-in 9V to 55V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)	253.9 x 215.8 x 375.0mm (10.00" x 8.50" x 14.76")	253.9 x 215.8 x 375.0mm (10.00" x 8.50" x 14.76")	183.1 x 208.3 x 375.0mm (7.21" x 8.19" x 14.76")	183.1 x 208.3 x 375.0mm (7.21" x 8.19" x 14.76")	
Weight	9.8 kg (21.61 lb)	9.5 kg (20.94 lb)	8.6 kg (18.96 lb)	8.3 kg (18.30 lb)	
Mounting	Wallmount	Wallmount	Wallmount	Wallmount	
Operating Temperature	-25°C to 60°C (-13°F to 147°F)	-25°C to 60°C (-13°F to 147°F)	-25°C to 60°C (-13°F to 147°F)	-25°C to 60°C (-13°F to 147°F)	
Storage Temperature	-25°C to 85°C (-13°F to 185°F)	-25°C to 85°C (-13°F to 185°F)	-25°C to 85°C (-13°F to 185°F)	-25°C to 85°C (-13°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	
Shock	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

		GPC-1000		RCX-1500 PEG	
RCX-2300R PEG	RCX-2300 PEG	GPC-1000MX	GPC-1000	RCX-1540R PEG	RCX-1540 PEG
					
Intel® Xeon®/Core™ i7/i5 Processor (RKL-S)	Intel® Xeon®/Core™ i7/i5 Processor (RKL-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CFL-R-S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
Intel® W580	Intel® W580	Intel® C246	Intel® C246	Intel® C246	Intel® C246
AMI	AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 2133Hz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM
- Intel® UHD P750/750 - PEG (By request)	- Intel® UHD P750/750 - PEG (By request)	- Intel® UHD Graphics 630 - PEG (By request)	- Intel® UHD 630 - PEG 1 (By request) - PEG 2 (By request)	- Intel® UHD 630 - PEG 1 (By request) - PEG 2 (By request)	- Intel® UHD 630 - PEG 1 (By request) - PEG 2 (By request)
Intel® I219LM, Intel® I225IT	Intel® I219LM, Intel® I225IT	Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek® ALC888S-VD	Realtek® ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	1	1
NA	NA	NA	1	NA	NA
3	3	1	2	1	1
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485, A-coded	4 RS-232/422/485	3 RS-232/422/485	3 RS-232/422/485
6 (External)	6 (External)	2 USB 3.1 Gen2, 4 USB 3.1 Gen1	4 (External)	6 (External)	6 (External)
1 (Internal)	1 (Internal)	NA	NA	1 (Internal)	1 (Internal)
2 (1-port 2.5G)	2 (1-port 2.5G)	4 (X-coded)	4	2	2
NA	NA	NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	NA	NA	NA	NA
32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	NA	16 (8 DI, 8 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
4 SSD/HDD Tray (External)	NA	- 2 SSD/HDD Tray (External) - 2 CAN (A-coded)	NA	4 SSD/HDD Tray (External)	NA
4	4	2	2	4	4
NA	NA	NA	NA	NA	NA
2 (Mini PCIe)	2 (Mini PCIe)	1 (mini PCIe)	1 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
-1 Key M 2280 -1 Key B 2280	-1 Key M 2280 -1 Key B 2280	1 Key M 2280	NA	1 Key M 2280	1 Key M 2280
NA	NA	NA	NA	NA	NA
2	2	1	2	2	2
3 (External)	3 (External)	2 (Nano SIM, External)	1 (Internal)	2 (External)	2 (External)
- 1 Key B 3042/3052/2280 - 1 Key E 2230	- 1 Key B 3042/3052/2280 - 1 Key E 2230	- 1 Key B 3042/3052/2280 - 1 Key E 2230	NA	1 Key E 2230	1 Key E 2230
2 PCIe x4, 1 PCIe x16	2 PCIe x4, 1 PCIe x16	2 PCIe x8, 2 PCIe x4	2 PCIe x8, 1 PCIe x4, 1 PCIe x1	2 PCIe x8, 1 PCIe x4, 1 PCIe x1	2 PCIe x8, 1 PCIe x4, 1 PCIe x1
NA	NA	NA	2 (Optional)	NA	NA
DC-in 9V to 55V	DC-in 9V to 55V	DC-in 12V to 55V	DC-in 9V to 55V	- DC-in 6V to 36V - 12V PEG Power	- DC-in 6V to 36V - 12V PEG Power
Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	NA	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
166.4 x 208.5 x 375.0mm (6.55" x 8.21" x 14.76")	166.4 x 208.5 x 375.0mm (6.55" x 8.21" x 14.76")	375 x 243 x 215.8 mm (14.76" x 9.57" x 8.50")	243 x 369 x 209 mm (9.6" x 14.5" x 8.2")	198 x 350 x 210 mm (7.8" x 13.8" x 8.3")	198 x 350 x 210 mm (7.8" x 13.8" x 8.3")
8.1 kg (17.85 lb)	7.8 kg (17.19 lb)	9.1 kg (20.06 lb)	9.0 kg (19.8 lb)	7.1 kg (15.62 lb)	6.9 kg (15.19 lb)
Wallmount	Wallmount	Wallmount	Wallmount	Wallmount	Wallmount
-25°C to 60°C (-13°F to 147°F)	-25°C to 60°C (-13°F to 147°F)	-25°C to 45°C (-6°F to 113°F)	-25°C to 60°C (-6°F to 140°F)	-25°C to 45°C (-6°F to 113°F)	-25°C to 60°C (-6°F to 140°F)
-25°C to 85°C (-13°F to 185°F)	-25°C to 85°C (-13°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010
IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

- 1 High-performance Fanless Systems
- 2 AI Computing Systems
- 3 10GiE Embedded Systems
- 4 Expandable Embedded Systems
- 5 Ultra-compact Fanless Systems
- 6 Rackmount Systems
- 7 Industrial Multi-Touch Computers/Displays
- 8 Industrial Motherboards
- 9 COM Express
- 10 Embedded Peripherals

# AI Computing Systems

Series		RCX-1500 PEG		RCX-1000 PEG	
Model No.		RCX-1520R PEG	RCX-1520 PEG	RCX-1430FR PEG	RCX-1430F PEG
Product Image					
System	CPU	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
	Chipset	Intel® C246	Intel® C246	Intel® C246	Intel® C246
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
	Memory Capacity	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM
	Graphics/ AI Accelerator	- Intel® UHD 630 - PEG 1 (By request) - PEG 2 (By request)	- Intel® UHD 630 - PEG 1 (By request) - PEG 2 (By request)	- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	NA	NA	NA	NA
	DVI-I	1	1	1	1
	DVI-D	NA	NA	NA	NA
	DisplayPort	1	1	1	1
I/O Interface	Serial	3 RS-232/422/485	3 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
	GigE LAN	2	2	2	2
	PoE LAN	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
	Others	4 SSD/HDD Tray (External)	NA	4 SSD/HDD Tray (External)	NA
Storage	SATA III	4	4	4	4
	CFast	NA	NA	NA	NA
	mSATA	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
	M.2	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
	Micro SD	NA	NA	NA	NA
Expansion	Mini PCIe	2	2	2	2
	SIM Card	2 (External)	2 (External)	2 (External)	2 (External)
	M.2	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230
	PCI/PCIe	2 PCIe x8	2 PCIe x8	1 PCIe x16, 1 PCIe x4, 1 PCIe x1	1 PCIe x16, 1 PCIe x4, 1 PCIe x1
	SUMIT A, B	NA	NA	NA	NA
Power	Input	- DC-in 6V to 36V - 12V PEG Power	- DC-in 6V to 36V - 12V PEG Power	- DC-in 24V to 36V - DC-in 12V (Optional)	- DC-in 24V to 36V - DC-in 12V (Optional)
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		198 x 350 x 210 mm (7.8" x 13.8" x 8.3")	198 x 350 x 210 mm (7.8" x 13.8" x 8.3")	172 x 330 x 210 mm (6.8" x 13" x 8.3")	172 x 330 x 210 mm (6.8" x 13" x 8.3")
Weight		7.1 kg (15.62 lb)	6.9 kg (15.19 lb)	5.6 kg (12.37 lb)	5.4 kg (11.87 lb)
Mounting		Wallmount	Wallmount	Wallmount	Wallmount
Operating Temperature		-25°C to 45°C (-13°F to 113°F)	-25°C to 45°C (-13°F to 113°F)	-25°C to 45°C (-13°F to 113°F)	-25°C to 45°C (-13°F to 113°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010
Shock		IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

RCX-1421FR PEG	RCX-1421F PEG	RCX-1412FR PEG	RCX-1412F PEG
			
Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
Intel® C246	Intel® C246	Intel® C246	Intel® C246
AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM
- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)	- Intel® UHD 630 - PEG (By request)
Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
NA	NA	NA	NA
1	1	1	1
NA	NA	NA	NA
1	1	1	1
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
6 (External)	6 (External)	6 (External)	6 (External)
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
2	2	2	2
NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	NA	NA
32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
4 SSD/HDD Tray (External)	NA	4 SSD/HDD Tray (External)	NA
4	4	4	4
NA	NA	NA	NA
2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
NA	NA	NA	NA
2	2	2	2
2 (External)	2 (External)	2 (External)	2 (External)
1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230
1 PCIe x16, 1 PCIe x4, PCI	1 PCIe x16, 1 PCIe x4, PCI	1 PCIe x16, 2 PCI	1 PCIe x16, 2 PCI
NA	NA	NA	NA
- DC-in 24V to 36V - DC-in 12V (Optional)	- DC-in 24V to 36V - DC-in 12V (Optional)	- DC-in 24V to 36V - DC-in 12V (Optional)	- DC-in 24V to 36V - DC-in 12V (Optional)
Terminal Block	Terminal Block	Terminal Block	Terminal Block
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
172 x 330 x 210 mm (6.8" x 13" x 8.3")	172 x 330 x 210 mm (6.8" x 13" x 8.3")	172 x 330 x 210 mm (6.8" x 13" x 8.3")	172 x 330 x 210 mm (6.8" x 13" x 8.3")
5.6 kg (12.37 lb)	5.4 kg (11.87 lb)	5.6 kg (12.37 lb)	5.4 kg (11.87 lb)
Wallmount	Wallmount	Wallmount	Wallmount
-25°C to 45°C (-13°F to 113°F)	-25°C to 45°C (-13°F to 113°F)	-25°C to 45°C (-13°F to 113°F)	-25°C to 45°C (-13°F to 113°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010
IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010	IEC 61373 : 2010
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GiE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems





**7**  
Industrial Multi-  
Touch Computers/  
Displays

**8**  
Industrial  
Motherboards

**9**  
COM  
Express

**10**  
Embedded  
Peripherals

# IoT Gateway

Series		AIC-100			
Model No.		AIC-110	AIC-110A	AIC-100	AIC-100A
Product Image					
System	CPU	NXP i.MX6ULL Arm® Cortex®-A7	NXP i.MX6ULL Arm® Cortex®-A7	NXP i.MX6ULL Arm® Cortex®-A7	NXP i.MX6ULL Arm® Cortex®-A7
	Memory Type	DDR3L SDRAM, Onboard	DDR3L SDRAM, Onboard	DDR3L SDRAM, Onboard	DDR3L SDRAM, Onboard
	Memory Capacity	512MB	512MB	512MB	512MB
	EEPROM	16KB	16KB	16KB	16KB
	OS Support	Linux Debian Stretch R01	Linux Debian Stretch R01	Linux Debian Stretch R01	Linux Debian Stretch R01
I/O Interface	Serial	2 RS-232/485	2 RS-232/485	2 RS-232/485	2 RS-232/485
	USB 2.0	1	1	1	1
	LAN	2 (10/100Mbps)	2 (10/100Mbps)	2 (10/100Mbps)	2 (10/100Mbps)
	CAN Bus	2	2	NA	NA
	Isolated DIO	12 (8 DI, 4 DO)	12 (8 DI, 4 DO)	NA	NA
	Console	1	1	1	1
Storage	NAND	512MB, On-board	NA	512MB, On-board	NA
	eMMC	NA	32GB, On-board	NA	32GB, On-board
	microSD	1 (External)	1 (External)	1 (External)	1 (External)
Expansion	Mini PCIe	1	1	1	1
	SIM Card	1 (External)	1 (External)	1 (External)	1 (External)
Power	Input	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Dimensions (W x L x H)		91 x 91 x 47 mm (3.6" x 3.6" x 1.8")	91 x 91 x 47 mm (3.6" x 3.6" x 1.8")	91 x 91 x 32 mm (3.6" x 3.6" x 1.2")	91 x 91 x 32 mm (3.6" x 3.6" x 1.2")
Weight		0.4 kg (0.9 lb)	0.4 kg (0.9 lb)	0.4 kg (0.9 lb)	0.4 kg (0.9 lb)
Mounting		Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail
Operating Temperature		-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-25°C to 70°C (-13°F to 158°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		MIL-STD-810G	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G
Shock		MIL-STD-810G	MIL-STD-810G	MIL-STD-810G	MIL-STD-810G
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals



# AIC-110

Industrial-grade NXP i.MX6ULL Arm® Cortex®-A7 Processor  
Arm-based IoT Gateway



## Features

- Industrial-grade NXP i.MX6ULL Arm Cortex-A7 Processor
- 9V to 50V wide range DC Power Input
- Supports Node-RED browser-based flow editor
- 2 LAN, 1 USB 2.0, 2 COM RS-232/485
- 12-bit Isolated DIO (8 DI, 4 DO), 2 CAN Bus
- Mini PCIe with SIM socket for 4G/LTE/WiFi/BT/GPRS/UMTS
- Pre-installed with Debian Stretch R01
- Compact & Cableless design, Low Power Consumption



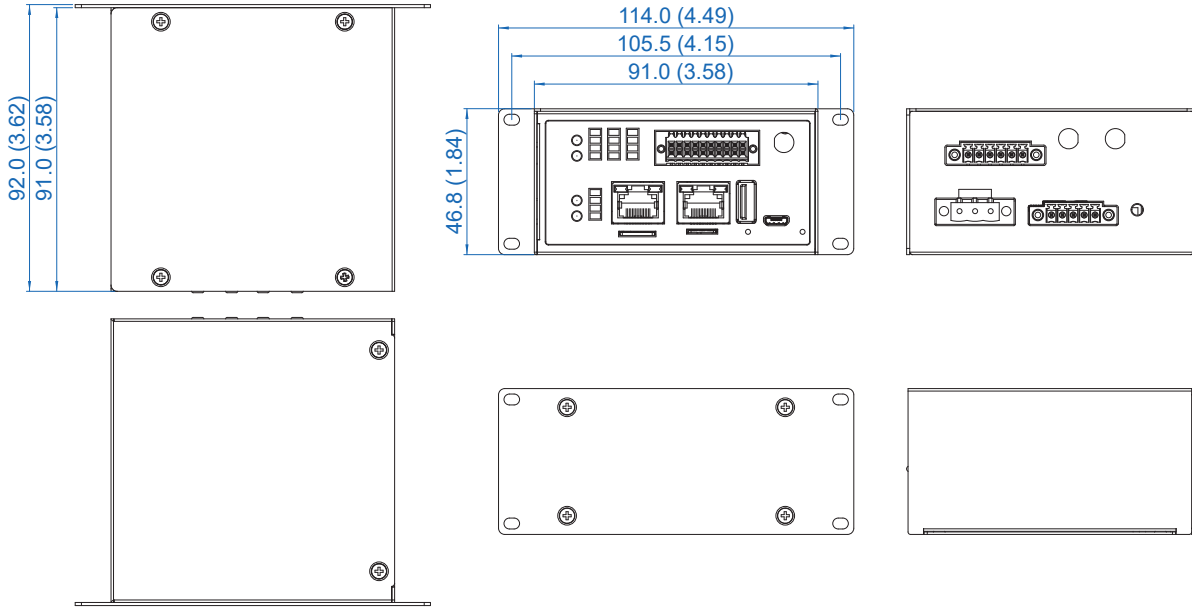
## Specifications

System	
Processor	NXP i.MX6 ULL 900MHz Arm® Cortex®-A7 Processor
Memory	1 DDR3L SDRAM, 512MB
Flash	AIC-110 : 1 NAND Flash, 512MB AIC-110A : 1 eMMC, 32GB
EEPROM	1 EEPROM, up to 16KB
OS	Debian Stretch R01
I/O Interface	
USB	1 USB 2.0 Type A
Serial	2 COM RS-232/485
Isolated DIO	12 Isolated DIO : 8 DI, 4 DO
CAN Bus	2 CAN Bus 2.0 A/B
Console	1 Micro USB
Button	<ul style="list-style-type: none"> <li>▪ 1 User-define Button</li> <li>▪ 1 Reset Button</li> </ul>
SIM	1 Nano SIM Card Socket
LED	Power, Ready, Serial, CAN, DIO
Antenna	3 Antenna for WiFi/4G/LTE/GPRS/UMTS/L0RaWAN
Storage	
SD	1 Micro SD Socket supports SDHC, up to 128GB (External)
Ethernet	
LAN 1	10/100 Mbps Ethernet, RJ45 Connector
LAN 2	10/100 Mbps Ethernet, RJ45 Connector
Power	
Power Input	DC 9V to 50V
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Typical Consumption	12V DC @500mA

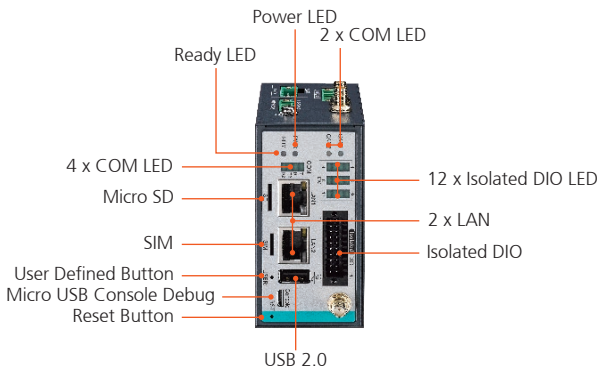
Others	
Watchdog Timer	Reset : 0.5 to 128 sec./min. per step
Software Support	
Operating System	<ul style="list-style-type: none"> <li>▪ Debian Stretch R01, Linux Kernel 4.9.11</li> <li>▪ Supports bootup from SD Card/Nand Flash</li> <li>▪ Supports backup from SD Card</li> <li>▪ Filesystem : EXT4</li> </ul>
Toolchain	gcc-linaro-6.3.1-2017.05-x86_64_arm-linux-gnueabi
Script Language	Python, NodeJS
Mechanical	
Dimensions	AIC-110/110A : 91mm x 91mm x 47mm (3.6" x 3.6" x 1.8")
Weight	0.4 kg (0.9 lb)
Mounting	<ul style="list-style-type: none"> <li>▪ Wallmount by mounting bracket</li> <li>▪ DIN Rail Mount (Optional)</li> </ul>
Environment	
Operating Temp.	-25°C to 70°C (-13°F to 158°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @70°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
EMC	CE, FCC, EN50155, EN50121-3-2

# Dimensions

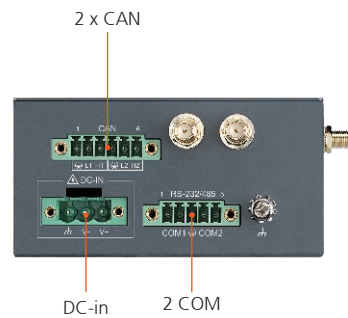
Unit : mm/ inch



## Front I/O



## Top I/O



## Order Information

Model Name	CPU	LAN	USB	Serial	SIM	CAN	Isolated DIO	Storage
AIC-110	Arm® Cortex®-A7	2	1	2	1	2	12	Flash
AIC-110A						2	12	eMMC

### Accessories

PWA-12W-US1	12W, 12V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block (US Type)
PWA-12W-EU	12W, 12V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block (EU Type)
PWA-18W-WT	18W, 12V, 85V AC to 264V AC Power Adaptor with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
DIN-RAIL	DIN Rail Kit
TMK2-20P-100	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
TMK2-20P-500	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
TMB-TMBK-20P	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
4G Module	Mini PCIe 4G/GPS Module with Antenna
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna
LoRaWAN Module	LoRaWAN Module with Antenna

1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# AIC-100

Industrial-grade NXP i.MX6ULL Arm® Cortex®-A7 Processor  
Arm-based IoT Gateway



## Features

- Industrial-grade NXP i.MX6ULL Arm Cortex-A7 Processor
- 9V to 50V wide range DC Power Input
- Supports Node-RED browser-based flow editor
- 2 LAN, 1 USB 2.0, 2 COM RS-232/485
- Mini PCIe with SIM socket for 4G/LTE/WiFi/BT/GPRS/UMTS
- Pre-installed with Debian Stretch R01
- Compact & Cableless design, Low Power Consumption



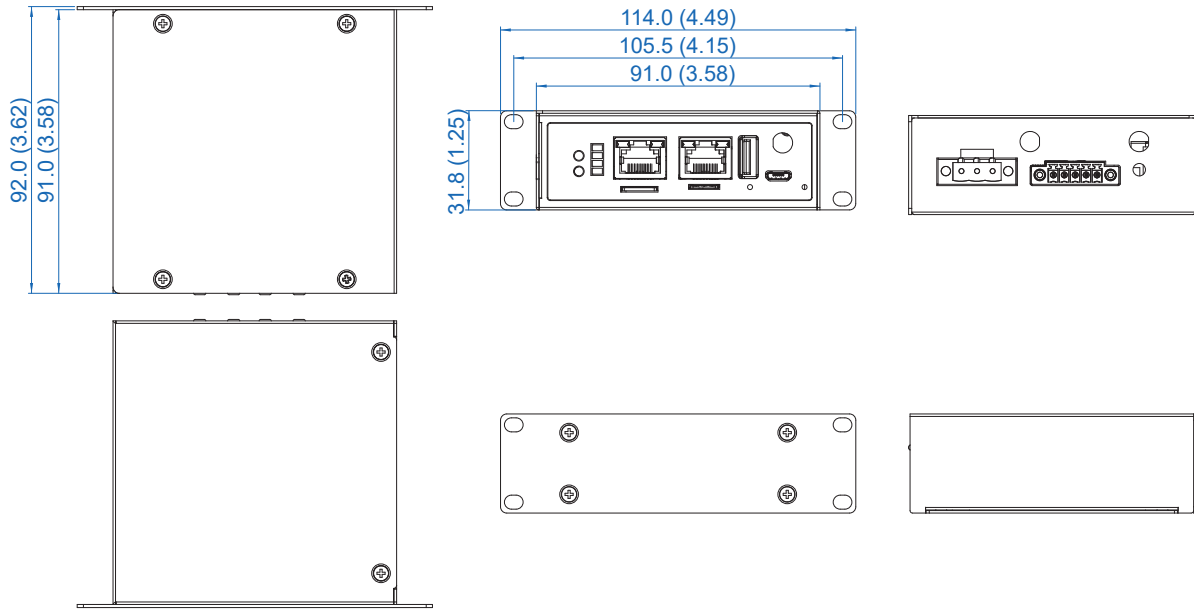
## Specifications

System	
Processor	NXP i.MX6 ULL 900MHz Arm® Cortex®-A7 Processor
Memory	1 DDR3L SDRAM, 512MB
Flash	<b>AIC-100</b> : 1 NAND Flash, 512MB <b>AIC-100A</b> : 1 eMMC, 32GB
EEPROM	1 EEPROM, up to 16KB
OS	Debian Stretch R01
I/O Interface	
USB	1 USB 2.0 Type A
Serial	2 COM RS-232/485
Console	1 Micro USB
Button	<ul style="list-style-type: none"> <li>▪ 1 User-define Button</li> <li>▪ 1 Reset Button</li> </ul>
SIM	1 Nano SIM Card Socket
LED	Power, Ready, Serial, CAN, DIO
Antenna	3 Antenna for WiFi/4G/LTE/GPRS/UMTS/L0RaWAN
Storage	
SD	1 Micro SD Socket supports SDHC, up to 128GB (External)
Ethernet	
LAN 1	10/100 Mbps Ethernet, RJ45 Connector
LAN 2	10/100 Mbps Ethernet, RJ45 Connector
Power	
Power Input	DC 9V to 50V
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Typical Consumption	12V DC @500mA

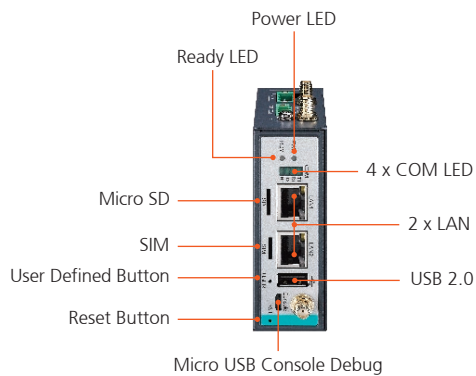
Others	
Watchdog Timer	Reset : 0.5 to 128 sec./min. per step
Software Support	
Operating System	<ul style="list-style-type: none"> <li>▪ Debian Stretch R01, Linux Kernel 4.9.11</li> <li>▪ Supports bootup from SD Card/Nand Flash</li> <li>▪ Supports backup from SD Card</li> <li>▪ Filesystem : EXT4</li> </ul>
Toolchain	gcc-linaro-6.3.1-2017.05-x86_64_arm-linux-gnueabi
Script Language	Python, NodeJS
Mechanical	
Dimensions	<b>AIC-100/100A</b> : 91mm x 91mm x 32mm (3.6" x 3.6" x 1.2")
Weight	0.4 kg (0.9 lb)
Mounting	<ul style="list-style-type: none"> <li>▪ Wallmount by mounting bracket</li> <li>▪ DIN Rail Mount (Optional)</li> </ul>
Environment	
Operating Temp.	-25°C to 70°C (-13°F to 158°F)
Storage Temp.	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @70°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
EMC	CE, FCC, EN50155, EN50121-3-2

## Dimensions

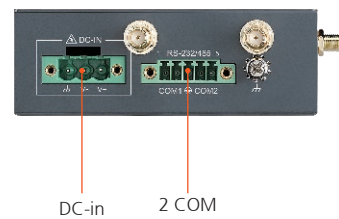
Unit : mm/ inch



## Front I/O



## Top I/O



## Order Information

Model Name	CPU	LAN	USB	Serial	SIM	CAN	Isolated DIO	Storage
AIC-100	Arm® Cortex®-A7	2	1	2	1	-	-	Flash
AIC-100A						-	-	eMMC

## Accessories

<b>PWA-12W-US1</b>	12W, 12V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block (US Type)
<b>PWA-12W-EU</b>	12W, 12V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block (EU Type)
<b>PWA-18W-WT</b>	18W, 12V, 85V AC to 264V AC Power Adaptor with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
<b>DIN-RAIL</b>	DIN Rail Kit
<b>TMK2-20P-100</b>	Terminal Block 20-pin to Terminal Block 20-pin Cable, 100cm
<b>TMK2-20P-500</b>	Terminal Block 20-pin to Terminal Block 20-pin Cable, 500cm
<b>TMB-TMBK-20P</b>	Terminal Board with One 20-pin Terminal Block Connector and DIN-Rail Mounting
<b>4G Module</b>	Mini PCIe 4G/GPS Module with Antenna
<b>WiFi &amp; Bluetooth</b>	WiFi & Bluetooth Module with Antenna
<b>LoRaWAN Module</b>	LoRaWAN Module with Antenna

1 Edge AI Computing




2 IoT Gateway







3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# 10GigE Embedded Systems

Series		10GigE LAN			
Model No.		ECX-3071XR	ECX-3071X	ECX-2055R	ECX-2055
Product Image					
System	CPU	Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)	Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)
	Chipset	Intel® R680E	Intel® R680E	Intel® W480E	Intel® W480E
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz
	Memory Capacity	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
	Graphics	Intel® UHD 770	Intel® UHD 770	Intel® UHD 630	Intel® UHD 630
	10G Ethernet	Intel® X710-AT2	Intel® X710-AT2	Intel® X550-AT2	Intel® X550-AT2
	GigE Ethernet	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	NA	NA	NA	NA
	DVI-I	1	1	1	1
	DVI-D	NA	NA	1	1
	DisplayPort	2	2	1	1
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	NA	NA	1 (Internal)	1 (Internal)
	10GigE LAN	2 (RJ45, External)	2 (RJ45, External)	2 (RJ45, External)	2 (RJ45, External)
	GigE LAN	6 (5-port 2.5G, 4 w/ PoE*)	6 (5-port 2.5G, 4 w/ PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)
	PoE LAN	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)
	SFP+	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA
	Isolated DIO	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)
	Others	2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)	NA
Storage	SATA III	2	2	2	2
	SATA II	NA	NA	NA	NA
	CFast	NA	NA	NA	NA
	mSATA	1 (mini PCIe)	1 (mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
	M.2	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
	Micro SD	1 (External)	1 (External)	1	1
Expansion	Mini PCIe	1	1	1	1
	SIM Card	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (Nano SIM, External)
	M.2	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230
Power	Input	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V
	Connector	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
	Ignition Control	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")
Weight		3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)
Mounting		Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
Operating Temperature		-25°C to 50°C, with Internal Fan (-13°F to 122°F)	-25°C to 50°C, with Internal Fan (-13°F to 122°F)	-40°C to 55°C, with Internal Fan (-40°F to 131°F)	-40°C to 55°C, with Internal Fan (-40°F to 131°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

		10G SFP+			
ECX-1055R	ECX-1055	ECX-2071R	ECX-2071	ECX-1071R	ECX-1071
					
Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
Intel® C246	Intel® C246	Intel® W480E	Intel® W480E	Intel® C246	Intel® C246
AMI	AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
Intel® X550-AT2	Intel® X550-AT2	Intel® X710-BM2	Intel® X710-BM2	Intel® X710-BM2	Intel® X710-BM2
Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
NA	NA	NA	NA	NA	NA
1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	1	1	1
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
6 (External)	6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
2 (RJ45, External)	2 (RJ45, External)	2 (SFP+, External)	2 (SFP+, External)	2 (SFP+, External)	2 (SFP+, External)
6 (4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)
4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)
NA	NA	2	2	2	2
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	NA	NA	NA	NA
16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)
2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)	NA	2 SSD/HDD Tray (External)	NA
2	2	2	2	2	2
NA	NA	NA	NA	NA	NA
1	1	NA	NA	1	1
2 (Mini PCIe)	2 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
NA	NA	1	1	NA	NA
2	2	1	1	2	2
2 (External)	2 (External)	2 (Nano SIM, External)	2 (Nano SIM, External)	2 (External)	2 (External)
1 Key E 2230	1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	1 Key E 2230	1 Key E 2230
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN	Terminal Block, Mini-DIN
Yes	Yes	Yes (SW IGN)	Yes (SW IGN)	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")	260 x 175 x 79 mm (10.2" x 6.9" x 3.1")
3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)	3.8 kg (8.38 lb)
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
-40°C to 55°C, with Internal Fan (-40°F to 131°F)	-40°C to 55°C, with Internal Fan (-40°F to 131°F)	-40°C to 55°C (-40°F to 131°F)	-40°C to 55°C (-40°F to 131°F)	-40°C to 55°C (-40°F to 131°F)	-40°C to 55°C (-40°F to 131°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GigE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems




**7**  
Industrial Multi-  
Touch Computers/  
Displays

**8**  
Industrial  
Motherboards

**9**  
COM  
Express

**10**  
Embedded  
Peripherals

# System On Module

Series		ESOM		
Model No.		ESOM-MT-1200	ESOM-MT-500	ESOM-MT-350
Product Image				
System	Processor	MediaTek Genio 1200 Arm Quad-core Cortex-A78 and Quad-core Cortex-A55	MediaTek Genio 500 Arm Quad-core Cortex-A73 and Quad-core Cortex-A53	MediaTek Genio 350 Arm Quad-core Cortex-A53
	Memory	8GB LPDDR4X SDRAM	4GB LPDDR4 SDRAM	2GB LPDDR4 SDRAM
	eMMC	64GB eMMC	16GB eMMC	16GB eMMC
	OS	Linux Yocto 3.1, Android 11	Linux Yocto 2.6, Android 10	Linux Yocto 3.1, Android 10
Graphics	Graphics Processor	ARM Mali-G57	ARM Mali-G72	ARM Mali-G52
	Video Encode	- HEVC: 4K2K@60fps - H.264: 4K2K@60fps	H.264: 1080p@30fps	HEVC: 1080p@60fps H.264: 1080p@60fps
	Video Decode	- HEVC: 4K2K@90fps - H.264: 4K2K@90fps	HEVC: 1080p@30fps H.264: 1080p@30fps	HEVC: 1080p@60fps H.264: 1080p@60fps
Camera	MIPI CSI	2	1	2
	ISP	- Single 48MP @30fps - Dual 16MP @30fps	- Single 25MP @30fps - Dual 16MP @30fps	Single 13MP @30fps
Display Interface	Digital Display	2 (1 TX, 1 RX)	1	1
	DisplayPort	1	NA	NA
	eDP	1	NA	NA
	MIPI DSI	1	1	1
Wireless	Wi-Fi	NA	NA	2T2R 802.11ac
	Bluetooth	NA	NA	BT 5.0
Expansion	PCIe	1 PCIe x2	NA	NA
	USB 3.0/3.1/3.2	2	NA	NA
	USB 2.0	2	1	2
	UART	3	2	2
	SDIO	1	1	1
	SPI	2	1	1
	I2C	2	6	5
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	2 Mic-in, 1 HP-out
	PWM	2	2	2
	ADC	NA	1	1
	GPIO	8	12	14
Power	Input	DC-in 4.2V	DC-in 4.2V	DC-in 4.2V
Dimensions (W x L)		82 x 55 mm (3.2" x 2.2")	70 x 55 mm (2.8" x 2.2")	60 x 45 mm (2.4" x 1.8")
Operating Temperature		-40°C to 85°C (-40°F to 185°F)	0°C to 60°C (32°F to 140°F)	-40°C to 85°C (-40°F to 185°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Certification		CE, FCC	CE, FCC	CE, FCC

1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

4 Industrial Multi-Touch Computers

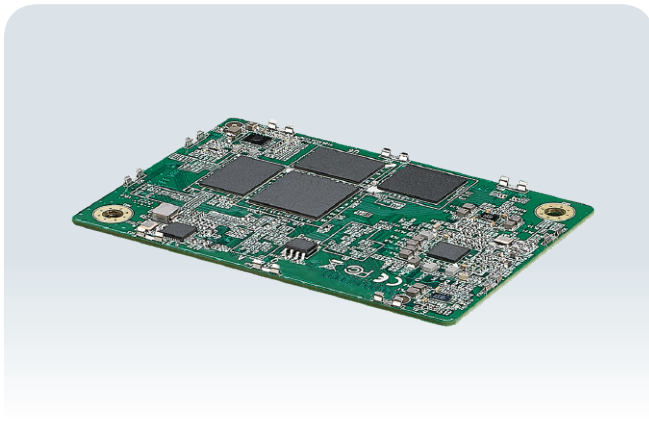
5 Embedded Peripherals



# ESOM-MT-1200

MediaTek Genio 1200 System on Module

MediaTek  
Genio



## Features

- Octa-core MediaTek Genio 1200 processor with quad Cortex-A78 and quad Cortex-A55, 4.8 AI TOPS
- Integrated Mali-G57 GPU and H.265/H.264 4K video decoding
- Onboard 8GB LPDDR4X memory and 64GB eMMC
- Support 2 4-lane MIPI CSI-2 camera with internal ISP for dual 16MP
- Support 2 Digital Display, 1 DP, 1 eDP and 1 4-lane MIPI DSI, 4K resolution
- Supports 1 PCIe x2, 2 USB 3.0, 1 Gigabit Ethernet
- Supports Android 11 and Yocto 3.1 operating system

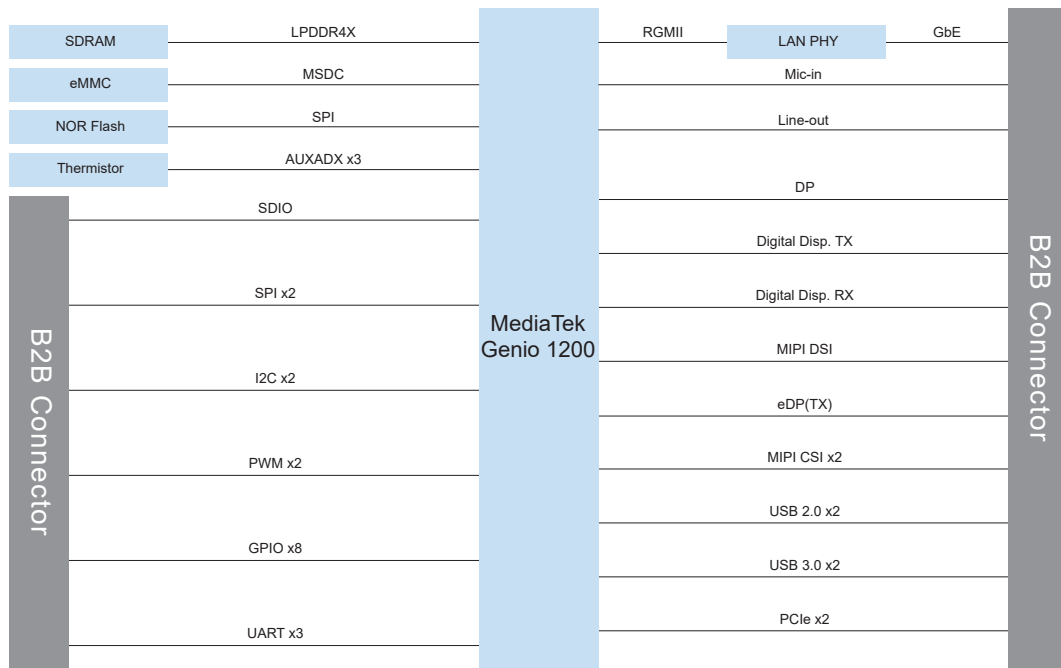


## Specifications

System	
Processor	MediaTek Genio 1200 Processor with Quad-core Cortex-A78 @2.2GHz and Quad Cortex-A55 @2.2GHz
Memory	8GB LPDDR4X SDRAM
eMMC	64GB eMMC
Flash	8Mb NOR Flash
OS	<ul style="list-style-type: none"> <li>▪ Android 11</li> <li>▪ Linux Yocto 3.1</li> </ul>
I/O Interface	
Internal I/O	4 board to board Connector
Graphics	
Graphics Processor	<ul style="list-style-type: none"> <li>▪ ARM Mali-G57 high-performance GPU</li> <li>▪ 3D graphics accelerator capable of processing 17600M pixel/sec @ 880MHz</li> <li>▪ Graphics engine supporting OpenGL® ES 3.2, OpenCL 2.2, and Vulkan 1.1 hardware acceleration</li> </ul>
Video	<ul style="list-style-type: none"> <li>▪ Video Encode:                             <ul style="list-style-type: none"> <li>- HEVC: 4K2K@60fps</li> <li>- H.264: 4K2K@60fps</li> </ul> </li> <li>▪ Video Decode:                             <ul style="list-style-type: none"> <li>- HEVC: 4K2K@90fps</li> <li>- H.264: 4K2K@90fps</li> </ul> </li> </ul>
Display	Supports dual independent display: <ul style="list-style-type: none"> <li>▪ 1 Digital Display TX: 4K @60Hz</li> <li>▪ 1 Digital Display RX: 4K @60Hz</li> <li>▪ 1 DisplayPort TX: 4K @60Hz</li> <li>▪ 1 eDP : 4K @60Hz</li> <li>▪ 1 MIPI DSI: 4K @60Hz</li> </ul>
Camera	<ul style="list-style-type: none"> <li>▪ Two 4-lane MIPI CSI-2</li> <li>▪ Integrated image signal processor supports single 48MP @30fps or dual 16MP @30fps</li> </ul>
Audio	
Audio Interface	Mic-in, Line-out

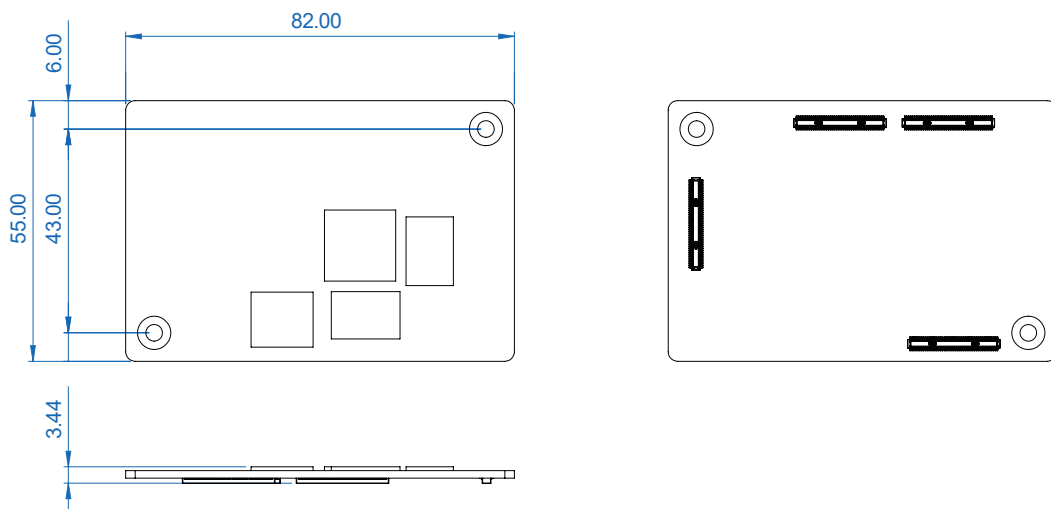
Ethernet	
LAN	10/100/1000 Mbps Ethernet LAN by Realtek RTL8211F
Power	
Power Input	4.2V DC-in
Expansion	
PCIe	1 PCIe Gen3 x2
USB	2 USB 3.0 2 USB 2.0
UART	1 4-wire UART 2 2-wire UART
SDIO	1 SDIO
SPI	2 SPI
I2C	2 I2C
PWM	2 PWM
GPIO	8 GPIO
Mechanical	
Dimensions (W x L)	82 mm x 55 mm
Environment	
Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Humidity	5% to 95% Humidity, Non-condensing
Relative Humidity	95% at 85°C
EMC	CE, FCC

## Block Diagram



## Dimension

Unit : mm/ inch



## Order Information

<b>ESOM-MT-1200</b>	System on Module with MediaTek Genio 1200 octa-core Processor, 8GB LPDDR4 SDRAM, 64GB eMMC
<b>ESOM-MT-1200-EV</b>	MediaTek Genio 1200 SOM Evaluation Kit
<b>ESOM-MT-1200-EVP</b>	MediaTek Genio 1200 SOM Evaluation Kit Plus

1 Edge AI Computing

2 IoT Gateway

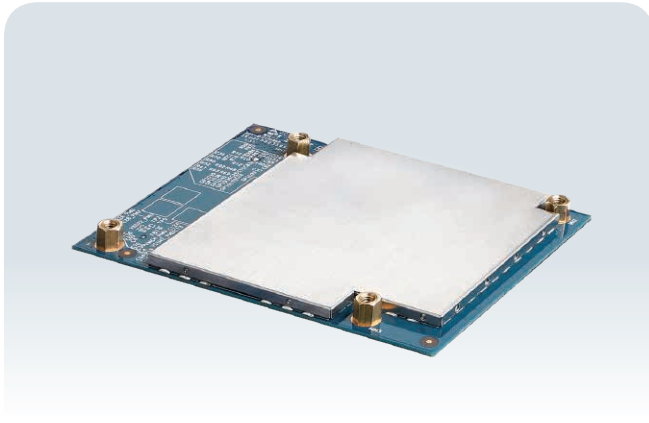
3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# ESOM-MT-500

Arm-Based MediaTek Genio 500 System on Module



## Features

- Octa-core MediaTek Genio 500 processor with quad Cortex-A73 and quad Cortex-A53
- Integrated Mali-G72 GPU and H.265/H.264 FHD video decoding
- Onboard 4GB LPDDR4 memory and 16GB eMMC
- Support 4-lane MIPI CSI-2 camera with internal ISP, Full HD Resolution
- Support Digital Display and 4-lane MIPI DSI, Full HD Resolution
- Supports Android 10 and Yocto 2.6 operating system

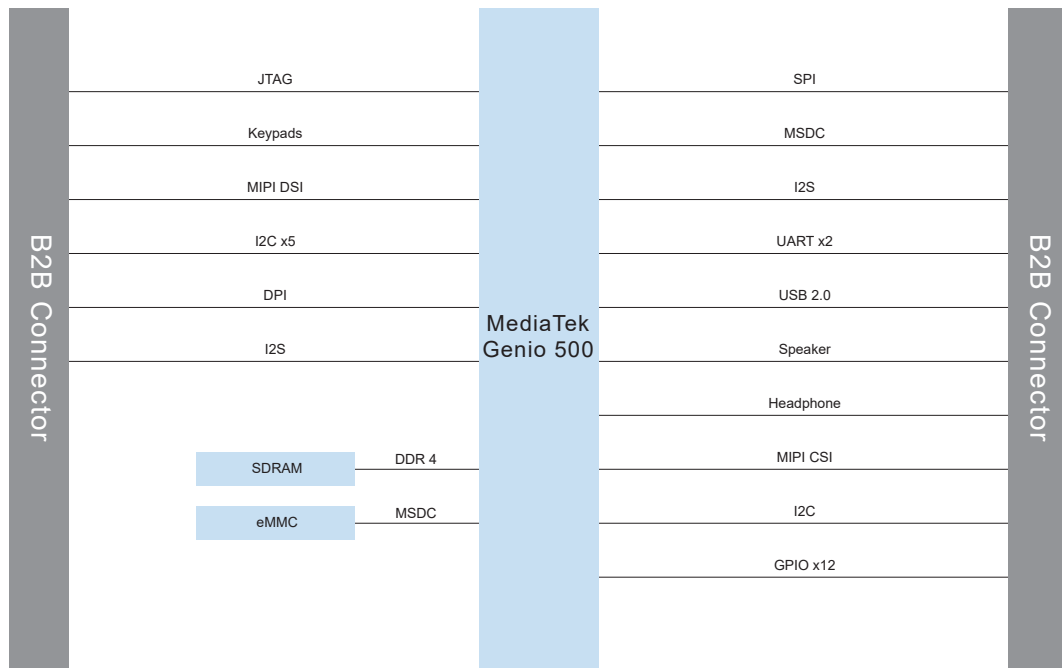


## Specifications

System	
Processor	MediaTek Genio 500 Processor with Quad-core Cortex-A73 @2.0GHz and Quad Cortex-A53 @2.0GHz
Memory	4GB LPDDR4 SDRAM
eMMC	16GB eMMC
OS	<ul style="list-style-type: none"> <li>▪ Android 10</li> <li>▪ Linux Yocto 2.6</li> </ul>
I/O Interface	
Internal I/O	2 board to board Connector
Graphics	
Graphics Processor	<ul style="list-style-type: none"> <li>▪ ARM Mali-G72 high-performance GPU</li> <li>▪ 3D graphics accelerator capable of processing 2400M pixel/sec @ 800MHz</li> <li>▪ Graphics engine supporting OpenGL® ES 3.0, OpenCL ES 1.1, and Vulkan 1.0 hardware acceleration</li> </ul>
Video	<ul style="list-style-type: none"> <li>▪ Video Encode:                             <ul style="list-style-type: none"> <li>- H.264: 1080p@30fps</li> </ul> </li> <li>▪ Video Decode:                             <ul style="list-style-type: none"> <li>- HEVC: 1080p@30fps</li> <li>- H.264: 1080p@30fps</li> </ul> </li> <li>▪ Vision DSP : Supports Cadence Tensilica Vision P6 dual-core @500MHz</li> </ul>
Display	<ul style="list-style-type: none"> <li>▪ Digital Display : up to 1920 x 1080</li> <li>▪ MIPI DSI : up to 1920 x 1080</li> </ul>
Camera	<ul style="list-style-type: none"> <li>▪ 4-lane MIPI CSI-2</li> <li>▪ Integrated image signal processor supports 25MP</li> </ul>
Audio	
Audio Codec	MediaTek MT6358
Audio Interface	Mic-in, Line-out

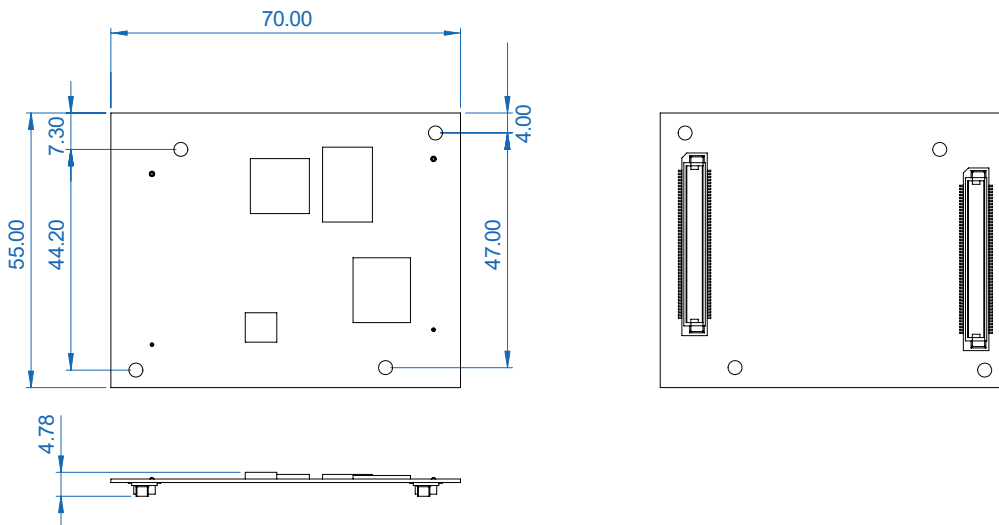
Expansion	
USB	1 USB 2.0
UART	2 UART (2-wire)
SPI	1 SPI
I <sup>2</sup> C	6 I <sup>2</sup> C
GPIO	12 GPIO
Power	
Power Input	4.2V DC-in
Mechanical	
Dimensions (W x L)	70mm x 55mm (2.76" x 2.17")
Environment	
Operating Temperature	0°C to 60°C
Storage Temperature	-40°C to 85°C
Humidity	5% to 95% Humidity, Non-condensing
Relative Humidity	95% at 60°C
EMC	CE, FCC

## Block Diagram



## Dimension

Unit : mm/ inch



## Order Information

<b>ESOM-MT-500</b>	System on Module with MediaTek Genio 500 octa-core Processor, 4GB LPDDR4 SDRAM, 16GB eMMC
<b>ESOM-MT-500-EV</b>	MediaTek Genio 500 SOM Evaluation Kit
<b>ESOM-MT-500-EVP</b>	MediaTek Genio 500 SOM Evaluation Kit Plus

1 Edge AI Computing

2 IoT Gateway

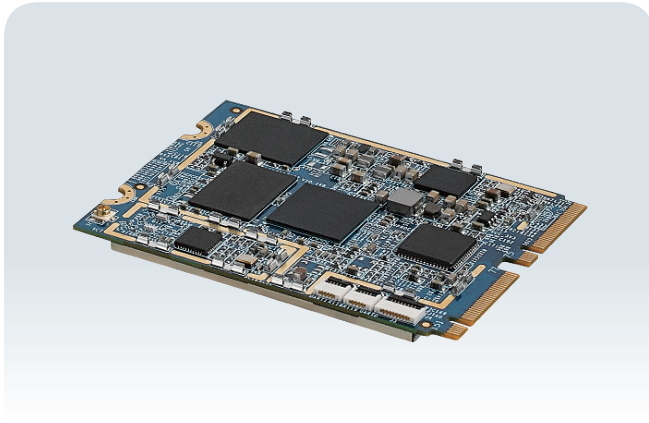
3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# ESOM-MT-350

Arm-Based MediaTek Genio 350 System on Module



## Features

- Quad-core MediaTek Genio 350 processor with quad Arm Cortex-A53 @2.0GHz
- Integrated Mali-G52 GPU and H.265/H.264 FHD video decoding
- Onboard Dual-band 802.11ac Wi-Fi with Bluetooth 5.0
- Onboard 2GB LPDDR4 memory and 16GB eMMC
- Support 4-lane MIPI CSI-2 camera with internal ISP, Full HD Resolution
- Support Digital Display and 4-lane MIPI DSI, Full HD Resolution
- Supports Android 10 and Yocto 3.1 operating system

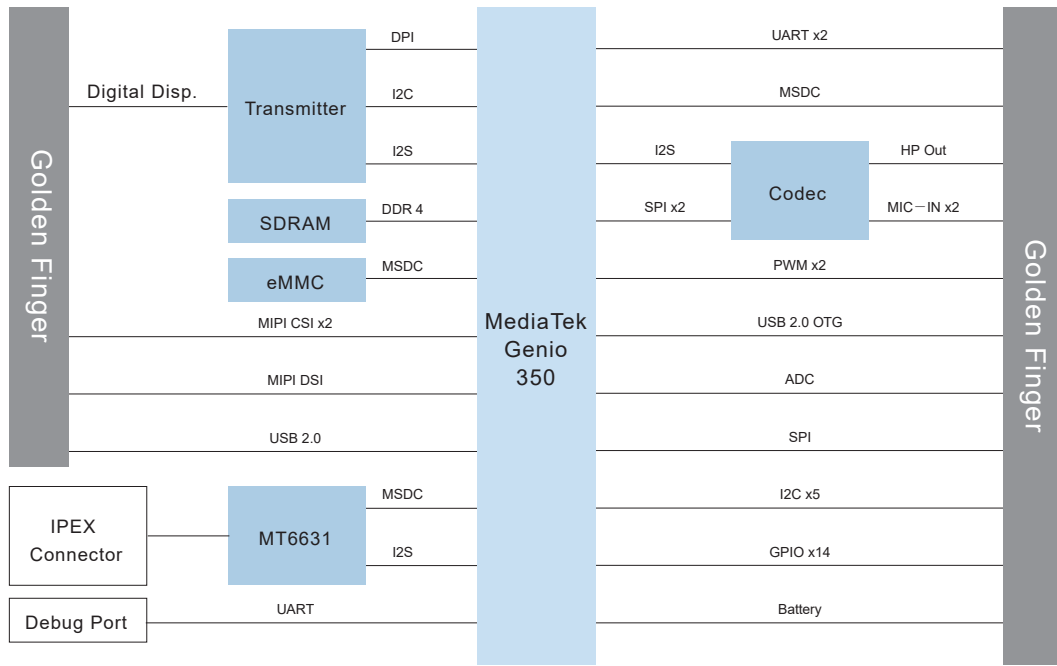


## Specifications

System	
Processor	MediaTek Genio 350 Processor with Quad-core Cortex-A53 @2.0GHz
Memory	2GB LPDDR4 SDRAM
eMMC	16GB eMMC
OS	<ul style="list-style-type: none"> <li>▪ Android 10</li> <li>▪ Linux Yocto 3.1</li> </ul>
I/O Interface	
External I/O	<ul style="list-style-type: none"> <li>▪ 1 IPEX Connector</li> <li>▪ 1 Debug Console Port</li> </ul>
Internal I/O	2 M.2 Golden Finger
Graphics	
Graphics Processor	<ul style="list-style-type: none"> <li>▪ ARM Mali-G52 high-performance GPU</li> <li>▪ 3D graphics accelerator processing 1600M pixel/sec @800MHz</li> <li>▪ Graphics engine supporting OpenGL® ES 3.2, OpenCL ES 2.0, and Vulkan 1.1 hardware acceleration</li> </ul>
Video	<ul style="list-style-type: none"> <li>▪ Video Encode:                             <ul style="list-style-type: none"> <li>- HEVC: 1080p@60fps</li> <li>- H.264: 1080p@60fps</li> </ul> </li> <li>▪ Video Decode:                             <ul style="list-style-type: none"> <li>- HEVC: 1080p@60fps</li> <li>- H.264: 1080p@60fps</li> </ul> </li> <li>▪ Vision DSP : Supports Cadence Tensilica Vision P6 and HiFi4</li> </ul>
Display	<ul style="list-style-type: none"> <li>▪ Digital Display : up to 1920 x 1080</li> <li>▪ 4-lane MIPI DSI : up to 1920 x 1080</li> </ul>
Camera	<ul style="list-style-type: none"> <li>▪ Dual 4-lane MIPI CSI-2</li> <li>▪ Integrated image signal processor supports 13MP</li> </ul>
Audio	
Audio Codec	MediaTek MT6390/6357
Audio Interface	2 Mic-in, 1 Headphone-out

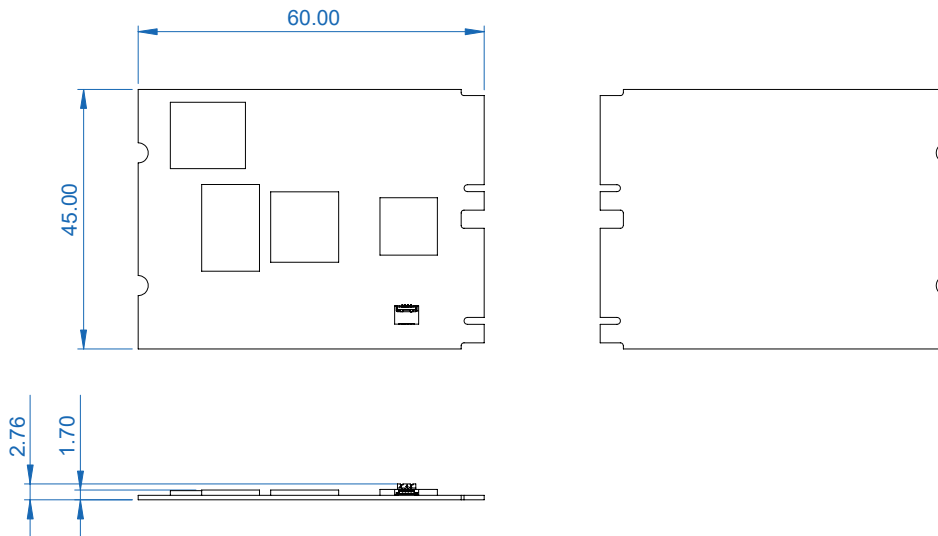
Expansion	
USB	<ul style="list-style-type: none"> <li>▪ 1 USB 2.0 Host</li> <li>▪ 1 USB 2.0 OTG</li> </ul>
UART	2 UART (2-wire)
SPI	1 SPI
I <sup>2</sup> C	5 I <sup>2</sup> C
GPIO	14 GPIO
MSDC	1 MSDC
ADC	1 ADC
PWM	2 PWM
Battery Gauge	1 Battery Gauge
Wireless	
Wi-Fi & BT	<ul style="list-style-type: none"> <li>▪ MediaTek MT6631</li> <li>▪ Dual band (2.4GHz &amp; 5GHz ) single stream Wi-Fi 802.11 a/b/g/n/ac RF</li> <li>▪ Bluetooth 5.0</li> </ul>
Power	
Power Input	4.2V DC-in
Mechanical	
Dimensions (W x L)	60 mm x 45 mm (2.36" x 1.77")
Environment	
Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Humidity	5% to 95% Humidity, Non-condensing
Relative Humidity	95% at 85°C
EMC	CE, FCC

## Block Diagram



## Dimension

Unit : mm/ inch



## Order Information

<b>ESOM-MT-350</b>	System on module with MediaTek Genio 350 Quad-core Processor, 2GB LPDDR4 SDRAM, 16GB eMMC
<b>ESOM-MT-350-EV</b>	MediaTek Genio 350 SOM Evaluation Kit

1 Edge AI Computing





2 IoT Gateway

3 System On Module (SOM)







4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# Expandable Embedded Systems

Series		ECX-3200/3100			ECX-2200
Model No.		ECX-3200MX	ECX-3200	ECX-3100	ECX-2210MX/ ECX-2210MXF
Product Image					
System	CPU	Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)	Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)	Intel® Core™ i9/i7/i5/i3 Processor (RPL-S/ADL-S)	Intel® Xeon®/Core™ i9/i7/i5/i3 Processor (CML-S)
	Chipset	Intel® R680E	Intel® R680E	Intel® R680E	Intel® W480E
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR5 4800MHz	260-pin SO-DIMM, DDR5 4800MHz	260-pin SO-DIMM, DDR5 4800MHz	260-pin SO-DIMM, DDR4 2933MHz
	Memory Capacity	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
	Graphics	Intel® UHD 770	Intel® UHD 770	Intel® UHD 770	Intel® UHD 630
	Ethernet	Intel® I219LM, Intel® I226	Intel® I219LM, Intel® I226	Intel® I219LM, Intel® I226	Intel® I219LM, Intel® I210, Intel® I350
	Audio	Realtek® ALC888S-VD	Realtek® ALC888S-VD	Realtek® ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	NA	NA	NA	1
	DVI-I	1	1	1	NA
	DVI-D	NA	NA	NA	1
	HDMI	NA	NA	NA	NA
	LVDS	NA	NA	NA	NA
	DisplayPort	2	2	2	2
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	- 6 USB 3.2 Type A - 1 USB 3.2 Gen 2x2 Type C	- 6 USB 3.2 Type A - 1 USB 3.2 Gen 2x2 Type C	- 6 USB 3.2 Type A - 1 USB 3.2 Gen 2x2 Type C	6 (External)
	USB 2.0	NA	NA	NA	NA
	GigE LAN	6 (5 port 2.5G, 4 w/PoE <sup>+</sup> )	6 (5 port 2.5G, 4 w/PoE <sup>+</sup> )	2 (1 port 2.5G)	6 (4 w/PoE <sup>+</sup> )
	PoE LAN	4 2.5G PoE <sup>+</sup> (IEEE 802.3at)	4 2.5G (IEEE 802.3at)	NA	4 (IEEE 802.3at)
	M12	4 2.5G (X-coded, PoE <sup>+</sup> )	NA	NA	4 (X-coded, PoE <sup>+</sup> )
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	16 GPIO	NA
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	NA	32 (16 DI, 16 DO)
	Others	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)
Storage	SATA III	2	2	2	2
	SATA II	NA	NA	NA	NA
	CFast	NA	NA	NA	NA
	mSATA	NA	NA	NA	2 (Mini PCIe)
	M.2	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280
	Micro SD	NA	NA	NA	1 (External)
Expansion	Mini PCIe	1	1	1	2
	PCIe	1 PCIe x16	1 PCIe x16	1 PCIe x16	1 PCIe x16
	PCI	NA	NA	NA	NA
	M.2	- 2 Key B 2280/3042/3052 - 1 Key E 2230	- 2 Key B 2280/3042/3052 - 1 Key E 2230	- 2 Key B 2280/3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230
	SIM Card	3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)
	SUMIT	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
Power	Input	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		260 x 240 x 79 mm (10.2" x 9.5" x 3.1")	260 x 240 x 79 mm (10.2" x 9.5" x 3.1")	260 x 240 x 79 mm (10.2" x 9.5" x 3.1")	260 x 240 x 79 mm (10.2" x 9.45" x 3.1")
Weight		4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)
Mounting		Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount
Operating Temperature		-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	IEC 60068-2-64
Shock		MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	MIL-STD-810G, Procedure I	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2



		ECX-2100				ECX-1200
ECX-2210/ ECX-2210F	ECX-2201MX/ ECX-2201MXF	ECX-2201/ ECX-2201F	ECX-2110/ ECX-2110F	ECX-2101/ ECX-2101F	ECX-1210M	
						
Intel® Xeon®/Core™ i9/i7/ i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/ i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/ i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/ i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i9/i7/ i5/i3 Processor (CML-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	
Intel® W480E	Intel® W480E	Intel® W480E	Intel® W480E	Intel® W480E	Intel® C246	
AMI	AMI	AMI	AMI	AMI	AMI	
260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2933MHz	260-pin SO-DIMM, DDR4 2666MHz	
Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	
Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	
Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210, Intel® I350	
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E	
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	
1	1	1	1	1	1	
NA	NA	NA	NA	NA	NA	
1	1	1	1	1	1	
NA	NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	NA	
2	2	2	2	2	2	
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	
6 (External)	6 (External)	6 (External)	6 (External)	6 (External)	6 (External)	
NA	NA	NA	NA	NA	1 (Internal)	
6 (4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)	2	2	6 (4 w/PoE*)	
4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA	NA	4 (IEEE 802.3at)	
NA	4 (X-coded, PoE*)	NA	NA	NA	4 (PoE*)	
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	
NA	NA	NA	16 GPIO	16 GPIO	NA	
32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	NA	NA	32 (16 DI, 16 DO)	
2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray	
2	2	2	2	2	(External)	
NA	NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	1 (External)	
2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	
1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key M 2280	1 Key B 2280, 1 Key M 2280	
1 (External)	1 (External)	1 (External)	1 (External)	1 (External)	NA	
2	2	2	2	2	2	
1 PCIe x16	NA	NA	1 PCIe x16	NA	1 PCIe x16	
NA	1 PCI	1 PCI	NA	1 PCI	NA	
- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	1 Key E 2230	
3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)	3 (Nano SIM, External)	3 (External)	
2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)	
DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 50V	DC-in 6V to 36V	
Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	
Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes (SW IGN)	Yes	
Yes	Yes	Yes	Yes	Yes	Yes	
260 x 240 x 79 mm (10.2" x 9.45" x 3.1")	260 x 240 x 79 mm (10.2" x 9.45" x 3.1")	260 x 240 x 79 mm (10.2" x 9.45" x 3.1")	260 x 240 x 79 mm (10.2" x 9.45" x 3.1")	260 x 240 x 79 mm (10.2" x 9.45" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	
4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	
Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	
-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GiE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems






**7**  
Industrial Multi-  
Touch Computers/  
Displays







**8**  
Industrial  
Motherboards

**9**  
COM  
Express

**10**  
Embedded  
Peripherals





# Expandable Embedded Systems





Series		ECX-1200			ECX-1100	
Model No.		ECX-1210	ECX-1201M	ECX-1201	ECX-1110	ECX-1101
Product Image						
System	CPU	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
	Chipset	Intel® C246	Intel® C246	Intel® C246	Intel® C246	Intel® C246
	BIOS	AMI	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
	Memory Capacity	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
	Graphics	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
	Ethernet	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	
Display I/O	VGA	1	1	1	1	1
	DVI-I	NA	NA	NA	NA	NA
	DVI-D	1	1	1	1	1
	HDMI	NA	NA	NA	NA	NA
	LVDS	NA	NA	NA	NA	NA
	DisplayPort	2	2	2	2	2
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
	GigE LAN	6 (4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)	2	2
	PoE LAN	4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA	NA
	M12	NA	4 (PoE*)	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	16 GPIO	16 GPIO
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	NA	NA
	Others	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)
Storage	SATA III	2	2	2	2	2
	SATA II	NA	NA	NA	NA	NA
	CFast	1 (External)	1 (External)	1 (External)	1 (External)	1 (External)
	mSATA	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
	M.2	1 Key B 2280, 1 Key M 2280	1 Key B 2280, 1 Key M 2280	1 Key B 2280, 1 Key M 2280	1 Key B 2280, 1 Key M 2280	1 Key B 2280, 1 Key M 2280
	Micro SD	NA	NA	NA	NA	NA
	Mini PCIe	2	2	2	2	2
Expansion	PCIe	1 PCIe x16	NA	NA	1 PCIe x16	NA
	PCI	NA	1 PCI	1 PCI	NA	1 PCI
	M.2	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230
	SIM Card	3 (External)	3 (External)	3 (External)	3 (External)	3 (External)
	SUMIT	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
	Remote Switch	Yes	Yes	Yes	Yes	Yes
Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes	Yes
Dimensions (W x L x H)	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	260 x 215 x 79 mm (10.2" x 8.5" x 3.1")	
Weight	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	4.5 kg (9.92 lb)	
Mounting	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	
Operating Temperature	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

ECX-1400			ECX-1300		
ECX-1420	ECX-1411	ECX-1402	ECX-1320	ECX-1311	ECX-1302
					
Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
Intel® C246	Intel® C246	Intel® C246	Intel® C246	Intel® C246	Intel® C246
AMI	AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM
Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210, Intel® I350	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
1	1	1	1	1	1
NA	NA	NA	NA	NA	NA
1	1	1	1	1	1
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
2	2	2	2	2	2
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
6 (External)	6 (External)	6 (External)	6 (External)	6 (External)	6 (External)
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
6 (4 w/PoE*)	6 (4 w/PoE*)	6 (4 w/PoE*)	2	2	2
4 (IEEE 802.3at)	4 (IEEE 802.3at)	4 (IEEE 802.3at)	NA	NA	NA
NA	NA	NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	NA	16 GPIO	16 GPIO	16 GPIO
32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	NA	NA	NA
4 SSD/HDD Tray (External)	4 SSD/HDD Tray (External)	4 SSD/HDD Tray (External)	4 SSD/HDD Tray (External)	4 SSD/HDD Tray (External)	4 SSD/HDD Tray (External)
4	4	4	4	4	4
NA	NA	NA	NA	NA	NA
1 (External)	1 (External)	1 (External)	1 (External)	1 (External)	1 (External)
2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
1 Key B 2280	1 Key B 2280	1 Key B 2280	1 Key B 2280	1 Key B 2280	1 Key B 2280
NA	NA	NA	NA	NA	NA
2	2	2	2	2	2
1 PCIe x16, PCIe x4	1 PCIe x16	NA	1 PCIe x16, 1 PCIe x4	1 PCIe x16	NA
NA	1 PCI	2 PCI	NA	1 PCI	2 PCI
1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230
3 (External)	3 (External)	3 (External)	3 (External)	3 (External)	3 (External)
2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes
260 x 215 x 104 mm (10.2" x 8.5" x 4.1")	260 x 215 x 104 mm (10.2" x 8.5" x 4.1")	260 x 215 x 104 mm (10.2" x 8.5" x 4.1")	260 x 215 x 104 mm (10.2" x 8.5" x 4.1")	260 x 215 x 104 mm (10.2" x 8.5" x 4.1")	260 x 215 x 104 mm (10.2" x 8.5" x 4.1")
5.5 kg (12.13 lb)	5.5 kg (12.13 lb)	5.5 kg (12.13 lb)	5.5 kg (12.13 lb)	5.5 kg (12.13 lb)	5.5 kg (12.13 lb)
Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail
-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

- 1 High-performance Fanless Systems
- 2 AI Computing Systems
- 3 10GiE Embedded Systems
- 4 Expandable Embedded Systems
- 5 Ultra-compact Fanless Systems
- 6 Rackmount Systems
- 7 Industrial Multi-Touch Computers/Displays
- 8 Industrial Motherboards
- 9 COM Express
- 10 Embedded Peripherals





# Expandable Embedded Systems






Series		RCX-1000F			
Model No.		RCX-1430FR	RCX-1430F	RCX-1421FR	RCX-1421F
Product Image					
System	CPU	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
	Chipset	Intel® C246	Intel® C246	Intel® C246	Intel® C246
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
	Memory Capacity	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM
	Graphics	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	NA	NA	NA	NA
	DVI-I	1	1	1	1
	DVI-D	NA	NA	NA	NA
	HDMI	NA	NA	NA	NA
	LVDS	NA	NA	NA	NA
	DisplayPort	2	2	2	2
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
	GigE LAN	2	2	2	2
	PoE LAN	NA	NA	NA	NA
	M12	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
	Others	4 SSD/HDD Tray (External)	NA	4 SSD/HDD Tray (External)	NA
Storage	SATA III	4	4	4	4
	SATA II	NA	NA	NA	NA
	CFast	NA	NA	NA	NA
	mSATA	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
	M.2	1 Key M 2280/2260/2242	1 Key M 2280/2260/2242	1 Key M 2280/2260/2242	1 Key M 2280/2260/2242
	Micro SD	NA	NA	NA	NA
Expansion	Mini PCIe	2	2	2	2
	PCIe	1 PCIe x16, 1 PCIe x4, 1 PCIe x1	1 PCIe x16, 1 PCIe x4, 1 PCIe x1	1 PCIe x16, 1 PCIe x4	1 PCIe x16, 1 PCIe x4
	PCI	NA	NA	1 PCI	1 PCI
	M.2	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230
	SIM Card	2 (External)	2 (External)	2 (External)	2 (External)
	SUMIT	NA	NA	NA	NA
Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		172 x 330 x 210 mm (6.8" x 13" x 8.3")	172 x 330 x 210 mm (6.8" x 13" x 8.3")	172 x 330 x 210 mm (6.8" x 13" x 8.3")	172 x 330 x 210 mm (6.8" x 13" x 8.3")
Weight		5.3 kg (11.7 lb)	4.9 kg (10.8 lb)	5.3 kg (11.7 lb)	4.9 kg (10.8 lb)
Mounting		Wallmount	Wallmount	Wallmount	Wallmount
Operating Temperature		-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

		RCX-1000	
RCX-1412FR	RCX-1412F	RCX-1440R	RCX-1440
			
Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
Intel® C246	Intel® C246	Intel® C246	Intel® C246
AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM
Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
NA	NA	NA	NA
1	1	1	1
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
2	2	2	2
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
6 (External)	6 (External)	6 (External)	6 (External)
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
2	2	2	2
NA	NA	NA	NA
NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	NA	NA
32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
4 SSD/HDD Tray (External)	NA	4 SSD/HDD Tray (External)	NA
4	4	4	4
NA	NA	NA	NA
NA	NA	NA	NA
2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
1 Key M 2280/2260/2242	1 Key M 2280/2260/2242	1 Key M 2280/2260/2242	1 Key M 2280/2260/2242
NA	NA	NA	NA
2	2	2	2
1 PCIe x16	1 PCIe x16	1 PCIe x8, 3 PCIe x4	1 PCIe x8, 3 PCIe x4
2 PCI	2 PCI	NA	NA
1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230
2 (External)	2 (External)	2 (External)	2 (External)
NA	NA	NA	NA
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
Terminal Block	Terminal Block	Terminal Block	Terminal Block
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
172 x 330 x 210 mm (6.8" x 13" x 8.3")	172 x 330 x 210 mm (6.8" x 13" x 8.3")	172 x 250 x 210 mm (6.8" x 9.8" x 8.3")	172 x 250 x 210 mm (6.8" x 9.8" x 8.3")
5.3 kg (11.7 lb)	4.9 kg (10.8 lb)	5 kg (11 lb)	4.6 kg (10.1 lb)
Wallmount	Wallmount	Wallmount	Wallmount
-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

- 1 High-performance Fanless Systems
- 2 AI Computing Systems
- 3 10GiGE Embedded Systems
- 4 Expandable Embedded Systems
- 5 Ultra-compact Fanless Systems
- 6 Rackmount Systems
- 7 Industrial Multi-Touch Computers/Displays
- 8 Industrial Motherboards
- 9 COM Express
- 10 Embedded Peripherals

# Expandable Embedded Systems

Series		RCX-1000			
Model No.		RCX-1422R	RCX-1422	RCX-1404R	RCX-1404
Product Image					
System	CPU	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)
	Chipset	Intel® C246	Intel® C246	Intel® C246	Intel® C246
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz
	Memory Capacity	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM
	Graphics	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	NA	NA	NA	NA
	DVI-I	1	1	1	1
	DVI-D	NA	NA	NA	NA
	HDMI	NA	NA	NA	NA
	LVDS	NA	NA	NA	NA
	DisplayPort	2	2	2	2
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485
	USB 3.0/3.1/3.2	6 (External)	6 (External)	6 (External)	6 (External)
	USB 2.0	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
	GigE LAN	2	2	2	2
	PoE LAN	NA	NA	NA	NA
	M12	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA
	Isolated DIO	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)
	Others	4 SSD/HDD Tray (External)	NA	4 SSD/HDD Tray (External)	NA
Storage	SATA III	4	4	4	4
	SATA II	NA	NA	NA	NA
	CFast	NA	NA	NA	NA
	mSATA	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)
	M.2	1 Key M 2280/2260/2242	1 Key M 2280/2260/2242	1 Key M 2280/2260/2242	1 Key M 2280/2260/2242
	Micro SD	NA	NA	NA	NA
Expansion	Mini PCIe	2	2	2	2
	PCIe	1 PCIe x16, 1 PCIe x4	1 PCIe x16, 1 PCIe x4	NA	NA
	PCI	2 PCI	2 PCI	4 PCI	4 PCI
	M.2	1 Key E 2230	1 Key E 2230	1 Key E 2230	1 Key E 2230
	SIM Card	2 (External)	2 (External)	2 (External)	2 (External)
	SUMIT	NA	NA	NA	NA
Power	Input	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)	172 x 250 x 210 mm (6.8" x 9.8" x 8.3")	172 x 250 x 210 mm (6.8" x 9.8" x 8.3")	172 x 250 x 210 mm (6.8" x 9.8" x 8.3")	172 x 250 x 210 mm (6.8" x 9.8" x 8.3")	
Weight	5 kg (11 lb)	4.6 kg (10.1 lb)	5 kg (11 lb)	4.6 kg (10.1 lb)	
Mounting	Wallmount	Wallmount	Wallmount	Wallmount	
Operating Temperature	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

			SEC-2000	
RCX-1220A	RCX-1220	RCX-1211	SEC-2220	SEC-2211
				
Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel Atom® x7-E3950 (APL-I)	Intel Atom® x7-E3950 (APL-I)
Intel® C246	Intel® C246	Intel® C246	Intel® SoC	Intel® SoC
AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	204-pin SO-DIMM, DDR3L 1866MHz	204-pin SO-DIMM, DDR3L 1866MHz
Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 128GB, 4 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM
Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	Intel® HD 505	Intel® HD 505
Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I210	Intel® I210
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
NA	NA	NA	1	1
1	1	1	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	1	1
NA	NA	NA	NA	NA
2	2	2	NA	NA
4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485 (2 w/Isolated)	4 RS-232/422/485 (2 w/Isolated)
6 (External)	6 (External)	6 (External)	2 (External)	2 (External)
1 (Internal)	1 (Internal)	1 (Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)
2	2	2	2 (IEEE 1588)	2 (IEEE 1588)
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	NA	16 GPIO	16 GPIO
32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	NA	NA
NA	NA	NA	NA	NA
4	4	4	1	1
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
2 (Mini PCIe)	2 (Mini PCIe)	2 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
1 Key M 2280/2260/2242	1 Key M 2280/2260/2242	1 Key M 2280/2260/2242	NA	NA
NA	NA	NA	NA	NA
2	2	2	2	2
2 PCIe x8	1 PCIe x16, 1 PCIe x4	1 PCIe x16	2 PCIe x1	1 PCIe x1
NA	NA	1 PCI	NA	1 PCI
1 Key E 2230	1 Key E 2230	1 Key E 2230	NA	NA
2 (External)	2 (External)	2 (External)	1 (Internal)	1 (Internal)
NA	NA	NA	NA	NA
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 12V	DC-in 12V
Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Yes	Yes	Yes	NA	NA
Yes	Yes	Yes	Yes	Yes
131 x 250 x 210 mm (5.2" x 9.8" x 8.3")	131 x 250 x 210 mm (5.2" x 9.8" x 8.3")	131 x 250 x 210 mm (5.2" x 9.8" x 8.3")	125 x 210 x 160 mm (4.9" x 8.3" x 6.3")	125 x 210 x 160 mm (4.9" x 8.3" x 6.3")
4.3 kg (9.5 lb)	4.3 kg (9.5 lb)	4.3 kg (9.5 lb)	3.5 kg (7.7 lb)	3.5 kg (7.7 lb)
Wallmount	Wallmount	Wallmount	Wallmount	Wallmount
-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GiE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems

**7**  
Industrial Multi-  
Touch Computers/  
Displays

**8**  
Industrial  
Motherboards

**9**  
COM  
Express

**10**  
Embedded  
Peripherals



# MTA-1010W

10.1" Fanless Multi-Touch Computer with NXP i.MX8M Plus Arm Quad Cortex-A53 Processor



## Features

- NXP i.MX8M Plus Arm Quad Cortex-A53 Processor
- 10.1" 1280 x 800 TFT LCD, 350 nits Luminance
- 10-point Projected Capacitive Multi-touch Screen
- 2.3 AI TOPS, Ubuntu 20.04 Support
- 1 4K60 Digital Display, Audio Mic-in & Line-out
- 2 GigE LAN, 2 USB 3.1, 2 RS-232/422/485
- M.2 Key B, Mini PCIe support dual 5G/4G/Wi-Fi/BT
- Optional 2 CAN-FD and 4 GPIO expansion
- Fanless Design, -20°C to 70°C operating temperature
- 9V to 55V wide range DC power input



## Specifications

Panel	
Panel Type	WSVGA TFT LED LCD
Size	10.1"
Max. Resolution	1280 x 800
Display Color	16.7M
Brightness (cd/m <sup>2</sup> )	350
View Angle (H/V)	85/85/85/85
Contrast Ratio	800:1
Touch Screen	
Touch Screen Type	10-point Projected Capacitive
Control Interface	USB Type
System	
Processor	NXP i.MX8M Plus Arm® Quad-core Cortex®-A53
Memory	4GB LPDDR4 SDRAM
I/O Interface	
Serial	2 RS-232/422/485
USB	2 USB 3.0
LED	Power, RDY, 2 WLAN
Display	1 Digital Display, up to 3840 x 2160 @30Hz
Micro USB	Micro USB console debug port
Button	<ul style="list-style-type: none"> <li>▪ 1 User-define Button</li> <li>▪ 1 Reset Button</li> </ul>
Audio	Mic-in, Line-out
GPIO	4-bit GPIO (Optional)
SIM	2 (External)

Expansion	
Mini PCIe	1 Full-size Mini PCIe Socket
Storage	
eMMC	1 eMMC, 32GB
SD	1 Micro SD, supports SDHC (External)
Ethernet	
LAN 1	10/100/1000 Base-T Ethernet GigE LAN, RJ45 Connector
LAN 2	10/100/1000 Base-T Ethernet GigE LAN supports TSN, RJ45 Connector
Power	
Power Input	DC 9V to 55V
Power Interface	3-pin Terminal Block (V+/V-/GND)
Software Support	
OS	Ubuntu 20.04 LTS
Mechanical	
Dimensions (W x H x D)	256.5mm x 178.3mm x 69.1mm (10.10" x 7.02" x 2.72")
Weight	1.85 kg (4.08 lb)
Mounting	<ul style="list-style-type: none"> <li>▪ Panel Mount</li> <li>▪ VESA Mount (75 x 75)</li> </ul>
Environment	
Operating Temperature	-20°C to 70°C (-4°F to 158°F)
Storage Temperature	-30°C to 80°C (-22°F to 176°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @60°C
EMC	CE, FCC

## Order Information

MTA-1010W	10.1" Fanless Multi-Touch Computer with NXP i.MX8M Plus, 2 GigE, 2 USB, 2 COM, DC 9V to 55V
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### Accessories

PWA-60WP3-WT	60W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-60WP3-WT-12V	60W, 12V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C

1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

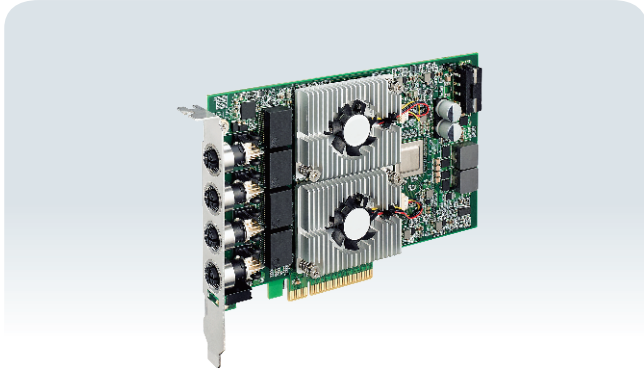
4 Industrial Multi-Touch Computers

5 Embedded Peripherals

## PCIe Card

# PE-8004MX (M12)

4-port X-coded M12 10GigE PoE+ Card



## Features

- 4-port Independent 10GigE LAN
- PCI Express x8 interface
- Power over Ethernet (PoE+), rugged X-coded M12 connectors, up to 25.5W Power Output at 48V DC per port
- 0°C to 50°C Operating Temperature



## Specifications

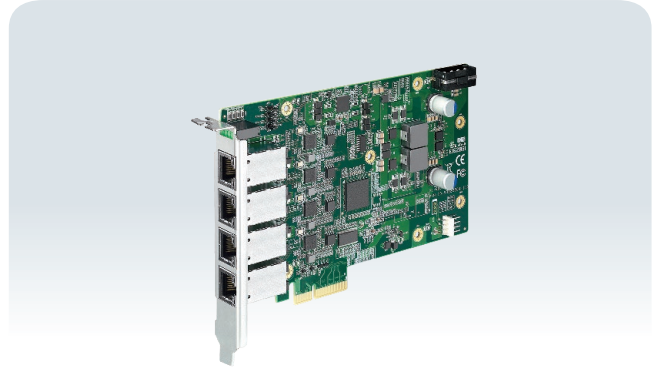
Ethernet	
Power Requirement	PCI Express x8
LAN Controller	Intel® Ethernet Controller X710-AT2
LAN Controller Qty	2
Data Rate	10Gbps/*5Gbps/*2.5Gbps/1Gbps/100Mbps (*Linux only)
Number of Port	4
Connector	8-pin X-coded M12 Connector
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ Up to 25.5W Power Output @48V DC per port</li> <li>▪ 4 LED for PoE On/Off Mode</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimensions (W x L)	168mm x 105mm (6.6" x 4.1")
Bracket	Full height
Environment	
Operating Temperature	0°C to 50°C with fan (32°F to 122°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-8004MX	4-port 10GigE PoE+ M12 X-coded LAN Card with Intel® X710-AT2 Controllers
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# PE-6004

4-port 2.5GigE PoE+ Card



## Features

- 4-port independent 2.5GigE LAN
- PCI Express x4 interface
- Power over Ethernet (PoE+), up to 25.5W Power Output at 48V DC per port
- -25°C to 60°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller I225-LM
Controller Qty	4
Data Rate	2.5Gbps/1Gbps/100Mbps/10Mbps
Number of Port	4
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 4 RJ45 Connector</li> <li>▪ 4 LED for PoE On/Off Mode</li> <li>▪ Up to 25.5W Power Output at 48V DC per port</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimension (W x L)	167.7mm x 111.1mm (6.60" x 4.38")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 60°C with air flow (-40°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-6004	Intel® I225 4-CH PCI Express Card with 2.5GigE PoE+
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# PE-5004

4-port 10GigE PoE\* Card



## Features

- 4-port independent 10GigE PoE\* LAN
- PCI Express x8 interface
- Power over Ethernet (PoE\*), up to 25.5W Power Output at 48V DC per port
- -25°C to 55°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x8
Controller	Intel® Ethernet Controller XL710
Controller Qty	1
PHY	Intel® X557
PHY Qty	1
Data Rate	10Gbps/1Gbps/100Mbps
Number of Port	4
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 4 RJ45 Connector</li> <li>▪ 4 LED for PoE On/Off Mode</li> <li>▪ Up to 25.5W Power Output at 48V DC per port</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimensions (W x L)	168mm x 111mm (6.6" x 4.4")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 55°C with air flow (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-5004	Intel® XL710 4-CH PCI Express Card with 10GigE PoE*
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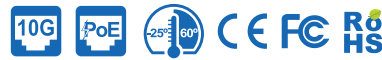
# PE-5002

2-port 10GigE PoE\* Card



## Features

- 2-port independent 10GigE PoE\* LAN
- PCI Express x4 interface
- Power over Ethernet (PoE\*), up to 25.5W Power Output at 48V DC per port
- -25°C to 60°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller X550-AT2
Controller Qty	1
Data Rate	10Gbps/*5Gbps/*2.5Gbps/1Gbps/100Mbps (*Linux only)
Number of Port	2
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 2 RJ45 Connector</li> <li>▪ 2 LED for PoE On/Off Mode</li> <li>▪ Up to 25.5W Power Output at 48V DC per port</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimension (W x L)	168mm x 111mm (6.6" x 4.4")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 60°C with air flow (-40°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-5002	Intel® X550-AT2 2-CH PCI Express Card with 10GigE PoE*
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1 Edge AI Computing

2 IoT Gateway

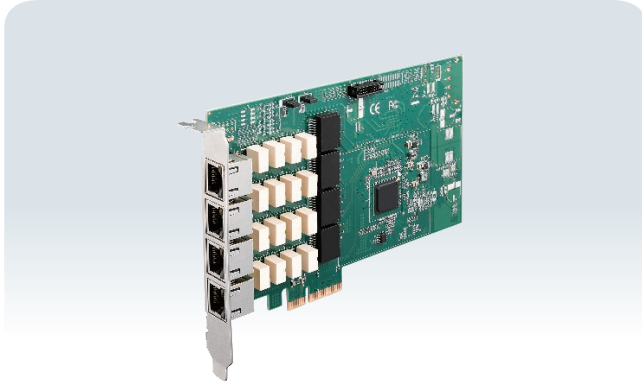
3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# PE-3014

4-port Gigabit LAN Bypass Card



## Features

- 4-port Independent Gigabit Ethernet
- All-in-one, fully-integrated single-chip GigE switching solution with lower power consumption
- Supports dual hardware LAN Bypass mode
- Optional supports rugged M12 connections
- -25°C to 70°C Operating Temperature



## Specifications

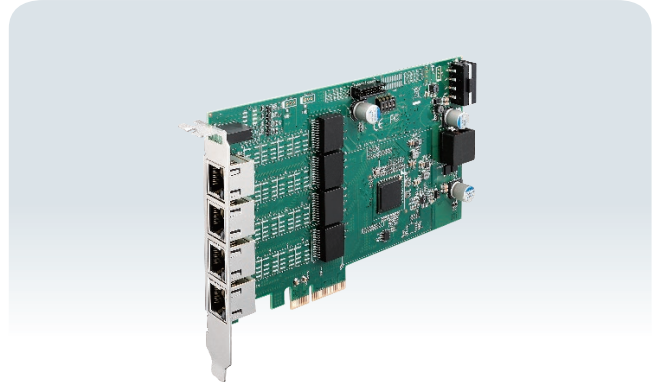
Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller I350
Controller Qty	1
Data Rate	10/100/1000 Mbps
Number of Port	4
Connector	<ul style="list-style-type: none"> <li>▪ 8-pin RJ45</li> <li>▪ A-coded M12 (Optional)</li> </ul>
Jumbo Frame	Up to 9728 byte
Link Aggregation (LAG)	Present
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-3014	Intel® I350 4-CH PCI Express Card with advanced 2-pair LAN Bypass
---------	---

# PE-3004

4-port Gigabit PoE+ Card



## Features

- 4-port Independent Gigabit Ethernet
- Power over Ethernet (PoE+), up to 25.5W Power Output at 48V DC per port
- Optional supports rugged M12 connections
- -25°C to 70°C Operating Temperature



## Specifications

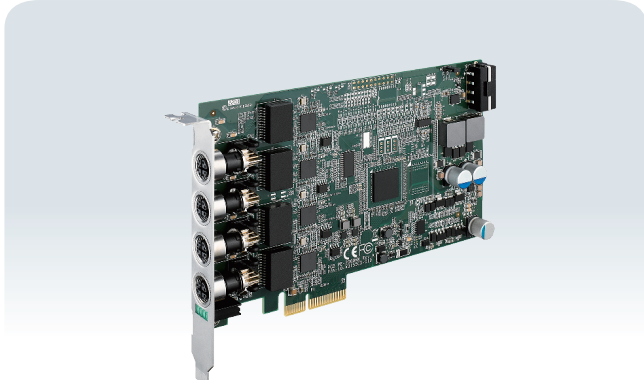
Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller I350
Controller Qty	1
Data Rate	10/100/1000 Mbps
Number of Port	4
Connector	<ul style="list-style-type: none"> <li>▪ 8-pin RJ45</li> <li>▪ A-coded M12 (Optional)</li> </ul>
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 4 RJ45 PoE Port</li> <li>▪ 4 A-coded M12 PoE Port (Optional)</li> <li>▪ Up to 25.5W Power Output at 48V DC per port</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimension (W x L)	168mm x 121mm (6.6" x 4.8")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-3004	Intel® I350 4-CH PCI Express Card with PoE+
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# PE-2004MX (M12)

4-port X-coded M12 GigE PoE+ Card



## Features

- 4 independent GigE LAN
- PCI Express x4 interface
- Power over Ethernet (PoE+), rugged X-coded M12 connectors, up to 25.5W Power Output at 48V DC per port
- -25°C to 70°C Operating Temperature



## Specifications

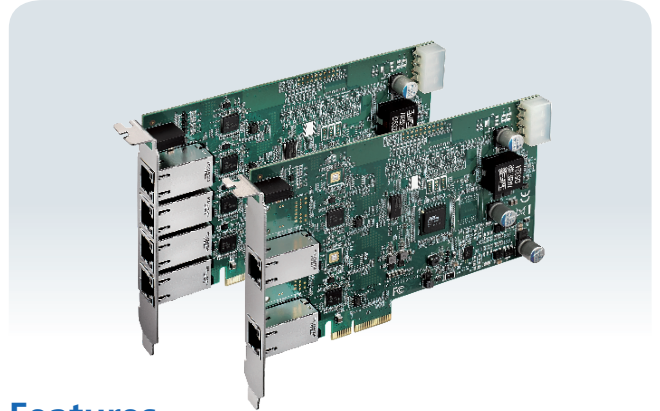
Ethernet	
Power Requirement	PCI Express x4
LAN Controller	Intel® Ethernet Controller I210
LAN Controller Qty	4
Data Rate	1Gbps/ 100 /10 Mbps
Number of Port	4
Connector	8-pin X-coded M12 Connector
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ Up to 25.5W Power Output @48V DC per port</li> <li>▪ 4 LED for PoE On/Off Mode</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimensions (W x L)	168mm x 105mm (6.6" x 4.1")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-2004MX	4-port GigE PoE+ M12 X-coded LAN Card with Intel® I210 Controllers
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# PE-2002/2004

2/ 4-port GigE PoE+ Card



## Features

- 2/ 4 Independent Gigabit LAN
- PCI Express x4 Interface
- Power over Ethernet (PoE+), Up to 25.5W Power Output at 48V DC per port
- -25°C to 70°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x4
Controller	<ul style="list-style-type: none"> <li>▪ 2 Intel® I210 Gigabit LAN (PE-2002)</li> <li>▪ 4 Intel® I210 Gigabit LAN (PE-2004)</li> </ul>
Data Rate	10/ 100/ 1000 Mbps (Vary by attached Ethernet device)
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 2 PoE ports, up to 25.5W Power Output at 48V DC per port (PE-2002)</li> <li>▪ 4 PoE ports, up to 25.5W Power Output at 48V DC per port (PE-2004)</li> </ul>
Power Connector	1 4-pin 12V Power Connector
DIO	16 Isolated DIO : 8 DI, 8 DO (Optional)
Mechanical	
Dimension (W x D x H)	168mm x 121mm x 21mm (6.6" x 4.8" x 0.8")
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)

## Order Information

PE-2004	Intel® I210 4-CH PCI Express PoE+ Card
PE-2002	Intel® I210 2-CH PCI Express PoE+ Card

1 Edge AI Computing

2 IoT Gateway

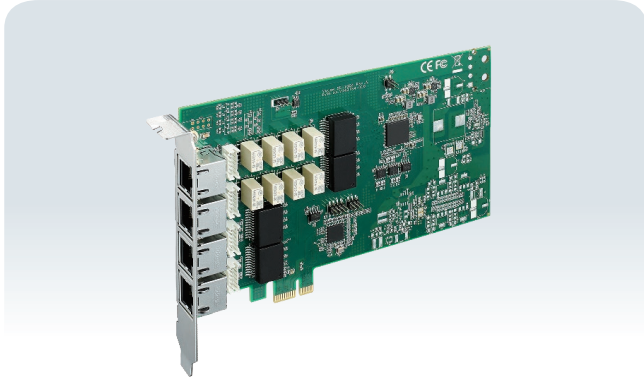
3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# SE-1014

4-port RJ45 LAN Switch Card with LAN Bypass



## Features

- Full-featured LAN functions, up to 1000Mbps data rate
- All-in-one, fully-integrated single-chip GigE switching solution with lower power consumption
- Supports hardware LAN Bypass mode
- -40°C to 85°C Operating Temperature



## Specifications

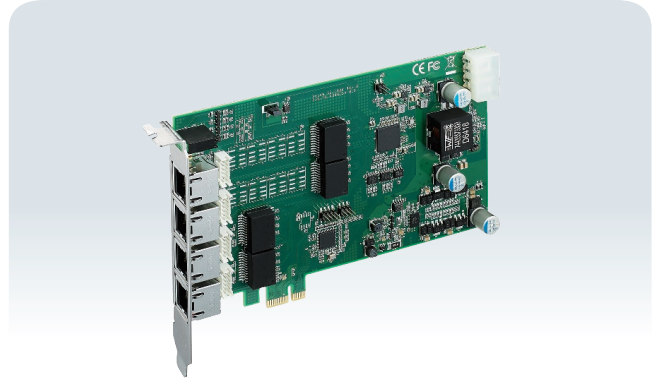
Ethernet	
Interface	PCI Express x1
Controller	Intel® Ethernet Controller I210
Controller Qty	1
Data Rate	10/100/1000 Mbps
Number of Port	4
Connector	8-pin RJ45
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Bracket	Full height
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

SE-1014	4-port RJ45 PCI Express LAN Switch Card with advanced LAN Bypass
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# SE-1004

4-port RJ45 LAN Switch Card with PoE\*



## Features

- Full-featured LAN functions, up to 1000Mbps data rate
- IEEE 802.3at Power over Ethernet (PoE\*) compliant
- All-in-one, fully-integrated single-chip GigE switching solution with lower power consumption
- -40°C to 85°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x1
Controller	Intel® Ethernet Controller I210
Controller Qty	1
Data Rate	10/100/1000 Mbps
Number of Port	4
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 4 RJ45 PoE Port</li> <li>▪ Up to 25.5W Power Output at 48V DC per port</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Bracket	Full height
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

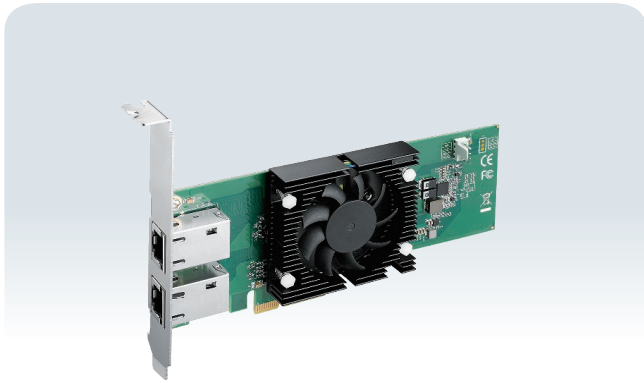
## Order Information

SE-1004	4-port RJ45 PCI Express LAN Switch Card with PoE*
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# LE-1055

Low Profile 2-port 10 GigE LAN Card



## Features

- 10Gbps data rate
- IEEE 802.3an Fast Ethernet standard compliant
- Low Profile and Full Height form factors available
- -40°C to 55°C Operating Temperature



## Specifications

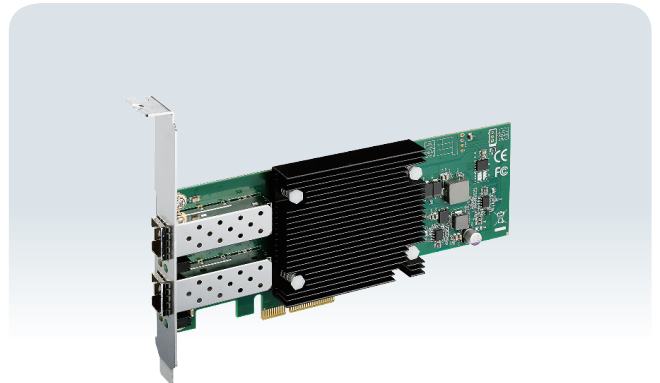
Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller X550-AT2
Controller Qty	2
Data Rate	10Gbps/5Gbps/2.5Gbps/1Gbps/100Mbps
Number of Port	2
Connector	8-pin RJ45
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8", PCIe low profile)
Bracket	<ul style="list-style-type: none"> <li>▪ Full height</li> <li>▪ Low profile (Optional)</li> </ul>
Environment	
Operating Temperature	-40°C to 55°C (-40°F to 131°F, with Fan)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

LE-1055	2-port 10 GigE LAN Card with Intel® X550-AT2 Controllers
---------	--

# FE-1071

Low Profile 2-port 10 GigE SFP+ Card



## Features

- 10Gbps data rate
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- Low Profile and Full Height form factors available
- -40°C to 55°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller X710-BM2
Controller Qty	2
Data Rate	10Gbps
Number of Port	2
Connector	SFP+
Mechanical	
Dimensions (W x L)	168mm x 64mm (6.6" x 2.5", PCIe low profile)
Bracket	<ul style="list-style-type: none"> <li>▪ Full height</li> <li>▪ Low profile (Optional)</li> </ul>
Environment	
Operating Temperature	-40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

FE-1071	2-port 10 GigE SFP+ LAN Card with Intel® X710-BM2 Controllers
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1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

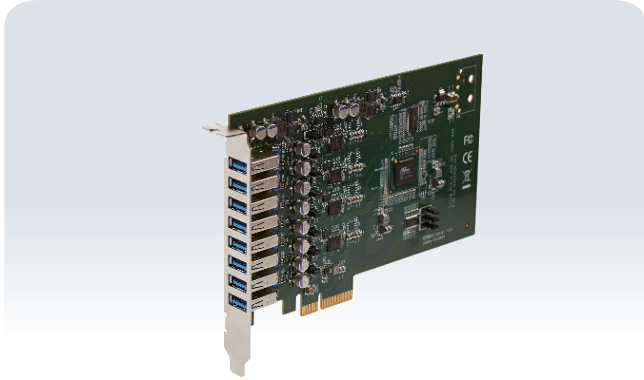
4 Industrial Multi-Touch Computers

5 Embedded Peripherals



# UE-1008

8-port USB Card



## Features

- 4 Independent USB 3.0 controllers
- 8 USB 3.0 ports
- PCI Express x4 Interface



## Specifications

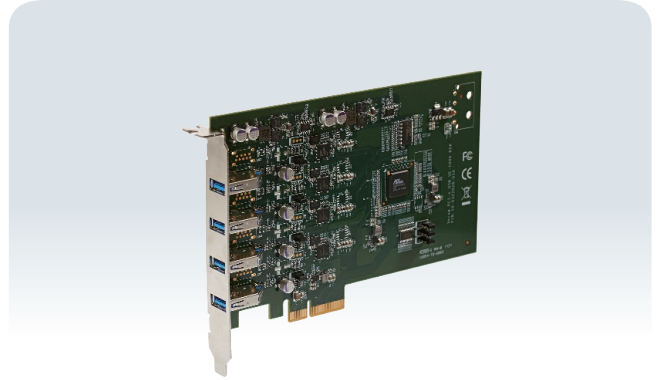
Ethernet	
Interface	PCI Express x4
Controller	4 Renesas $\mu$ PD720202 Host Controller
Connector	8 USB 3.0 Type-A Connector
Current Protection	User-configurable 900mA/1500mA per port current limit (Jumper)
Data Rate	<ul style="list-style-type: none"><li>▪ Super Speed (5Gbps)</li><li>▪ High Speed (480Mbps)</li><li>▪ Full Speed (12Mbps)</li><li>▪ Low Speed (1.5Mbps)</li></ul>
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Environment	
Operating Temperature	0°C to 70°C (32°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

UE-1008	8-port USB 3.0 Host Adapter with 4 Independent USB 3.0 Controllers
---------	--

# UE-1004

4-port USB Card



## Features

- 4 Independent USB 3.0 controllers
- 4 USB 3.0 ports
- PCI Express x4 Interface



## Specifications

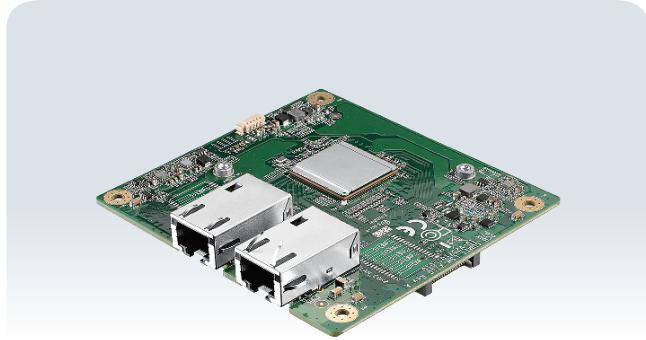
Ethernet	
Interface	PCI Express x4
Controller	4 Renesas $\mu$ PD720202 Host Controller
Connector	4 USB 3.0 Type-A Connector
Current Protection	User-configurable 900mA/1500mA per port current limit (Jumper)
Data Rate	<ul style="list-style-type: none"><li>▪ Super Speed (5Gbps)</li><li>▪ High Speed (480Mbps)</li><li>▪ Full Speed (12Mbps)</li><li>▪ Low Speed (1.5Mbps)</li></ul>
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Environment	
Operating Temperature	0°C to 70°C (32°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

UE-1004	4-port USB 3.0 Host Adapter with 4 Independent USB 3.0 Controllers
---------	--

# SUMIT Card LSM-X710-AT2

SUMIT Card with 2 10GigE LAN



## Features

- Intel® X710-AT2 10GBASE-T controller
- IEEE 802.3an Fast Ethernet standard compliant
- -25°C to 50°C Operating Temperature



## Specifications

Ethernet	
Controller	Intel® Ethernet Controller X710-AT2
Controller Qty	1
Data Rate	10Gbps/ 5Gbps/ 2.5Gbps/ 1Gbps/100Mbps
I/O Interface	
Bus Type	SUMIT B
LAN	2 RJ45 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	150 g
Environment	
Operating Temperature	-25°C to 50°C (-13°F to 122°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

LSM-X710-AT2	SUMIT (PCIe) Expansion Card with 2 10G RJ45 LAN
--------------	---

# FSM-710-BM2

SUMIT Card with 2 10GigE SFP+ Fiber LAN



## Features

- Intel® X710-BM2 10Gigabit Ethernet Controller
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- -25°C to 55°C Operating Temperature



## Specifications

Ethernet	
Controller	Intel® Ethernet Controller X710-BM2
Data Rate	10Gbps
I/O Interface	
Bus Type	<ul style="list-style-type: none"> <li>▪ FSM-710-BM2 : SUMIT B</li> <li>▪ FSM-710-BM2-E : SUMIT A, B</li> </ul>
LAN	2 10GBASE SFP+ Fiber Connector
Mini PCIe	1 Full-size Mini PCIe Socket
SIM Card	1 SIM Card Socket (Internal, optional supports External I/O Type)
USB	1 USB 2.0 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	160 g
Environment	
Operating Temperature	-25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

FSM-710-BM2	SUMIT (PCIe) Expansion Card with 2 10GigE SFP+ LAN
FSM-710-BM2-E	SUMIT (PCIe) Expansion Card with 2 10GigE SFP+ LAN, 1 Mini PCIe, 1 SIM Socket, 1 USB 2.0

1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# LSM-200

SUMIT Card with 3-port 2.5G LAN



## Features

- Intel® Ethernet Controller I225
- 3 independent LAN ports support 2.5Gbps
- -25°C to 70°C Operating Temperature
- SUMIT A, B Interface



## Specifications

Ethernet	
LAN Controller	Intel® I225 Gigabit Ethernet Controller
Controller Qty	3
Data Rate	2.5Gbps/1Gbps/100Mbps/10Mbps
I/O Interface	
Bus Type	SUMIT A, B
LAN	3 RJ45 Connector
Mechanical	
Dimensions (W x L)	90.0mm x 96.0mm (3.54" x 3.78")
Weight	145 g
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

LSM-200	SUMIT (PCIe) Card with 3 Channel 2.5G LAN
---------	---

# LSM-100

SUMIT Card with 3-port GigE LAN



## Features

- Intel® I210 Gigabit Ethernet Controller
- IEEE 802.3ab Gigabit Ethernet standard compliant
- 3 independent GigE LAN Connection
- -25°C to 85°C Operating Temperature
- SUMIT A, B Interface



## Specifications

Ethernet	
Controller	Intel® I210 Gigabit Ethernet Controller
Controller Qty	3
Data Rate	1Gbps/ 100Mbps/ 10Mbps
I/O Interface	
Bus Type	SUMIT A, B
LAN	3 RJ45 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	150 g
Environment	
Operating Temperature	-25°C to 85°C (-13°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

LSM-100-3	SUMIT (PCIe) Card with 3 Channel GigE LAN
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# FSM-200

SUMIT Card with 2 1000BASE SFP Fiber LAN



## Features

- Intel® I350 Gigabit Ethernet Controller
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- Dual 100BASE-FX fiber ports



## Specifications

Ethernet	
Controller	Intel® Ethernet Controller i350
Controller Qty	1
I/O Interface	
Bus Type	SUMIT B
LAN	2 1000BASE SFP Fiber Connector
PS/2	1 PS/2 KB/MS Connector (Optional)
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	150 g
Environment	
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

FSM-200	SUMIT (PCIe) Expansion Card with 2 1000BASE SFP Fiber LAN
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# FSM-100

SUMIT Card with 2 100BASE-FX GigE Fiber LAN



## Features

- Intel® 82574 Gigabit Ethernet Controller
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- Dual 100BASE-FX fiber ports



## Specifications

Ethernet	
Controller	Intel® 82574L Gigabit Ethernet Controller
Controller Qty	2
Data Rate	1Gbps
I/O Interface	
Bus Type	SUMIT A, B
LAN	2 100BASE-FX Fiber Connector
PS/2	1 PS/2 KB/MS Connector (Optional)
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	170 g
Environment	
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

FSM-100FX	SUMIT (PCIe) Expansion Card with 2 100BASE-FX Fiber LAN, 1 PS/2 KB/MS
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1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

4 Industrial Multi-Touch Computers

5 Embedded Peripherals

# Mini PCIe Module DMX-110

Mini PCIe Digital I/O Card, 32-bit Isolated DIO



## Features

- 4KV Isolated Protection for each channel
- -40°C to 85°C Operating Temperature
- 32-bit Programmable signals
- 4 ports digital signal, each with 8-bit GPIO
- Onboard Interrupt supports Rising/Falling Edge
- Programmable Timer and Counter for status monitoring
- Isolated DIO Control : Sink Mode/Source Mode



## Specifications

Ethernet	
Interface	USB 2.0
Number of port	4 (8-bit GPIO/each)
Power Input	3.3V DC-in
I/O Voltage	3.3V
Isolated DIO Expansion Card (DMX-100-E)	
Number of port	- Input : 2 (8-bit GPIO/each) - Output : 1 with 16-bit Isolated DIO
I/O Voltage	- Sink Mode : 6V to 40V - Source Mode : 6V to 48V
Mechanical	
Dimensions (W x L)	▪ DMX-100-M : 30.0mm x 50.9mm ▪ DMX-100-E : 45.0mm x 55.0mm ▪ Cable Length : 250mm
Weight	160 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 DMX-100-M GPIO Card - 4 Isolated DIO Cable - 1 Screw Kit - 2 Bracket	- 2 DMX-100-E Isolated DIO Expansion Card - 2 Sink/Source Mode Control Cable - 2 Terminal block 20-pin (2.54mm)

## Order Information

DMX-110	Mini PCIe 32-bit GPIO Card with Isolated DIO Expansion Card
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# DMX-100

Mini PCIe Digital I/O Card, 32-bit GPIO



## Features

- -40°C to 85°C Operating Temperature
- 32-bit Programmable signals
- 4 ports digital signal, each with 8-bit GPIO
- Onboard Interrupt supports Rising/Falling Edge
- Programmable Timer and Counter for status monitoring



## Specifications

Ethernet	
Interface	USB 2.0
Number of port	4 (8-bit GPIO/each)
Power Input	3.3V DC-in
I/O Voltage	3.3V
Mechanical	
Dimensions (W x L)	▪ DMX-100-M : 30.0mm x 50.9mm ▪ Cable Length : 250mm
Weight	160 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 Screw Kit - 2 Bracket	- 1 DMX-100-M GPIO Card - 4 GPIO Cable

## Order Information

DMX-100	Mini PCIe 32-bit GPIO Card
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# SMX-200

Mini PCIe 4-port Isolated RS-232/422/485 Serial Card



## Features

- 4-port high-speed RS-232/422/485
- Each serial channel supports up to 2.5kV Isolation
- Up to 31.25Mbps super fast data transmission
- -40°C to 85°C Operating Temperature
- Interrupt Status Register for Performance Enhancement



## Specifications

Ethernet	
Interface	Mini PCIe
Controller	EXAR XR17V354
Standard	RS-232/422/485 (2.5kV Isolation)
Number of Port	4
Baud Rate	Up to 921.6kbps
FIFOs	256 byte
Flow Control	CTS/RTS, Xon/Xoff
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Cable Length : 260mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 SMX-200 Serial Card	- 1 Screw Kit
- 2 Cable Set	- 2 Bracket
- 1 Driver CD	

## Order Information

SMX-200	4-port Isolated RS-232/422/485 Serial Card
---------	--

# SMX-100

Mini PCIe 4-port RS-232/422/485 Serial Card



## Features

- 4 high-speed RS-232/422/485 ports
- Up to 31.25Mbps super fast data transmission
- -40°C to 85°C Operating Temperature
- 3kV ESD Protection
- Interrupt Status Register for Performance Enhancement



## Specifications

Ethernet	
Interface	Mini PCIe
Chipset	EXAR XR17V354
Standard	RS-232/422/485
Number of Port	4
Baud Rate	Up to 921.6kbps
FIFOs	256 byte
Flow Control	CTS/RTS, Xon/Xoff
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Cable Length : 300mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 SMX-100 Serial Card	- 1 Screw Kit
- 2 Cable Set	- 1 Bracket
- 1 Driver CD	

## Order Information

SMX-100	4-port RS-232/422/485 Serial Card
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1 Edge AI Computing

2 IoT Gateway

3 System On Module (SOM)

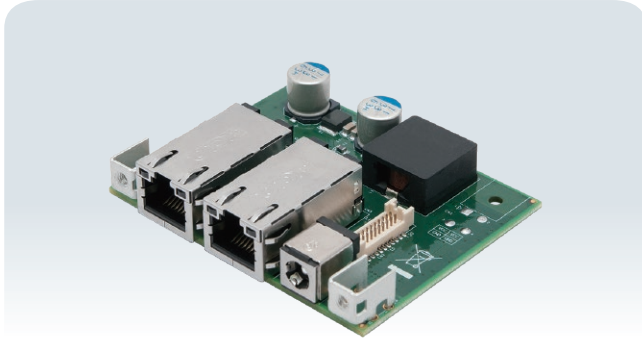
4 Industrial Multi-Touch Computers

5 Embedded Peripherals



# PMX-101

Mini PCIe 2-port PoE+ GigE Card with DC Jack



## Features

- 2 GigE LAN ports support IEEE 802.3at PoE+ with 12V to 24V Power Input
- -40°C to 85°C Operating Temperature
- IEEE 802.3, 802.3u and 802.3ab compliant



## Specifications

Ethernet	
Interface	PCI Express x1
Controller	Intel® I210 Gigabit LAN
Data Rate	10/100/1000 Mbps
Number of Port	2
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Input	12V to 24V, DC Jack
Output	Up to 25.5W Power Output at 48V DC per port
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Daughter Card : 56mm x 61mm</li> <li>▪ Cable Length : 300mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
<ul style="list-style-type: none"> <li>- 1 Driver CD</li> <li>- 1 Screw Kit</li> <li>- 1 Bracket</li> </ul>	<ul style="list-style-type: none"> <li>- 1 PMX-100 PoE GigE Card</li> <li>- 1 RJ45 Daughter Card</li> <li>- 1 Connection Cable</li> </ul>

## Order Information

PMX-101	Mini PCIe 2-port PoE+ GigE Card with DC Jack
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# PMX-100

Mini PCIe 2-port PoE+ GigE Card



## Features

- 2 GigE LAN ports support IEEE 802.3at PoE+ with 12V to 24V DC Power Input
- -40°C to 85°C Operating Temperature
- IEEE 802.3, 802.3u and 802.3ab compliant



## Specifications

Ethernet	
Interface	PCI Express x1
Controller	Intel® I210 Gigabit LAN
Data Rate	10/100/1000 Mbps
Number of Port	2
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Input	12V to 24V
Output	Up to 25.5W Power Output at 48V DC per port
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Daughter Card : 56mm x 61mm</li> <li>▪ Cable Length : 300mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
<ul style="list-style-type: none"> <li>- 1 Driver CD</li> <li>- 1 Screw Kit</li> <li>- 1 Bracket</li> </ul>	<ul style="list-style-type: none"> <li>- 1 PMX-100 PoE GigE Card</li> <li>- 1 RJ45 Daughter Card</li> <li>- 1 Connection Cable</li> </ul>

## Order Information

PMX-100	Mini PCIe 2-port PoE+ GigE Card
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# LMX-200

Mini PCIe 2-port Gigabit LAN Card



## Features

- 2 GigE LAN ports, up to 1Gbps data rate
- IEEE 802.3, 802.3u and 802.3ab compliant
- PCI Express x1 Interface
- -40°C to 85°C Operating Temperature



## Specifications

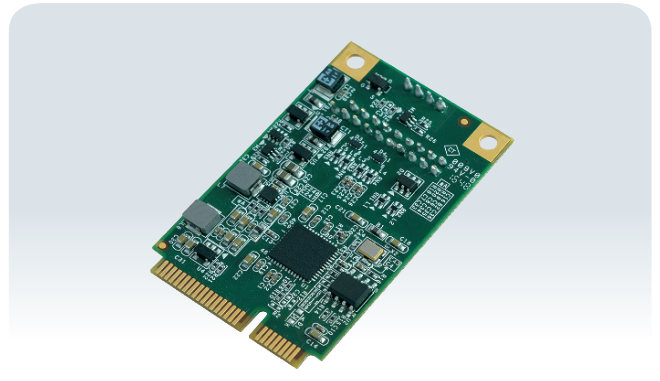
Ethernet	
Interface	PCI Express x1
Chipset	2 Intel® I210 Gigabit LAN
Data Rate	10/100/1000 Mbps
Number of Port	2
Connector	8-pin RJ45
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Daughter Card : 50.5mm x 27.7mm</li> <li>▪ Cable Length : 300mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 Driver CD	- 1 LMX-200 Mini PCIe LAN Card
- 1 Screw Kit	- 1 RJ45 Connector Card
- 1 Bracket	- 1 Connection Cable

## Order Information

<b>LMX-200</b>	Mini PCIe 2-port Gigabit LAN Card
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# UMX-100

Mini PCIe 2-port USB 3.0 Card



## Features

- 2 high-speed USB 3.0 ports, up to 5Gbps data rate
- USB 3.0 Rev. 1.0 compliant
- Intel® xHCI Rev. 1.0 compliant
- PCI Express x1 Interface
- -40°C to 85°C Operating Temperature



## Specifications

Ethernet	
Interface	Mini PCIe
Controller	Renesas μPD720202
Standard	USB 3.0 Rev. 1.0 compliant
Number of Port	2
Data Rate	Up to 5Gbps
Link Aggregation	Present
Connector	19-pin Header
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Cable Length : 320mm</li> </ul>
Weight	152 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 Driver CD	- 1 UMX-100 Mini PCIe USB Card
- 1 Screw Kit	- 1 Cable Set
- 1 Bracket	

## Order Information

<b>UMX-100</b>	Mini PCIe 2-port USB Card
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1 Edge AI Computing

2 IoT Gateway

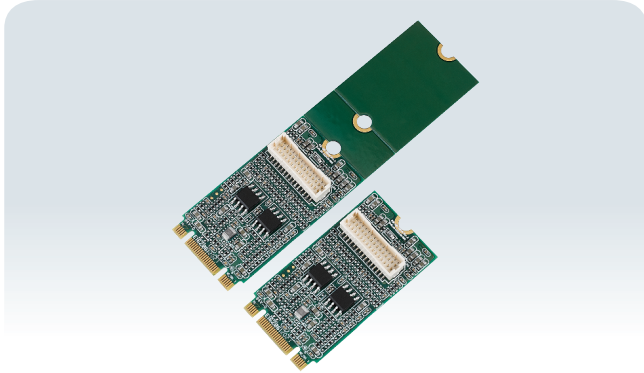
3 System On Module (SOM)

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# M.2 Module LMT-100P

M.2 2-port GigE LAN Card with PoE\*



## Features

- Intel® I210 Ethernet Controller supports 2-port independent GigE LAN
- IEEE 802.3at PoE\* with 12V to 24V Power Input
- Flexible supports M.2 Key B, Key M
- Foldable design supports multiple M.2 form factors : 2242, 2252, 2280
- 40°C to 85°C Operating Temperature



## Specifications

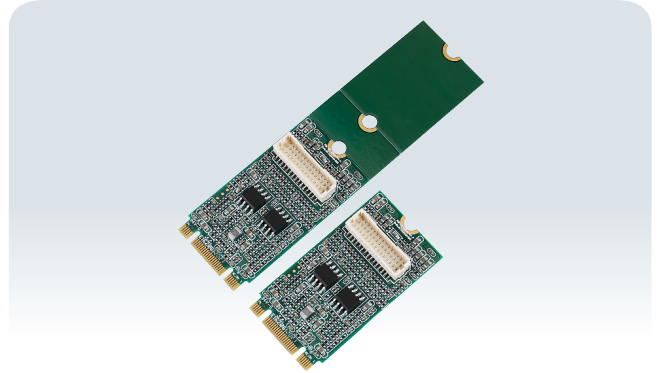
Ethernet	
LAN Controller	Intel® I210 Ethernet Controller
Data Rate	1Gbps/100Mbps/10Mbps
Connector	8-pin RJ45
VLAN	802.1Q VLAN supported
Power Requirement	
PoE Standard	IEEE 802.3at compliant
Power Input	12V to 24V
Power Output	Up to 25.5W Power Output at 48V DC per port
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>M.2 Card : 22mm x 80mm (Foldable design for 22mm x 42mm or 22mm x 52mm)</li> <li>Daughter Card for LMX-100 : 50.5mm x 27.7mm</li> <li>Daughter Card for LMX-100P : 56mm x 61mm</li> <li>Cable Length : 300mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F), with air flow
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 Driver CD	- 1 M.2 LAN Card
- 1 Screw Kit	- 1 RJ45 I/O Card
- 1 Bracket	- 1 Connection Cable

## Order Information

LMT-100P	Intel® I210 M.2 2-port PoE* GigE LAN Card
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# LMT-100

M.2 2-port GigE LAN Card



## Features

- Intel® I210 Ethernet Controller supports 2-port independent GigE LAN
- Flexible supports M.2 Key B, Key M
- Foldable design supports multiple M.2 form factors : 2242, 2252, 2280
- 40°C to 85°C Operating Temperature



## Specifications

Ethernet	
LAN Controller	Intel® I210 Ethernet Controller
Data Rate	1Gbps/100Mbps/10Mbps
Connector	8-pin RJ45
VLAN	802.1Q VLAN supported
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>M.2 Card : 22mm x 80mm (Foldable design for 22mm x 42mm or 22mm x 52mm)</li> <li>Daughter Card for LMX-100 : 50.5mm x 27.7mm</li> <li>Daughter Card for LMX-100P : 56mm x 61mm</li> <li>Cable Length : 300mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F), with air flow
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 Driver CD	- 1 M.2 LAN Card
- 1 Screw Kit	- 1 RJ45 I/O Card
- 1 Bracket	- 1 Connection Cable

## Order Information





LMT-100	Intel® I210 M.2 2-port GigE LAN Card
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# Sustainability for Digital Factory






Speedily deploy digital transformation  
using VHub ESG Solutions



# Ultra-compact Fanless Systems

Series		SPC-7000			
Model No.		SPC-7000	SPC-7100	SPC-7200	SPC-7000W
Product Image					
System	CPU	Intel® Core™ i7-1185G7E/ i5-1145G7E	Intel® Core™ i7-1185G7E/ i5-1145G7E	Intel® Core™ i7-1185G7E/ i5-1145G7E	Intel® Core™ i7-1185G7E/ i5-1145G7E
	Chipset	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz
	Memory Capacity	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM
	Graphics/ AI Accelerator	Intel® Iris® X <sup>e</sup> Graphics	Intel® Iris® X <sup>e</sup> Graphics	Intel® Iris® X <sup>e</sup> Graphics	Intel® Iris® X <sup>e</sup> Graphics
	Ethernet	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225	Intel® I219LM, Intel® I225
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	NA	NA	NA	NA
	DVI-I	NA	NA	NA	NA
	DVI-D	NA	NA	NA	NA
	HDMI	NA	NA	NA	NA
	LVDS	NA	NA	NA	NA
	DisplayPort	2	2	2	2
	eDP	NA	NA	NA	NA
I/O Interface	Serial	2 RS-232/422/485	2 RS-232/422/485	2 RS-232/422/485	2 RS-232/422/485
	USB 3.0/3.1/3.2	2 (External)	2 (External)	2(External)	2(External)
	USB 2.0	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)	4 (2 External, 2 Internal)
	GigE LAN	2 (1-port 2.5G)	2 (1-port 2.5G)	2 (1-port 2.5G)	2 (1-port 2.5G)
	PoE LAN	NA	NA	NA	NA
	M12	NA	NA	NA	NA
	Audio	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA
	Isolated DIO	NA	NA	NA	NA
	Others	NA	NA	NA	NA
Storage	SATA III	1	1	1	1
	SATA II	NA	NA	NA	NA
	CFast	NA	NA	NA	NA
	mSATA	NA	NA	NA	NA
	M.2	1 M.2 Key B 2260/2242	1 M.2 Key B 2260/2242	1 M.2 Key B 2260/2242	1 M.2 Key B 2260/2242
Expansion	Mini PCIe	NA	NA	NA	NA
	PCIe	NA	NA	NA	NA
	PCI	NA	NA	NA	NA
	SIM Card	1 (External)	1 (External)	1 (External)	1 (External)
	M.2	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230
	SUMIT	2 (Optional)	2 (Optional)	2 (Optional)	2 (Optional)
Power	Input	DC-in 9V to 55V	DC-in 9V to 55V	DC-in 9V to 55V	DC-in 16V to 160V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes	Yes	Yes	Yes
	Remote Switch	Yes	Yes	Yes	Yes
Dimensions (W x L x H)		150 x 106 x 44 mm (5.9" x 4.2" x 1.7")	150 x 106 x 57 mm (5.9" x 4.2" x 2.2")	150 x 106 x 60 mm (5.9" x 4.2" x 2.4")	150 x 106 x 81 mm (5.9" x 4.2" x 1.8")
Weight		0.9 kg (2.0 lb)	1.3 kg (2.9 lb)	1.4 kg (3.1 lb)	1.3 kg (2.87 lb)
Mounting		Wallmount, VESA Mount	Wallmount, VESA Mount	Wallmount, VESA Mount, DIN Rail	Wallmount, VESA Mount, DIN Rail
Operating Temperature		-40°C to 65°C (-40°F to 149°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 70°C (-40°F to 158°F)	-25°C to 65°C (-13°F to 149°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
Certification		CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2



ABP-3000		SPC-5000		
ABP-3000 AI	ABP-3000	SPC-5000	SPC-5100	SPC-5200
				
Intel® Core™ i7-8665UE/ i3-8145UE	Intel® Core™ i7-8665UE/ i3-8145UE	Intel® Core™ i7-8665UE/ i5-8365UE/i3-8145UE/ Celeron® 4305UE	Intel® Core™ i7-8665UE/ i5-8365UE/i3-8145UE/ Celeron® 4305UE	Intel® Core™ i7-8665UE/ i5-8365UE/i3-8145UE/ Celeron® 4305UE
Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2400MHz	260-pin SO-DIMM, DDR4 2400MHz	260-pin SO-DIMM, DDR4 2400MHz	260-pin SO-DIMM, DDR4 2400MHz	260-pin SO-DIMM, DDR4 2400MHz
Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM
- Intel® UHD 620 - Hailo-8™	Intel® UHD 620	Intel® UHD 620	Intel® UHD 620	Intel® UHD 620
Intel® I350	Intel® I350	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	1	1	1
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
2	2	1	1	1
NA	NA	NA	NA	NA
4 RS-232/422/485	4 RS-232/422/485	2 RS-232/422/485	2 RS-232/422/485	4 RS-232/422/485
4 (External)	4 (External)	4 (External)	4 (External)	4 (External)
NA	NA	NA	NA	NA
4 (2 w/PoE*)	4 (2 w/PoE*)	2	2	4 (2 w/PoE*)
2 (IEEE 802.3at)	2 (IEEE 802.3at)	NA	NA	2 (IEEE 802.3at)
NA	NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
NA	NA	NA	NA	NA
16 (8 DI, 8 DO)	16 (8 DI, 8 DO)	NA	NA	16 (8 DI, 8 DO)
NA	NA	NA	NA	NA
NA	NA	1	1	1
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
1 Key B 2280	- 1 Key B 2280 - 1 Key M 2280	NA	NA	NA
1	1	2	2	1
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
2 (Internal)	2 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)
- 1 Key B 3042/3052 - 1 Key E 2230	- 1 Key B 3042/3052 - 1 Key E 2230	NA	NA	NA
NA	NA	2 (Optional)	2 (Optional)	NA
DC-in 9V to 50V	DC-in 9V to 50V	DC-in 9V to 48V	DC-in 9V to 48V	DC-in 9V to 48V
Mini-DIN	Mini-DIN	Terminal Block	Terminal Block	Terminal Block
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
224 x 149 x 33 mm (8.8" x 5.9" x 1.3")	224 x 149 x 33 mm (8.8" x 5.9" x 1.3")	150 x 106 x 44 mm (5.9" x 4.2" x 1.7")	150 x 106 x 62 mm (5.9" x 4.2" x 2.4")	227 x 106 x 44 mm (9.0" x 4.2" x 1.7")
1.4 kg (3.1 lb)	1.4 kg (3.1 lb)	0.9 kg (2.0 lb)	1.3 kg (2.9 lb)	1.0 kg (2.2 lb)
Wallmount	Wallmount	Wallmount, VESA Mount	Wallmount, VESA Mount	Wallmount, VESA Mount
-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 70°C (-40°F to 158°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 70°C (-40°F to 158°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GiE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems





**7**  
Industrial Multi-  
Touch Computers/  
Displays







**8**  
Industrial  
Motherboards

**9**  
COM  
Express

**10**  
Embedded  
Peripherals

# Ultra-compact Fanless Systems

Series		RES-3000	ARS-2000			
Model No.		RES-3000	ARS-2010M	ARS-2010	ARS-2001M	
Product Image						
System	CPU	Intel® Core™ i7-8665UE/ i5-8365UE/i3-8145UE/ Celeron® 4305UE	Intel® Core™ i7-7600U/ i7-6600U/i5-6300U/ Celeron® 3955U	Intel® Core™ i7-7600U/ i7-6600U/i5-6300U/ Celeron® 3955U	Intel® Core™ i7-7600U/ i7-6600U/i5-6300U/ Celeron® 3955U	
	Chipset	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC	
	BIOS	AMI	AMI	AMI	AMI	
	Memory Type	260-pin SO-DIMM, DDR4 2400MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	
	Memory Capacity	Max 32GB, 1 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	
	Graphics/ AI Accelerator	Intel® UHD 620	Intel® HD 620/520	Intel® HD 620/520	Intel® HD 620/520	
	Ethernet	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	
	Audio	NA	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E	
	OS Support	Windows 10, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	
Display I/O	VGA	NA	NA	NA	NA	
	DVI-I	NA	1	1	1	
	DVI-D	1	1	1	1	
	HDMI	NA	NA	NA	NA	
	LVDS	NA	NA	NA	NA	
	DisplayPort	NA	NA	NA	NA	
	eDP	NA	NA	NA	NA	
I/O Interface	Serial	2 RS-232/422/485	4 RS-232/422/485 (1 w/Isolated)	4 RS-232/422/485 (1 w/Isolated)	4 RS-232/422/485 (1 w/Isolated)	
	USB 3.0/3.1/3.2	NA	4 (External)	4 (External)	4 (External)	
	USB 2.0	2	NA	NA	NA	
	GigE LAN	2	3 (2 w/PoE*)	3 (2 w/PoE*)	3 (2 w/PoE*)	
	PoE LAN	NA	2 (IEEE 802.3at)	2 (IEEE 802.3at)	2 (IEEE 802.3at)	
	M12	6 (2 COM, 2 LAN, 1 USB, 1 Power)	2 (PoE*)	NA	2 (PoE*)	
	Audio	NA	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	
	GPIO	NA	NA	NA	NA	
	Isolated DIO	NA	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	32 (16 DI, 16 DO)	
	Others	NA	NA	NA	NA	
Storage	SATA III	1	2	2	2	
	SATA II	NA	NA	NA	NA	
	CFast	NA	1	1	1	
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	
	M.2	NA	NA	NA	NA	
	Mini PCIe	NA	2	2	2	
	PCIe	NA	1 PCIe x4	1 PCIe x4	NA	
Expansion	PCI	NA	NA	NA	1 PCI	
	SIM Card	NA	1 (External)	1 (External)	1 (External)	
	M.2	NA	NA	NA	NA	
	SUMIT	NA	NA	NA	NA	
	Power	Input	DC-in 9V to 48V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V
		Connector	M12	Terminal Block	Terminal Block	Terminal Block
Ignition Control		NA	Yes	Yes	Yes	
Remote Switch		NA	Yes	Yes	Yes	
Dimensions (W x L x H)	250 x 180 x 44 mm (9.8" x 7.1" x 1.7")	186 x 147 x 82 mm (7.3" x 5.8" x 3.2")	186 x 147 x 82 mm (7.3" x 5.8" x 3.2")	186 x 147 x 82 mm (7.3" x 5.8" x 3.2")		
Weight	2.3 kg (5.1 lb)	2.2 kg (4.9 lb)	2.2 kg (4.9 lb)	2.2 kg (4.9 lb)		
Mounting	Wallmount, VESA Mount	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail		
Operating Temperature	-30°C to 70°C (-22°F to 158°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)		
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)		
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing		
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64		
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27		
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2		

			SPC-6000	ESP-1000	PBC-1000
ARS-2001	ARS-2000ML	ARS-2000L	SPC-6000	ESP-1000	PBC-1000
					
Intel® Core™ i7-7600U/ i7-6600U/i5-6300U/ Celeron® 3955U	Intel® Core™ i7-7600U/ i7-6600U/i5-6300U/ Celeron® 3955U	Intel® Core™ i7-7600U/ i7-6600U/i5-6300U/ Celeron® 3955U	Intel Atom® x6425RE	Intel Atom® x6425RE	Intel Atom® x6211E
Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
AMI	AMI	AMI	AMI	AMI	AMI
260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 2133MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz
Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM
Intel® HD 620/520	Intel® HD 620/520	Intel® HD 620/520	Intel® UHD Graphics for 10th Gen Intel® Processors	Intel® UHD Graphics for 10th Gen Intel® Processors	Intel® UHD Graphics for 10th Gen Intel® Processors
Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I210, Intel® I225	Intel® I210, Intel® I225	Realtek 8119I
Realtek ALC888S-VD IT8786E	Realtek ALC888S-VD IT8786E	Realtek ALC888S-VD IT8786E	Realtek ALC888S-VD IT8786E	Realtek ALC888S-VD IT8786E	Realtek ALC888S-VD IT8659E
Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Windows 8.1, Windows 7, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
NA	NA	NA	NA	NA	NA
1	1	1	1	1	NA
1	1	1	NA	NA	NA
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
NA	NA	NA	1	1	1
NA	NA	NA	NA	NA	NA
4 RS-232/422/485 (1 w/Isolated)	4 RS-232/422/485 (1 w/Isolated)	4 RS-232/422/485 (1 w/Isolated)	4 RS-232/422/485	4 RS-232/422/485	- 1 RS-232/422/485 - 1 RS-232
4 (External)	4 (External)	4 (External)	2 (External)	2(External)	2 (External)
NA	NA	NA	2 (External)	2(External)	NA
3 (2 w/PoE*)	3 (2 w/PoE*)	3 (2 w/PoE*)	- 1 GigE LAN - 1 2.5GigE LAN	- 2 (1-port 2.5G) - 6 10/100/1000Base Switch LAN - 2 100/1000Base Switch SFP	2
2 (IEEE 802.3at)	2 (IEEE 802.3at)	2 (IEEE 802.3at)	NA	NA	NA
NA	2 (PoE*)	NA	NA	NA	NA
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Line-out	1 Line-out	NA
NA	32 GPIO (External)	32 GPIO (External)	NA	NA	NA
32 (16 DI, 16 DO)	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
2	2	2	NA	NA	1
NA	NA	NA	NA	NA	NA
1	1	1	NA	NA	NA
1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	NA	NA	NA
NA	NA	NA	1 Key M 2280	1 Key M 2280	1 M.2 Key B 2280 (shared)
2	2	2	NA	NA	NA
NA	NA	NA	NA	NA	NA
1 PCI	NA	NA	NA	NA	NA
1 (External)	1 (External)	1 (External)	1 (External)	NA	1 (Internal)
NA	NA	NA	- 1 Key B 3042/3052 - 1 Key E 2230	1 Key E 2230	- 1 Key B 3052 (shared) - 1 Key E 2230
NA	NA	NA	NA	NA	NA
DC-in 6V to 36V	DC-in 6V to 36V	DC-in 6V to 36V	DC-in 12V	DC-in 9V to 55V	DC-in 12V
Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block
Yes	Yes	Yes	Yes (SW IGN)	Yes(SW IGN)	NA
Yes	Yes	Yes	NA	NA	NA
186 x 147 x 82 mm (7.3" x 5.8" x 3.2")	186 x 147 x 54 mm (7.3" x 5.8" x 2.1")	186 x 147 x 54 mm (7.3" x 5.8" x 2.1")	106.2 x 150.4 x 66.0 mm (4.2" x 5.9" x 2.6")	254 x 216 x 375 mm (10.0" x 8.5" x 14.8")	126 x 79 x 33 mm (5.0" x 3.1" x 1.3")
2.2 kg (4.9 lb)	1.8 kg (4 lb)	1.8 kg (4 lb)	1.4 kg (3.1 lb)	1.9 kg (4.19 lb)	0.7 kg (1.5 lb)
Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, DIN Rail	Wallmount, VESA Mount
-40°C to 75°C (-40°F to 167°F)	-40°C to 70°C (-40°F to 158°F)	-25°C to 70°C (-13°F to 158°F)	-40°C to 70°C (-40°F to 157°F)	-25°C to 60°C (-13°F to 147°F)	-40°C to 75°C (-40°F to 167°F)
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-25°C to 85°C (-13°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GigE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems

**7**  
Industrial Multi-  
Touch Computers/  
Displays





**8**  
Industrial  
Motherboards

**9**  
COM  
Express






**10**  
Embedded  
Peripherals



# Ultra-compact Fanless Systems





Series		SPC-4000			
Model No.		SPC-4600	SPC-4500	SPC-4020A	SPC-4020
Product Image					
System	CPU	Intel Atom® x7-E3950	Intel Atom® x7-E3950	Intel Atom® x7-E3950	Intel Atom® x7-E3950
	Chipset	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	204-pin SO-DIMM, DDR3L 1866MHz	204-pin SO-DIMM, DDR3L 1866MHz	204-pin SO-DIMM, DDR3L 1866MHz	204-pin SO-DIMM, DDR3L 1866MHz
	Memory Capacity	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM
	Graphics/AI Accelerator	Intel® HD 505	Intel® HD 505	Intel® HD 505	Intel® HD 505
	Ethernet	Intel® I210	Intel® I210	Intel® I210	Intel® I210
	Audio	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Super I/O	IT8786E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display I/O	VGA	NA	NA	1	1
	DVI-I	1	1	NA	NA
	DVI-D	NA	NA	NA	NA
	HDMI	NA	NA	1 (Lockable)	1 (Lockable)
	LVDS	NA	NA	NA	NA
	DisplayPort	1	1	NA	NA
	eDP	NA	NA	NA	NA
I/O Interface	Serial	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485 (2 w/Isolated)	4 RS-232/422/485 (2 w/Isolated)
	USB 3.0/3.1/3.2	4 (External)	4 (External)	2 (External)	2 (External)
	USB 2.0	NA	NA	2 (External) 2 (Internal)	2 (External) 2 (Internal)
	GigE LAN	2 (2 w/PoE+, IEEE 1588)	2 (IEEE 1588)	2 (IEEE 1588)	2 (IEEE 1588)
	PoE LAN	2 (IEEE 802.3at)	NA	NA	NA
	M12	NA	NA	NA	NA
	Audio	1 Line-out	1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
	GPIO	NA	NA	NA	NA
	Isolated DIO	16 (8 DI, 8 DO)	NA	16 (8 DI, 8 DO)	16 (8 DI, 8 DO)
	Others	NA	NA	NA	NA
Storage	SATA III	1	1	1	1
	SATA II	NA	NA	NA	NA
	CFast	NA	NA	NA	NA
	mSATA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
	M.2	NA	NA	NA	NA
Expansion	Mini PCIe	2	2	3	3
	PCIe	NA	NA	NA	NA
	PCI	NA	NA	NA	NA
	SIM Card	1 (External)	1 (External)	1 (External)	1 (External)
	M.2	NA	NA	1 (Key B)	1 (Key B)
Power	SUMIT	NA	NA	NA	NA
	Input	DC-in 9V to 36V	DC-in 12V	DC-in 9V to 36V	DC-in 12V
	Connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block
	Ignition Control	Yes	NA	NA	NA
Remote Switch	Remote Switch	Yes	NA	Yes	Yes
	Dimensions (W x L x H)	106 x 150 x 63 mm (4.2" x 5.9" x 2.5")	106 x 150 x 59 mm (4.2" x 5.9" x 2.3")	155 x 111 x 84 mm (6.1" x 4.4" x 3.3")	155 x 111 x 68 mm (6.1" x 4.4" x 2.7")
Weight	1.2 kg (2.65 lb)	0.9 kg (2.0 lb)	1.1 kg (2.43 lb)	1.1 kg (2.43 lb)	
Mounting	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail, 2U Rackmount	Wallmount, DIN Rail	Wallmount, DIN Rail	
Operating Temperature	-40°C to 75°C (-40°F to 167°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
Vibration	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	
Shock	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	
Certification	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	






# Rackmount Systems

		RMS-2000		RMS-1000	
SPC-4010	SPC-4010C	RMS-2000-G2	RMS-1000	RMS-1100	
					
Intel Atom® x7-E3950	Intel Atom® x5-E3930	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Core™ i7-8665UE	Intel® Core™ i7-8665UE	
Intel® SoC	Intel® SoC	Intel® C246	Intel® SoC	Intel® SoC	
AMI	AMI	AMI	AMI	AMI	
204-pin SO-DIMM, DDR3L 1866MHz	204-pin SO-DIMM, DDR3L 1866MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2400MHz	260-pin SO-DIMM, DDR4 2400MHz	
Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 128GB, 4 UDIMM	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM	
Intel® HD 505	Intel® HD 500	Intel® UHD 630	Intel® UHD 620	Intel® UHD 620	
Intel® I210	Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	Intel® I219LM, Intel® I210	
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E	
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	
1	1	1	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	1	1	
1 (Lockable)	1 (Lockable)	1	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	1	1	1	
NA	NA	NA	NA	NA	
2 RS-232/422/485 (Isolated)	2 RS-232/422/485	1 RS-232/422/485	2 RS-232/422/485	2 RS-232/422/485	
2 (External)	2 (External)	4 (External)	4 (External)	4 (External)	
2 (External) 2 (Internal)	2 (External) 2 (Internal)	2 (External)	NA	NA	
2 (IEEE 1588)	2 (IEEE 1588)	4	8 (6 X-coded M12)	8 (6 X-coded M12)	
NA	NA	NA	NA	NA	
NA	NA	NA	6 (X-coded)	6 (X-coded)	
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	8 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	2 SSD/HDD Tray (External)	
1	1	8	2	2	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
1 (Mini PCIe)	1 (Mini PCIe)	NA	1 (Mini PCIe)	1 (Mini PCIe)	
NA	NA	NA	NA	NA	
2	2	NA	2	2	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
1 (External)	1 (External)	NA	1 (Internal)	1 (Internal)	
NA	NA	1 Key M 2280	NA	NA	
NA	NA	NA	NA	NA	
DC-in 12V	DC-in 12V	AC-in 115V to 230V	DC-in 9V to 48V	DC-in 16V to 160V (w/4kV Isolation)	
Terminal Block	Terminal Block	3 Square Pin Plug	Terminal Block	Terminal Block	
NA	NA	NA	Yes	Yes	
Yes	Yes	NA	Yes	Yes	
155 x 111 x 44 mm (6.1" x 4.4" x 1.7")	155 x 111 x 44 mm (6.1" x 4.4" x 1.7")	437 x 533 x 89 mm (17.2" x 21.0" x 3.5")	483 x 301 x 44 mm (19.0" x 11.9" x 1.7")	483 x 301 x 44 mm (19.0" x 11.9" x 1.7")	
0.8 kg (1.84 lb)	0.8 kg (1.84 lb)	20.0 kg (44.10 lb)	4.0 kg (8.8 lb)	4.0 kg (8.8 lb)	
Wallmount, DIN Rail	Wallmount, DIN Rail	Rackmount	Rackmount	Rackmount	
-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	0°C to 40°C (32°F to 104°F)	-40°C to 70°C (-40°F to 158°F)	-40°C to 55°C (-40°F to 131°F)	
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-20°C to 75°C (-4°F to 167°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64, IEC 61373	IEC 60068-2-64, IEC 61373	
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27, IEC 61373	IEC 60068-2-27, IEC 61373	
CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	CE, FCC	CE, FCC, EN50155, EN50121-3-2	CE, FCC, EN50155, EN50121-3-2	

- 1** High-performance Fanless Systems
- 2** AI Computing Systems
- 3** 10GiE Embedded Systems
- 4** Expandable Embedded Systems
- 5** Ultra-compact Fanless Systems
- 6** Rackmount Systems
- 7** Industrial Multi-Touch Computers/Displays
- 8** Industrial Motherboards
- 9** COM Express
- 10** Embedded Peripherals

# Industrial Multi-Touch Computers

Series		MTC-9000	MTC-7000		
Model No.		MTC-9021W	MTC-7021W	MTC-7015W	MTC-7015
Product Image					
Panel	LCD Size	21.5" (16 : 9)	21.5" (16 : 9)	15.6" (16 : 9)	15.6" (4 : 3)
	Max Resolution	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	1366 x 768 (WXGA)	1024 x 768 (XGA)
	Brightness (cd/m <sup>2</sup> )	250	250	400	250
	Contrast Ratio	3000 : 1	3000 : 1	500 : 1	700 : 1
	LCD Color	16.7M	16.7M	16.7M	16.7M
	Viewing Angle (H/V)	89/89/89/89	89/89/89/89	85/85/80/80	80/80/70/70
Touch Screen	Screen Type	Projected Capacitive	Projected Capacitive	Projected Capacitive	Projected Capacitive
	Touch Type	10-point	10-point	10-point	10-point
	Interface	USB	USB	USB	USB
	7H Anti-scratch	Yes	Yes	Yes	Yes
System	CPU	Intel® Core™ i7-1185G7E/ i5-1145G7E	Intel® Core™ i7-8665UE/ i5-8365UE/i3-8145UE/ Celeron® 4305UE	Intel® Core™ i7-8665UE/ i5-8365UE/i3-8145UE/ Celeron® 4305UE	Intel® Core™ i7-8665UE/ i5-8365UE/i3-8145UE/ Celeron® 4305UE
	Memory Type	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 2400MHz	260-pin SO-DIMM, DDR4 2400MHz	260-pin SO-DIMM, DDR4 2400MHz
	Memory Capacity	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM
	Display	2 DisplayPort	1 DVI-D, 1 DisplayPort	1 DVI-D, 1 DisplayPort	1 DVI-D, 1 DisplayPort
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Storage	SATA III	1	1	1	1
	CFast	NA	NA	NA	NA
	mSATA	NA	1 (Full-size Mini PCIe)	1 (Full-size Mini PCIe)	1 (Full-size Mini PCIe)
External I/O	Serial	2 RS-232/422/485	2 RS-232/422/485	2 RS-232/422/485	2 RS-232/422/485
	USB 3.0	2	4	4	4
	USB 2.0	2	NA	NA	NA
	GigE LAN	2 (1-port 2.5G)	2	2	2
	PoE LAN	NA	NA	NA	NA
	Audio	NA	NA	NA	NA
	Isolated DIO	NA	NA	NA	NA
	GPIO	NA	NA	NA	NA
Expansion	Others	2.5" SSD/HDD Kit (External)	1 SSD/HDD Kit (External)	1 SSD/HDD Kit (External)	1 SSD/HDD Kit (External)
	Mini PCIe	NA	2	2	2
Power	SIM Card	1	1 (Internal)	1 (Internal)	1 (Internal)
	Input	DC-in 9-55V	DC-in 9V to 48V	DC-in 9V to 48V	DC-in 9V to 48V
	Ignition Control	Yes (SW IGN)	NA	NA	NA
Remote Switch	Yes	NA	NA	NA	
Dimensions (W x H x L)		537 x 329 x 77.1 mm (21.2" x 12.9" x 3.1")	538 x 329 x 77 mm (21.2" x 13.0" x 3.0")	392 x 242 x 66 mm (15.4" x 9.5" x 2.6")	361 x 278 x 77 mm (14.2" x 10.9" x 3.0")
Weight		6.35 kg (13.99 lb)	6.35 kg (13.99 lb)	3.6 kg (7.94 lb)	4.1 kg (9.04 lb)
Front Panel Protection		IP65 Compliant	IP65 Compliant	IP65 Compliant	IP65 Compliant
Mounting		VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount
Operating Temperature		-5°C to 55°C (-23°F to 131°F)	-5°C to 55°C (-23°F to 131°F)	-5°C to 55°C (-23°F to 131°F)	-5°C to 55°C (-23°F to 131°F)
Storage Temperature		-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
EMC		CE, FCC	CE, FCC	CE, FCC	CE, FCC

		MTC-8000				
MTC-7010W	MTC-8021W	MTC-8015W	MTC-8015	MTC-8010W		
						
10.1" (16 : 10)	21.5" (16 : 9)	15.6" (16 : 9)	15" (4 : 3)	10.1" (16 : 10)		
1280 x 800 (WSVGA)	1920 x 1080 (Full HD)	1366 x 768 (WXGA)	1024 x 768 (XGA)	1280 x 800 (WSVGA)		
300	250	400	250	300		
1300 : 1	3000 : 1	500 : 1	700 : 1	1300 : 1		
262K	16.7M	16.7M	16.7M	262K		
85/85/85/85	89/89/89/89	85/85/80/80	80/80/70/70	85/85/85/85		
Projected Capacitive	Projected Capacitive	Projected Capacitive	Projected Capacitive	Projected Capacitive		
10-point	10-point	10-point	10-point	10-point		
USB	USB	USB	USB	USB		
Yes	Yes	Yes	Yes	Yes		
Intel® Core™ i7-8665UE/ i5-8365UE/i3-8145UE/ Celeron® 4305UE	Intel Atom® x7-E3950	Intel Atom® x7-E3950	Intel Atom® x7-E3950	Intel Atom® x7-E3950		
260-pin SO-DIMM, DDR4 2400MHz	204-pin SO-DIMM, DDR3L 1866MHz	204-pin SO-DIMM, DDR3L 1866MHz	204-pin SO-DIMM, DDR3L 1866MHz	204-pin SO-DIMM, DDR3L 1866MHz		
Max 32GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM		
1 DVI-D, 1 DisplayPort	1 VGA, 1 HDMI	1 VGA, 1 HDMI	1 VGA, 1 HDMI	1 VGA, 1 HDMI		
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux		
1	1	1	1	1		
NA	NA	NA	NA	NA		
1 (Full-size Mini PCIe)	1 (Full-size Mini PCIe)	1 (Full-size Mini PCIe)	1 (Full-size Mini PCIe)	1 (Full-size Mini PCIe)		
2 RS-232/422/485	2 RS-232/422/485	2 RS-232/422/485	2 RS-232/422/485	2 RS-232/422/485		
4	2	2	2	2		
NA	2	2	2	2		
2	2	2	2	2		
NA	NA	NA	NA	NA		
NA	NA	NA	NA	NA		
NA	NA	NA	NA	NA		
NA	NA	NA	NA	NA		
1 SSD/HDD Kit (External)	1 SSD/HDD Kit (External)	1 SSD/HDD Kit (External)	1 SSD/HDD Kit (External)	1 SSD/HDD Kit (External)		
2	2	2	2	2		
1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)	1 (Internal)		
DC-in 9V to 48V	DC-in 9V to 36V	DC-in 9V to 36V	DC-in 9V to 36V	DC-in 9V to 36V		
NA	NA	NA	NA	NA		
NA	NA	NA	NA	NA		
256.5 x 178.3 x 69.1 mm (10.1" x 7.0" x 2.7")	538 x 329 x 77 mm (21.2" x 13" x 3.0")	392 x 242 x 66 mm (15.4" x 9.5" x 2.6")	361 x 278 x 77 mm (14.2" x 10.9" x 3.0")	256.5 x 178.3 x 69.1 mm (10.1" x 7.0" x 2.7")		
1.85 kg (4.08 lb)	6.35 kg (13.99 lb)	3.6 kg (7.94 lb)	4.1 kg (9.04 lb)	1.85 kg (4.08 lb)		
IP65 Compliant	IP65 Compliant	IP65 Compliant	IP65 Compliant	IP65 Compliant		
VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount		
-5°C to 55°C (-23°F to 131°F)	-10°C to 60°C (-14°F to 140°F)	-10°C to 60°C (-14°F to 140°F)	-10°C to 60°C (-14°F to 140°F)	-10°C to 60°C (-14°F to 140°F)		
-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)		
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing		
IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64		
IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27		
CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC		

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GigE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems



**7**  
Industrial Multi-  
Touch Computers/  
Displays

**8**  
Industrial  
Motherboards






**9**  
COM  
Express

**10**  
Embedded  
Peripherals

# Industrial Multi-Touch Computers





Series		MTC-1000	STC-6000
Model No.		MTC-1010W	STC-6015
Product Image			
Panel	LCD Size	10.1" (16 : 10)	15" (4 : 3)
	Max Resolution	1280 x 800 (WSVGA)	1024 x 768
	Brightness (cd/m <sup>2</sup> )	350	250
	Contrast Ratio	800:1	700 : 1
	LCD Color	16.7M	262k
	Viewing Angle (H/V)	85/85/85/85	80/80/70/70
Touch Screen	Screen Type	Projected Capacitive	Projected Capacitive
	Touch Type	10-point	10-point
	Interface	USB	USB
	7H Anti-scratch	Yes	Yes
System	CPU	Intel Atom® x7-E3950	Intel® Core™ i7-6600U
	Memory Type	204-pin SO-DIMM, DDR3L 1866MHz	260-pin SO-DIMM, DDR4 2133
	Memory Capacity	Max 8GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM
	Display	1 VGA, 1 HDMI	NA
	OS Support	Windows 10, Linux	Windows 10, Linux
Storage	SATA III	1	1
	CFast	NA	NA
	mSATA	1 (Full-size Mini PCIe)	1
External I/O	Serial	1 RS-232/422/485	2 RS-232/422/485
	USB 3.0	2	NA
	USB 2.0	2	1 2-port M12 A-coded
	GigE LAN	2	1 2-port M12 X-coded
	PoE LAN	NA	NA
	Audio	NA	NA
	Isolated DIO	NA	NA
	GPIO	NA	NA
	Others	1 SSD/HDD Kit (External)	2.5" SSD/HDD Kit (External)
Expansion	Mini PCIe	2	2
	SIM Card	1 (Internal)	2
Power	Input	DC-in 9V to 36V	DC-in 9-36V
	Ignition Control	NA	Yes
	Remote Switch	NA	Yes
Dimensions (W x H x L)		256.5 x 178.3 x 47.1mm (10.1" x 7.0" x 1.9")	386 x 320 x 72.3 mm (15.2" x 12.6" x 2.85")
Weight		1.5 kg (3.31 lb)	9 kg (19.8 lb)
Front Panel Protection		N/A	IP66 Compliant
Mounting		VESA Mount, Panel Mount	VESA Mount, Panel Mount
Operating Temperature		-20°C to 60°C (-4°F to 140°F)	-5°C to 55°C (-23°F to 131°F)
Storage Temperature		-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)
Humidity		5% to 95%, non-condensing	10% to 90%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27
EMC		CE, FCC	CE, FCC

# Industrial Multi-Touch Displays


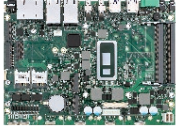
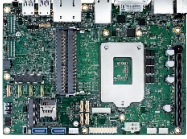
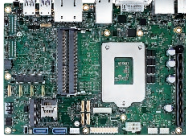

Series		MTD-6000				
Model No.		MTD-6024	MTD-6021	MTD-6019	MTD-6017	MTD-6015
Product Image						
Panel	LCD Size	24" (16 : 9)	21.5" (16 : 9)	19" (4 : 3)	17" (4 : 3)	15" (4 : 3)
	Max Resolution	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	1280 x 1024 (SXGA)	1280 x 1024	1024 x 768 (XGA)
	Brightness (cd/m <sup>2</sup> )	250	250	250	250	250
	Contrast Ratio	3000 : 1	3000 : 1	1,000 : 1	1,000 : 1	600 : 1
	LCD Color	16.7M	16.7M	16.7M	16.7M	16.7M
	Viewing Angle (H/V)	89/89/89/89	89/89/89/89	85/85/80/80	85/85/80/80	80/80/70/70
Touch Screen	Screen Type	Projected Capacitive	Projected Capacitive	Projected Capacitive	Projected Capacitive	Projected Capacitive
	Touch Type	10-point	10-point	10-point	10-point	10-point
	Interface	USB	USB	USB	USB	USB
	7H Anti-scratch	Yes	Yes	Yes	Yes	Yes
System	CPU	NA	NA	NA	NA	NA
	Memory Type	NA	NA	NA	NA	NA
	Memory Capacity	NA	NA	NA	NA	NA
	Display	1 VGA, 1 DVI-D	1 VGA, 1 DVI-D	1 VGA, 1 DVI-D	1 VGA, 1 DVI-D	1 VGA, 1 DVI-D
	OS Support	Windows 10, Windows 7, Linux	Windows 10, Windows 7, Linux	Windows 10, Windows 7, Linux	Windows 10, Windows 7, Linux	Windows 10, Windows 7, Linux
Storage	SATA III	NA	NA	NA	NA	NA
	CFast	NA	NA	NA	NA	NA
	mSATA	NA	NA	NA	NA	NA
External I/O	Serial	NA	NA	NA	NA	NA
	USB 3.0	NA	NA	NA	NA	NA
	USB 2.0	NA	NA	NA	NA	NA
	GigE LAN	NA	NA	NA	NA	NA
	PoE LAN	NA	NA	NA	NA	NA
	Audio	Mic-in	Mic-in	Mic-in	Mic-in	Mic-in
	Isolated DIO	NA	NA	NA	NA	NA
	GPIO	NA	NA	NA	NA	NA
Expansion	Others	Internal speakers Type A USB for enable touch	Internal speakers Type A USB for enable touch	Internal speakers Type A USB for enable touch	Internal speakers Type A USB for enable touch	Internal speakers Type A USB for enable touch
	Mini PCIe	NA	NA	NA	NA	NA
	SIM Card	NA	NA	NA	NA	NA
Power	Input	DC-in 12V	DC-in 12V	DC-in 12V	DC-in 12V	DC-in 12V
	Ignition Control	NA	NA	NA	NA	NA
	Remote Switch	NA	NA	NA	NA	NA
Dimensions (W x H x L)		576.9 x 345.9 x 54 mm (22.7" x 13.6" x 2.1")	360.9 x 277.8 x 54 mm (14.2" x 10.9" x 2.1")	425.5 x 350.5 x 54 mm (16.7" x 13.8" x 2.1")	392.4 x 324.7 x 54 mm (15.4" x 12.7" x 2.1")	360.9 x 277.8 x 54 mm (14.2" x 10.9" x 2.1")
Weight		8.3 kg(18.30lb)	5.8 kg (12.79 lb)	5.5 kg (12.13 lb)	4.7 kg (10.36 lb)	3.5 kg (7.72 lb)
Front Panel Protection		IP65 Compliant	IP65 Compliant	IP65 Compliant	IP65 Compliant	IP65 Compliant
Mounting		VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount	VESA Mount, Panel Mount
Operating Temperature		0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F to 122°F)
Storage Temperature		-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)
Humidity		5% to 90%, non-condensing	5% to 90%, non-condensing	5% to 90%, non-condensing	5% to 90%, non-condensing	5% to 90%, non-condensing
Vibration		IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64	IEC 60068-2-64
Shock		IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27	IEC 60068-2-27
EMC		CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC

- 1 High-performance Fanless Systems
- 2 AI Computing Systems
- 3 10GigE Embedded Systems
- 4 Expandable Embedded Systems
- 5 Ultra-compact Fanless Systems
- 6 Rackmount Systems
- 7 Industrial Multi-Touch Computers/Displays
- 8 Industrial Motherboards
- 9 COM Express
- 10 Embedded Peripherals

# Industrial Motherboards

Series		Pico-ITX	3.5" Single Board Computer		
Model No.		EPBC-1000	EMBC-5000	EMBC-3000	EMBC-2000
Product Image					
System	CPU	Intel Atom® x6211E	Intel® Core™ i7-1185G7E/ i5-1145G7E	Intel® Core™ i7-8665UE/ i5-8365UE/i3-8145UE/ Celeron® 4305UE	Intel® Atom® x7-E3950
	Chipset	Intel® SoC	Intel® SoC	Intel® SoC	Intel® SoC
	BIOS	AMI	AMI	AMI	AMI
	Memory Type	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 3200MHz	260-pin SO-DIMM, DDR4 2400MHz	204-pin SO-DIMM, DDR3L 1866MHz
	Memory Capacity	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM	Max 32GB, 1 SO-DIMM	Max 8GB, 1 SO-DIMM
	Super I/O	IT8659E	IT8786E	IT8786E	IT8786E
	OS Support	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux
Display	Graphics Engine	Intel® UHD Graphics for 10th Gen Intel® Processors	Intel® Iris®X <sup>e</sup> Graphics	Intel® UHD 620	Intel® HD 505
	4K Resolution	Yes	Yes	Yes	Yes
	VGA	NA	NA	NA	1
	DVI-D	NA	1	1	NA
	HDMI	NA	NA	NA	1
	LVDS	NA	1	1	1
	DisplayPort	1	1	1	NA
Ethernet	LAN 1	Realtek RTL8119I	Intel® I219LM	Intel® I219LM	Intel® I210
	LAN 2	Realtek RTL8119I	Intel® I210	Intel® I210	Intel® I210
	LAN 3	NA	NA	NA	NA
	LAN 4	NA	NA	NA	NA
	Connector	2 RJ45	2 RJ45	2 RJ45	2 RJ45
Audio	Codec	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD
	Connector	1 Mic-in and Line-out Header	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out
Storage	SATA III	1	2	2	1
	mSATA	NA	1 (Mini PCIe)	1 (Mini PCIe)	1 (Mini PCIe)
	M.2	1 M.2 Key B (2280, shared)	1 M.2 Key B 2260 Socket	NA	NA
I/O Interface	Serial	1 RS-232/422/485 1 RS-232	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485 (2 w/Isolated)
	USB 3.0/3.1/3.2	2	4	4	2
	USB 2.0	2	2	2	4
	PS2 KB/MS	NA	1	1	1
	GPIO	8 GPIO	NA	NA	16 GPIO
	Expansion	Mini PCIe	NA	2	2
PCIe Slot		NA	NA	NA	NA
PCI Slot		NA	NA	NA	NA
SIM Card		1	1	1	1
SUMIT		NA	2 (Optional)	2 (Optional)	NA
M.2		1 M.2 Key B (3052, shared) 1 M.2 Key E (2230)	1 M.2 Key B Socket (3042/3052) 1 M.2 Key E Socket (2230)	NA	NA
Power	Input	DC-in 12V	DC-in 9V to 55V	DC-in 9V to 48V	DC-in 12V (Optional 9V to 36V)
	Connector	Wafer 2-pin	ATX 4-pin	ATX 4-pin	ATX 4-pin
	Ignition	NA	Yes	Yes	NA
Dimensions (W x L)		100 x 72 mm (3.9 x 2.8")	146 x 102 mm (5.75" x 4.02")	146 x 102 mm (5.75" x 4.02")	146 x 102 mm (5.75" x 4.02")
Operating Temperature		-40°C to 75°C (-40°F to 167°F)	-40°C to 75°C (-40°F to 167°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 75°C (-40°F to 167°F)
Storage Temperature		-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Humidity		5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing
Certification		CE, FCC	CE, FCC	CE, FCC	CE, FCC



	5.25" Single Board Computer				Micro-ATX
EMBC-2000C	EXBC-2000	EXBC-1000	EXBC-1100	UMBC-1100	
					
Intel® Atom® x7-E3950	Intel® Core™ i7-8665UE/ i3-8145UE	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	Intel® Xeon®/Core™ i7/i5/i3 Processor (CFL-R S/CFL-S)	
Intel® SoC	Intel® SoC	Intel® H310	Intel® C246	Intel® C246	
AMI	AMI	AMI	AMI	AMI	
204-pin SO-DIMM, DDR3L 1866MHz	260-pin SO-DIMM, DDR4 2400MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin SO-DIMM, DDR4 2666MHz	260-pin UDIMM, DDR4 2666MHz	
Max 8GB, 1 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 64GB, 2 SO-DIMM	Max 128GB, 4 UDIMM	
IT8786E	IT8786E	IT8786E	IT8786E	IT8786E	
Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	Windows 10, Linux	
Intel® HD 505	Intel® UHD 620	Intel® UHD 630	Intel® UHD 630	Intel® UHD 630	
Yes	Yes	Yes	Yes	Yes	
1	NA	NA	NA	1	
NA	NA	1	1	NA	
1	NA	NA	NA	1	
1	1	1	1	NA	
NA	2	2	2	1	
Intel® I210	Intel® I350	Intel® I219LM	Intel® I219LM	Intel® I219LM	
Intel® I210	Intel® I350	Intel® I210	Intel® I210	Intel® I211	
NA	Intel® I350 PoE+	Intel® I210	Intel® I210	Intel® I211	
NA	Intel® I350 PoE+	Intel® I210	Intel® I210	Intel® I211	
2 RJ45	4 RJ45	4 RJ45	4 RJ45	4 RJ45	
Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	Realtek ALC888S-VD	
1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	1 Mic-in, 1 Line-out	
1	NA	2	2	8	
1 (Mini PCIe)	NA	1 (Mini PCIe)	1 (Mini PCIe)	NA	
NA	- 1 Key B 2280 - 1 Key M 2280	NA	NA	NA	
2 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	4 RS-232/422/485	5 RS-232/422/485	
2	4	4	4	6	
4	NA	2	2	4	
1	NA	1	1	NA	
16 GPIO	16 GPIO	16 GPIO	16 GPIO	16 GPIO	
2	1	2	2	NA	
NA	NA	1 PCIe x16	1 (PCIe x16/PCIe x4/PCIe x1/USB 2.0)	1 PCIe x16, 2 PCIe x4	
NA	NA	NA	NA	NA	
1	2	1	1	NA	
NA	NA	NA	2 (Optional)	NA	
NA	- 1 Key B 3042/3052 - 1 Key Key E 2230	NA	NA	1 Key M 2280	
DC-in 12V (Optional 9V to 36V)	DC-in 9V to 50V	DC-in 12V	DC-in 12V	12V/5V/5VSB/3.3V	
ATX 4-pin	ATX 4-pin	ATX 4-pin	ATX 4-pin	ATX 24-pin, ATX 8-pin	
NA	Yes	NA	NA	NA	
146 x 102 mm (5.75" x 4.02")	203 x 146 mm (8.0" x 5.8")	203 x 146 mm (8.0" x 5.8")	203 x 146 mm (8.0" x 5.8")	244 x 244 mm (9.6" x 9.6")	
-40°C to 75°C (-40°F to 167°F)	-40°C to 85°C (-40°F to 185°F)	-25°C to 60°C (-13°F to 140°F)	-25°C to 60°C (-13°F to 140°F)	-0°C to 60°C (-32°F to 140°F)	
-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)	
5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	5% to 95%, non-condensing	
CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	

**1**  
High-performance  
Fanless Systems

**2**  
AI Computing  
Systems

**3**  
10GiGE  
Embedded  
Systems

**4**  
Expandable  
Embedded  
Systems

**5**  
Ultra-compact  
Fanless Systems

**6**  
Rackmount  
Systems


**7**  
Industrial Multi-  
Touch Computers/  
Displays

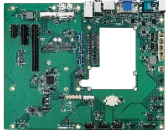
**8**  
Industrial  
Motherboards

**9**  
COM  
Express

**10**  
Embedded  
Peripherals

# COM Express

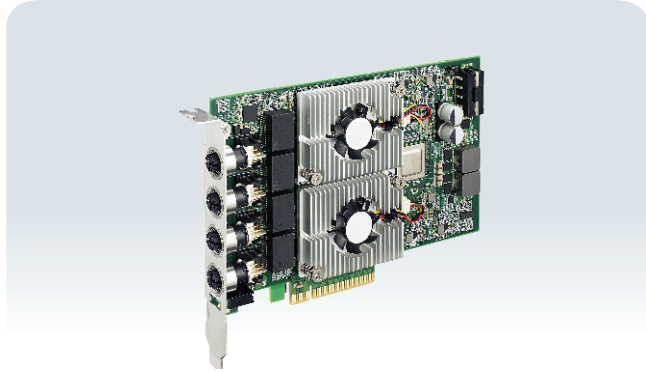
Model No.		VCOM-1600
Product Image		
Form Factor	Module Interface	PICMG® COM Express® Revision 2.0
	Module Type	Type 6, Compact form factor
System	CPU	Intel Atom® x6000E
	Chipset	Intel® SoC
	BIOS	AMI
	Memory Type	260-pin SO-DIMM, DDR4 3200
	Memory Capacity	Max 64GB, 1 SO-DIMM
	Super I/O	IT8786E
	OS Support	Windows 10, Linux
Display	Graphics Engine	UHD Graphics
	4K Resolution	2 DDI
	VGA	1
	DVI-D	NA
	HDMI	NA
	LVDS	1
	DisplayPort	Optional
Ethernet	LAN 1	2.5G
	Connector	NA
Audio	Codec	On Carrier board
	Connector	NA
Storage	SATA III	2
	mSATA	NA
	M.2	NA
	SD Card	1
I/O Interface	Serial	2 UART
	USB 3.0/3.1/3.2	Optional 4 (to RAW C/D)
	USB 2.0	8 (to RAW A/B)
	GPIO	8 (to RAW A/B)
Expansion	Mini PCIe	NA
	PCIe Slot	- 4 PCIe x1 (configurable, to RAW A/B) - 1 PCIe x1 (to RAW A/B) - 1 PCIe x16 (to RAW C/D)
	PCI Slot	NA
Power	Input	NA
	Connector	RAW A/B/C/D
Dimensions (W x L)		95 x 95 mm (3.74" x 3.74")
Operating Temperature		-25°C to 60°C (-13°F to 147°F)
Storage Temperature		-25°C to 85°C (-13°F to 185°F)
Humidity		5% to 95%, non-condensing
Certification		CE, FCC

Model No.		VCOM-BASE
Product Image		
Form Factor	Support Core Module	PICMG® COM Express® Revision 2.0, Type 6
	Carrier Board	ATX Form Factor
Display	VGA	1
	DVI-D	1
	HDMI	NA
	LVDS	1
	DisplayPort	2
Ethernet	LAN 1	On COM module
	Connector	1
Audio	Codec	Realtek ALC888S-VD
	Connector	1 Line-in, 1 Line-out, 1 Mic-out
Storage	SATA III	3
	mSATA	1
	M.2	Key B 2280
I/O Interface	Serial	2 DB9
	USB 3.0/3.1/3.2	4
	USB 2.0	2
	GPIO	8 (Header)
Expansion	Mini PCIe	1
	PCIe Slot	- 1 PCIe x1 - 1 PCIe x4 - 1 PCIe x16
	PCI Slot	NA
	SIM Card	2
	SUMIT	NA
	M.2	1 Key B (3042) 1 Key E (2230)
	Internal I/O	I/O
Power	Input	ATX: 12V±5% / 5Vsb ±5%; or AT: 12V±5%
	Connector	ATX Power Connector
Dimensions (W x L)		244 x 305 mm (9.61" x 12.01")
Operating Temperature		-25°C to 60°C (-13°F to 147°F)
Storage Temperature		-25°C to 85°C (-13°F to 185°F)
Humidity		5% to 95%, non-condensing
Certification		CE, FCC

## PCIe Card

# PE-8004MX (M12)

4-port X-coded M12 10GigE PoE+ Card



## Features

- 4-port Independent 10GigE LAN
- PCI Express x8 interface
- Power over Ethernet (PoE+), rugged X-coded M12 connectors, up to 25.5W Power Output at 48V DC per port
- 0°C to 50°C Operating Temperature



## Specifications

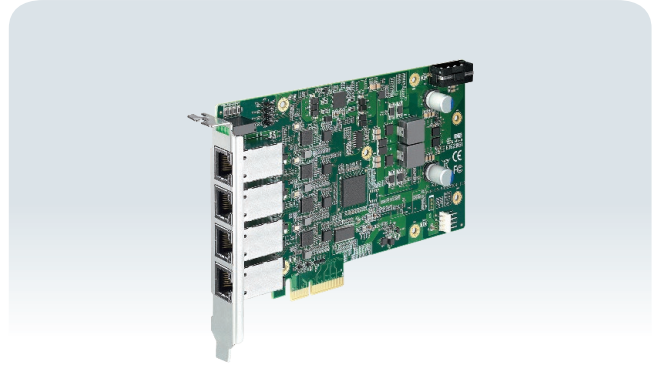
Ethernet	
Power Requirement	PCI Express x8
LAN Controller	Intel® Ethernet Controller X710-AT2
LAN Controller Qty	2
Data Rate	10Gbps/*5Gbps/*2.5Gbps/1Gbps/100Mbps (*Linux only)
Number of Port	4
Connector	8-pin X-coded M12 Connector
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ Up to 25.5W Power Output @48V DC per port</li> <li>▪ 4 LED for PoE On/Off Mode</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimensions (W x L)	168mm x 105mm (6.6" x 4.1")
Bracket	Full height
Environment	
Operating Temperature	0°C to 50°C with fan (32°F to 122°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-8004MX	4-port 10GigE PoE+ M12 X-coded LAN Card with Intel® X710-AT2 Controllers
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# PE-6004

4-port 2.5GigE PoE+ Card



## Features

- 4-port independent 2.5GigE LAN
- PCI Express x4 interface
- Power over Ethernet (PoE+), up to 25.5W Power Output at 48V DC per port
- -25°C to 60°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller I225-LM
Controller Qty	4
Data Rate	2.5Gbps/1Gbps/100Mbps/10Mbps
Number of Port	4
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 4 RJ45 Connector</li> <li>▪ 4 LED for PoE On/Off Mode</li> <li>▪ Up to 25.5W Power Output at 48V DC per port</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimension (W x L)	167.7mm x 111.1mm (6.60" x 4.38")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 60°C with air flow (-40°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-6004	Intel® I225 4-CH PCI Express Card with 2.5GigE PoE+
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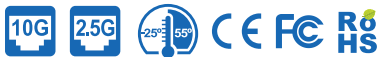
# PE-5004

4-port 10GigE PoE\* Card



## Features

- 4-port independent 10GigE PoE\* LAN
- PCI Express x8 interface
- Power over Ethernet (PoE\*), up to 25.5W Power Output at 48V DC per port
- -25°C to 55°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x8
Controller	Intel® Ethernet Controller XL710
Controller Qty	1
PHY	Intel® X557
PHY Qty	1
Data Rate	10Gbps/1Gbps/100Mbps
Number of Port	4
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 4 RJ45 Connector</li> <li>▪ 4 LED for PoE On/Off Mode</li> <li>▪ Up to 25.5W Power Output at 48V DC per port</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimensions (W x L)	168mm x 111mm (6.6" x 4.4")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 55°C with air flow (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-5004	Intel® XL710 4-CH PCI Express Card with 10GigE PoE*
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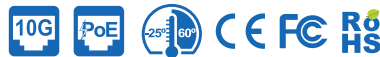
# PE-5002

2-port 10GigE PoE\* Card



## Features

- 2-port independent 10GigE PoE\* LAN
- PCI Express x4 interface
- Power over Ethernet (PoE\*), up to 25.5W Power Output at 48V DC per port
- -25°C to 60°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller X550-AT2
Controller Qty	1
Data Rate	10Gbps/*5Gbps/*2.5Gbps/1Gbps/100Mbps (*Linux only)
Number of Port	2
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 2 RJ45 Connector</li> <li>▪ 2 LED for PoE On/Off Mode</li> <li>▪ Up to 25.5W Power Output at 48V DC per port</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimension (W x L)	168mm x 111mm (6.6" x 4.4")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 60°C with air flow (-40°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-5002	Intel® X550-AT2 2-CH PCI Express Card with 10GigE PoE*
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1 High-performance Fanless Systems

2 AI Computing Systems

3 10GigE Embedded Systems

4 Expandable Embedded Systems

5 Ultra-compact Fanless Systems

6 Rackmount Systems

7 Industrial Multi-Touch Computers/Displays

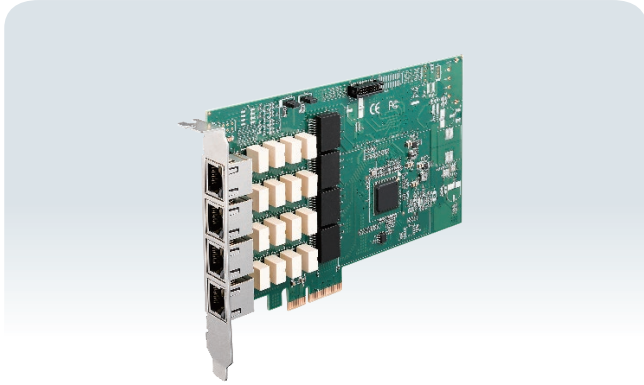
8 Industrial Motherboards

9 COM Express

10 Embedded Peripherals

# PE-3014

4-port Gigabit LAN Bypass Card



## Features

- 4-port Independent Gigabit Ethernet
- All-in-one, fully-integrated single-chip GigE switching solution with lower power consumption
- Supports dual hardware LAN Bypass mode
- Optional supports rugged M12 connections
- -25°C to 70°C Operating Temperature



## Specifications

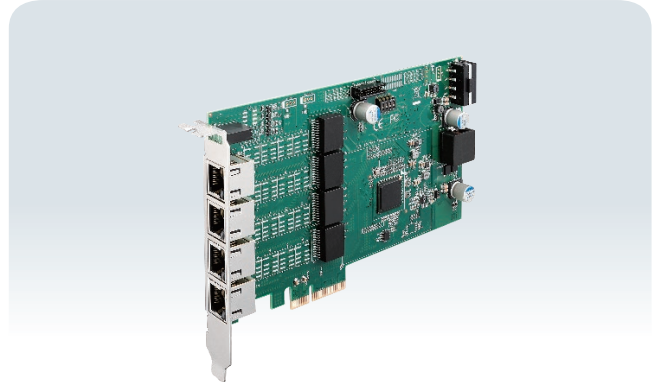
Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller I350
Controller Qty	1
Data Rate	10/100/1000 Mbps
Number of Port	4
Connector	<ul style="list-style-type: none"> <li>▪ 8-pin RJ45</li> <li>▪ A-coded M12 (Optional)</li> </ul>
Jumbo Frame	Up to 9728 byte
Link Aggregation (LAG)	Present
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-3014	Intel® I350 4-CH PCI Express Card with advanced 2-pair LAN Bypass
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# PE-3004

4-port Gigabit PoE+ Card



## Features

- 4-port Independent Gigabit Ethernet
- Power over Ethernet (PoE+), up to 25.5W Power Output at 48V DC per port
- Optional supports rugged M12 connections
- -25°C to 70°C Operating Temperature



## Specifications

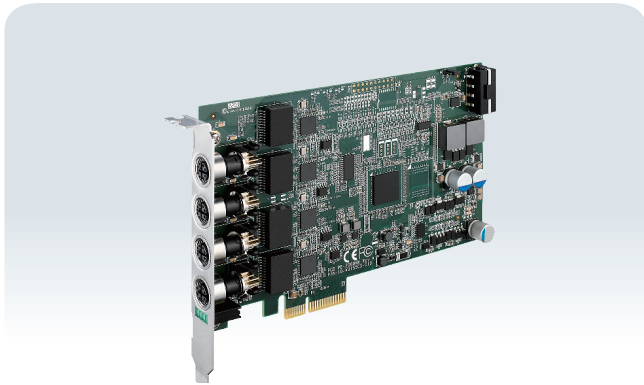
Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller I350
Controller Qty	1
Data Rate	10/100/1000 Mbps
Number of Port	4
Connector	<ul style="list-style-type: none"> <li>▪ 8-pin RJ45</li> <li>▪ A-coded M12 (Optional)</li> </ul>
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 4 RJ45 PoE Port</li> <li>▪ 4 A-coded M12 PoE Port (Optional)</li> <li>▪ Up to 25.5W Power Output at 48V DC per port</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimension (W x L)	168mm x 121mm (6.6" x 4.8")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-3004	Intel® I350 4-CH PCI Express Card with PoE+
---------	---

# PE-2004MX (M12)

4-port X-coded M12 GigE PoE+ Card



## Features

- 4 independent GigE LAN
- PCI Express x4 interface
- Power over Ethernet (PoE+), rugged X-coded M12 connectors, up to 25.5W Power Output at 48V DC per port
- -25°C to 70°C Operating Temperature



## Specifications

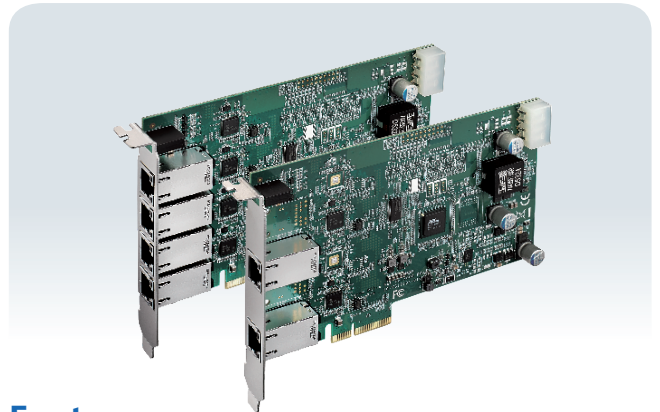
Ethernet	
Power Requirement	PCI Express x4
LAN Controller	Intel® Ethernet Controller I210
LAN Controller Qty	4
Data Rate	1Gbps/ 100 /10 Mbps
Number of Port	4
Connector	8-pin X-coded M12 Connector
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ Up to 25.5W Power Output @48V DC per port</li> <li>▪ 4 LED for PoE On/Off Mode</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimensions (W x L)	168mm x 105mm (6.6" x 4.1")
Bracket	Full height
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

PE-2004MX	4-port GigE PoE+ M12 X-coded LAN Card with Intel® I210 Controllers
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# PE-2002/2004

2/ 4-port GigE PoE+ Card



## Features

- 2/ 4 Independent Gigabit LAN
- PCI Express x4 Interface
- Power over Ethernet (PoE+), Up to 25.5W Power Output at 48V DC per port
- -25°C to 70°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x4
Controller	<ul style="list-style-type: none"> <li>▪ 2 Intel® I210 Gigabit LAN (PE-2002)</li> <li>▪ 4 Intel® I210 Gigabit LAN (PE-2004)</li> </ul>
Data Rate	10/ 100/ 1000 Mbps (Vary by attached Ethernet device)
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 2 PoE ports, up to 25.5W Power Output at 48V DC per port (PE-2002)</li> <li>▪ 4 PoE ports, up to 25.5W Power Output at 48V DC per port (PE-2004)</li> </ul>
Power Connector	1 4-pin 12V Power Connector
DIO	16 Isolated DIO : 8 DI, 8 DO (Optional)
Mechanical	
Dimension (W x D x H)	168mm x 121mm x 21mm (6.6" x 4.8" x 0.8")
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)

## Order Information

PE-2004	Intel® I210 4-CH PCI Express PoE+ Card
PE-2002	Intel® I210 2-CH PCI Express PoE+ Card

1 High-performance Fanless Systems

2 AI Computing Systems

3 10GigE Embedded Systems

4 Expandable Embedded Systems

5 Ultra-compact Fanless Systems

6 Rackmount Systems

7 Industrial Multi-Touch Computers/ Displays

8 Industrial Motherboards

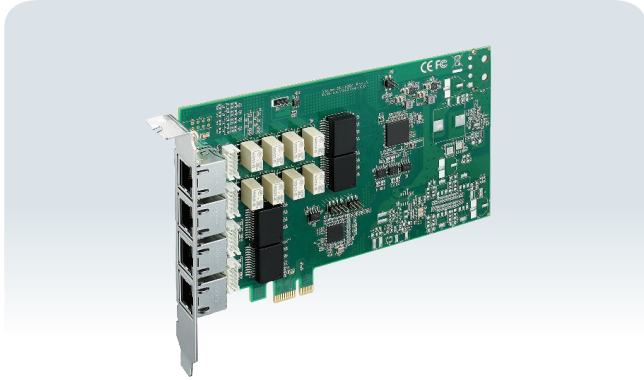
9 COM Express

10 Embedded Peripherals



# SE-1014

4-port RJ45 LAN Switch Card with LAN Bypass



## Features

- Full-featured LAN functions, up to 1000Mbps data rate
- All-in-one, fully-integrated single-chip GigE switching solution with lower power consumption
- Supports hardware LAN Bypass mode
- -40°C to 85°C Operating Temperature



## Specifications

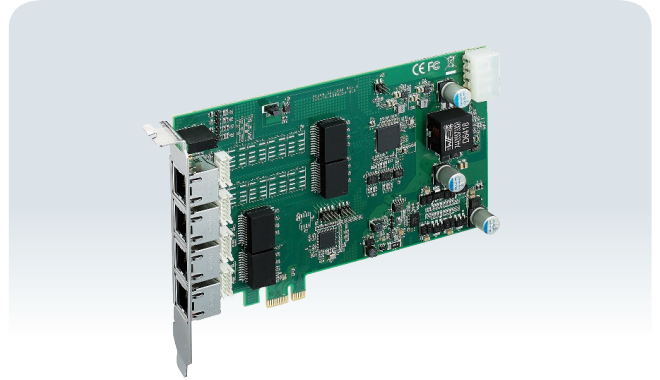
Ethernet	
Interface	PCI Express x1
Controller	Intel® Ethernet Controller I210
Controller Qty	1
Data Rate	10/100/1000 Mbps
Number of Port	4
Connector	8-pin RJ45
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Bracket	Full height
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

SE-1014	4-port RJ45 PCI Express LAN Switch Card with advanced LAN Bypass
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# SE-1004

4-port RJ45 LAN Switch Card with PoE\*



## Features

- Full-featured LAN functions, up to 1000Mbps data rate
- IEEE 802.3at Power over Ethernet (PoE\*) compliant
- All-in-one, fully-integrated single-chip GigE switching solution with lower power consumption
- -40°C to 85°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x1
Controller	Intel® Ethernet Controller I210
Controller Qty	1
Data Rate	10/100/1000 Mbps
Number of Port	4
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Output	<ul style="list-style-type: none"> <li>▪ 4 RJ45 PoE Port</li> <li>▪ Up to 25.5W Power Output at 48V DC per port</li> </ul>
Power Connector	1 4-pin 12V Power Connector
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Bracket	Full height
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

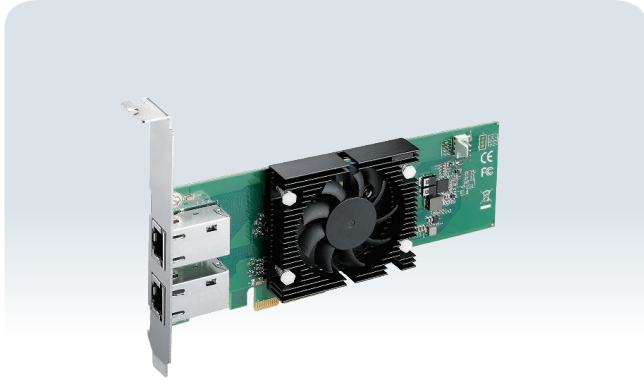
## Order Information

SE-1004	4-port RJ45 PCI Express LAN Switch Card with PoE*
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# LE-1055

Low Profile 2-port 10 GigE LAN Card



## Features

- 10Gbps data rate
- IEEE 802.3an Fast Ethernet standard compliant
- Low Profile and Full Height form factors available
- -40°C to 55°C Operating Temperature



## Specifications

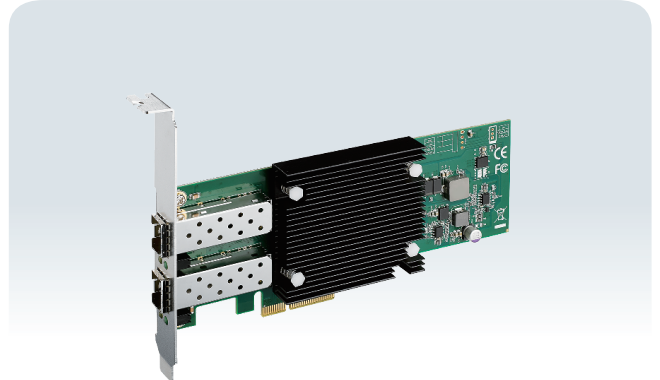
Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller X550-AT2
Controller Qty	2
Data Rate	10Gbps/5Gbps/2.5Gbps/1Gbps/100Mbps
Number of Port	2
Connector	8-pin RJ45
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8", PCIe low profile)
Bracket	<ul style="list-style-type: none"> <li>▪ Full height</li> <li>▪ Low profile (Optional)</li> </ul>
Environment	
Operating Temperature	-40°C to 55°C (-40°F to 131°F, with Fan)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

LE-1055	2-port 10 GigE LAN Card with Intel® X550-AT2 Controllers
---------	--

# FE-1071

Low Profile 2-port 10 GigE SFP+ Card



## Features

- 10Gbps data rate
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- Low Profile and Full Height form factors available
- -40°C to 55°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x4
Controller	Intel® Ethernet Controller X710-BM2
Controller Qty	2
Data Rate	10Gbps
Number of Port	2
Connector	SFP+
Mechanical	
Dimensions (W x L)	168mm x 64mm (6.6" x 2.5", PCIe low profile)
Bracket	<ul style="list-style-type: none"> <li>▪ Full height</li> <li>▪ Low profile (Optional)</li> </ul>
Environment	
Operating Temperature	-40°C to 55°C (-40°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

FE-1071	2-port 10 GigE SFP+ LAN Card with Intel® X710-BM2 Controllers
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1 High-performance Fanless Systems

2 AI Computing Systems

3 10GigE Embedded Systems

4 Expandable Embedded Systems

5 Ultra-compact Fanless Systems

6 Rackmount Systems

7 Industrial Multi-Touch Computers/Displays

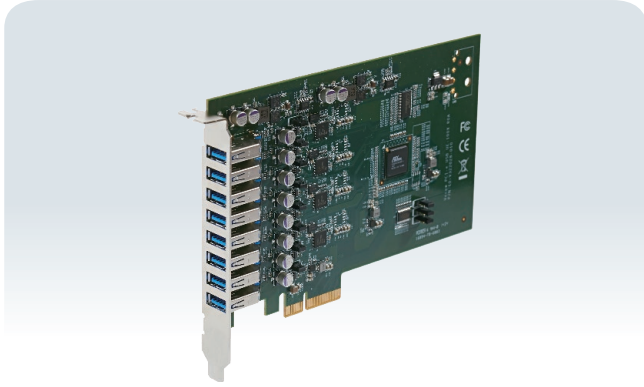
8 Industrial Motherboards

9 COM Express

10 Embedded Peripherals

# UE-1008

8-port USB Card



## Features

- 4 Independent USB 3.0 controllers
- 8 USB 3.0 ports
- PCI Express x4 Interface



## Specifications

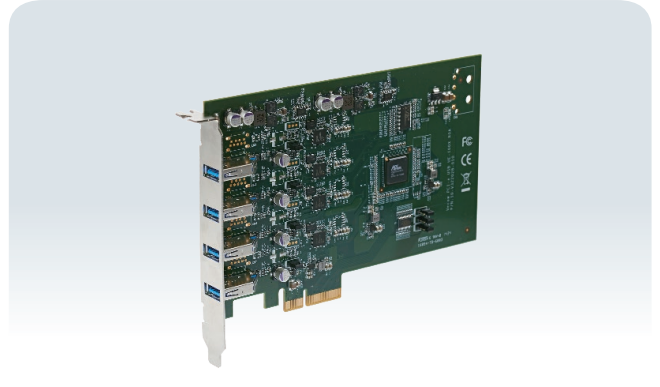
Ethernet	
Interface	PCI Express x4
Controller	4 Renesas $\mu$ PD720202 Host Controller
Connector	8 USB 3.0 Type-A Connector
Current Protection	User-configurable 900mA/1500mA per port current limit (Jumper)
Data Rate	<ul style="list-style-type: none"><li>▪ Super Speed (5Gbps)</li><li>▪ High Speed (480Mbps)</li><li>▪ Full Speed (12Mbps)</li><li>▪ Low Speed (1.5Mbps)</li></ul>
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Environment	
Operating Temperature	0°C to 70°C (32°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

UE-1008	8-port USB 3.0 Host Adapter with 4 Independent USB 3.0 Controllers
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# UE-1004

4-port USB Card



## Features

- 4 Independent USB 3.0 controllers
- 4 USB 3.0 ports
- PCI Express x4 Interface



## Specifications

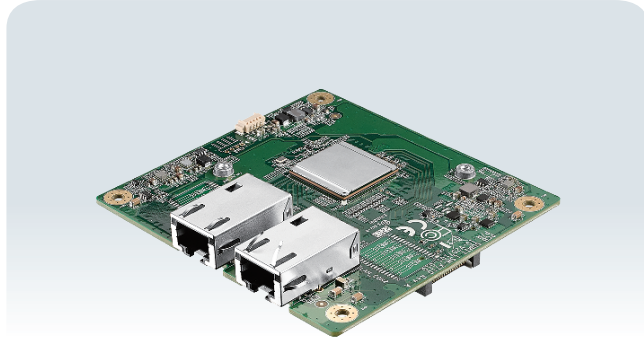
Ethernet	
Interface	PCI Express x4
Controller	4 Renesas $\mu$ PD720202 Host Controller
Connector	4 USB 3.0 Type-A Connector
Current Protection	User-configurable 900mA/1500mA per port current limit (Jumper)
Data Rate	<ul style="list-style-type: none"><li>▪ Super Speed (5Gbps)</li><li>▪ High Speed (480Mbps)</li><li>▪ Full Speed (12Mbps)</li><li>▪ Low Speed (1.5Mbps)</li></ul>
Mechanical	
Dimensions (W x L)	168mm x 121mm (6.6" x 4.8")
Environment	
Operating Temperature	0°C to 70°C (32°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

UE-1004	4-port USB 3.0 Host Adapter with 4 Independent USB 3.0 Controllers
---------	--

# SUMIT Card LSM-X710-AT2

SUMIT Card with 2 10GigE LAN



## Features

- Intel® X710-AT2 10GBASE-T controller
- IEEE 802.3an Fast Ethernet standard compliant
- -25°C to 50°C Operating Temperature



## Specifications

Ethernet	
Controller	Intel® Ethernet Controller X710-AT2
Controller Qty	1
Data Rate	10Gbps/ 5Gbps/ 2.5Gbps/ 1Gbps/100Mbps
I/O Interface	
Bus Type	SUMIT B
LAN	2 RJ45 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	150 g
Environment	
Operating Temperature	-25°C to 50°C (-13°F to 122°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

LSM-X710-AT2	SUMIT (PCIe) Expansion Card with 2 10G RJ45 LAN
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# FSM-710-BM2

SUMIT Card with 2 10GigE SFP+ Fiber LAN



## Features

- Intel® X710-BM2 10Gigabit Ethernet Controller
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- SIM Card Socket for 3G/ 4G/ LTE/ WiFi/ GPRS/ UMTS
- -25°C to 55°C Operating Temperature



## Specifications

Ethernet	
Controller	Intel® Ethernet Controller X710-BM2
Data Rate	10Gbps
I/O Interface	
Bus Type	<ul style="list-style-type: none"> <li>▪ FSM-710-BM2 : SUMIT B</li> <li>▪ FSM-710-BM2-E : SUMIT A, B</li> </ul>
LAN	2 10GBASE SFP+ Fiber Connector
Mini PCIe	1 Full-size Mini PCIe Socket
SIM Card	1 SIM Card Socket (Internal, optional supports External I/O Type)
USB	1 USB 2.0 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	160 g
Environment	
Operating Temperature	-25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

FSM-710-BM2	SUMIT (PCIe) Expansion Card with 2 10GigE SFP+ LAN
FSM-710-BM2-E	SUMIT (PCIe) Expansion Card with 2 10GigE SFP+ LAN, 1 Mini PCIe, 1 SIM Socket, 1 USB 2.0

1 High-performance Fanless Systems

2 AI Computing Systems

3 10GigE Embedded Systems

4 Expandable Embedded Systems

5 Ultra-compact Fanless Systems

6 Rackmount Systems

7 Industrial Multi-Touch Computers/Displays

8 Industrial Motherboards

9 COM Express

10 Embedded Peripherals

# LSM-200

SUMIT Card with 3-port 2.5G LAN



## Features

- Intel® Ethernet Controller I225
- 3 independent LAN ports support 2.5Gbps
- -25°C to 70°C Operating Temperature
- SUMIT A, B Interface



## Specifications

Ethernet	
LAN Controller	Intel® I225 Gigabit Ethernet Controller
Controller Qty	3
Data Rate	2.5Gbps/1Gbps/100Mbps/10Mbps
I/O Interface	
Bus Type	SUMIT A, B
LAN	3 RJ45 Connector
Mechanical	
Dimensions (W x L)	90.0mm x 96.0mm (3.54" x 3.78")
Weight	145 g
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

LSM-200	SUMIT (PCIe) Card with 3 Channel 2.5G LAN
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# LSM-100

SUMIT Card with 3-port GigE LAN



## Features

- Intel® I210 Gigabit Ethernet Controller
- IEEE 802.3ab Gigabit Ethernet standard compliant
- 3 independent GigE LAN Connection
- -25°C to 85°C Operating Temperature
- SUMIT A, B Interface



## Specifications

Ethernet	
Controller	Intel® I210 Gigabit Ethernet Controller
Controller Qty	3
Data Rate	1Gbps/ 100Mbps/ 10Mbps
I/O Interface	
Bus Type	SUMIT A, B
LAN	3 RJ45 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	150 g
Environment	
Operating Temperature	-25°C to 85°C (-13°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

LSM-100-3	SUMIT (PCIe) Card with 3 Channel GigE LAN
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# FSM-200

SUMIT Card with 2 1000BASE SFP Fiber LAN



## Features

- Intel® I350 Gigabit Ethernet Controller
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- Dual 100BASE-FX fiber ports



## Specifications

Ethernet	
Controller	Intel® Ethernet Controller i350
Controller Qty	1
I/O Interface	
Bus Type	SUMIT B
LAN	2 1000BASE SFP Fiber Connector
PS/2	1 PS/2 KB/MS Connector (Optional)
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	150 g
Environment	
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

FSM-200	SUMIT (PCIe) Expansion Card with 2 1000BASE SFP Fiber LAN
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# FSM-100

SUMIT Card with 2 100BASE-FX GigE Fiber LAN



## Features

- Intel® 82574 Gigabit Ethernet Controller
- IEEE 802.3 Fast Ethernet over optical fiber standard compliant
- Dual 100BASE-FX fiber ports



## Specifications

Ethernet	
Controller	Intel® 82574L Gigabit Ethernet Controller
Controller Qty	2
Data Rate	1Gbps
I/O Interface	
Bus Type	SUMIT A, B
LAN	2 100BASE-FX Fiber Connector
PS/2	1 PS/2 KB/MS Connector (Optional)
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	170 g
Environment	
Operating Temperature	0°C to 60°C (32°F to 140°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

## Order Information

FSM-100FX	SUMIT (PCIe) Expansion Card with 2 100BASE-FX Fiber LAN, 1 PS/2 KB/MS
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1 High-performance Fanless Systems

2 AI Computing Systems

3 10GigE Embedded Systems

4 Expandable Embedded Systems

5 Ultra-compact Fanless Systems

6 Rackmount Systems

7 Industrial Multi-Touch Computers/Displays

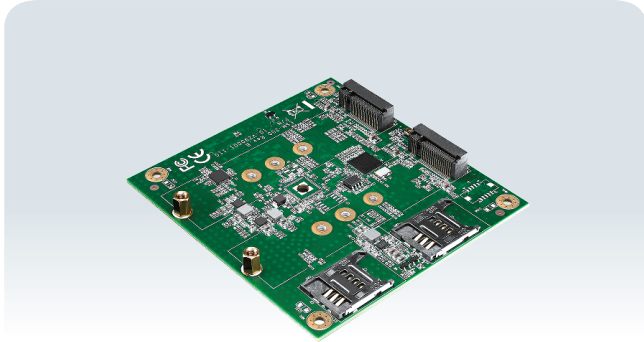
8 Industrial Motherboards

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10 Embedded Peripherals

# ESM-200

SUMIT Card with dual M.2 Key B slot and dual SIM Socket



## Features

- Rugged SUMIT A, B Interface
- Dual M.2 Key B Socket
- Onboard dual SIM Socket
- 0°C to 70°C Operating Temperature
- PCI Express compliant



## Specifications

I/O Interface	
Bus Type	SUMIT A, B
SIM Card	2 SIM Card Socket
M.2	2 M.2 Key B Socket supports M.2 form factor : 2230/2242/2280/3030/3042/3052
Mechanical	
Dimensions (W x L)	90.2mm x 95.9mm (3.55" x 3.77")
Weight	145 g
Environment	
Operating Temperature	0°C to 70°C (-40°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @70°C
EMC	CE, FCC Class A

## Order Information

ESM-200	SUMIT Card with 2 M.2 Key B socket, PCIe x1 & USB 3.0 interface for 5G applications
ESM-201	SUMIT Card with 2 M.2 Key B socket, PCIe x2 interface

# ESM-100

SUMIT Card with 3 Mini PCIe Slot, 3 SIM Socket, 1 USB 2.0



## Features

- SUMIT A, B function compliant
- 3 Mini PCIe support up to 3 SIM Socket
- Onboard 1 USB 2.0 Connector
- -25°C to 70°C Operating Temperature
- PCI Express compliant



## Specifications

I/O Interface	
Mini PCIe	3 Full Size Mini PCIe Slot
SIM Card	3 SIM Card Socket (Internal, optional supports External I/O Type)
USB	1 USB 2.0 Connector
Mechanical	
Dimensions (W x L)	90mm x 96mm (3.5" x 3.8")
Weight	145 g
Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @70°C
EMC	CE, FCC Class A

## Order Information

ESM-100	SUMIT (PCIe) Expansion Card with 3 Mini PCIe, 3 SIM, 1 USB 2.0
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# Mini PCIe Module DMX-110

Mini PCIe Digital I/O Card, 32-bit Isolated DIO



## Features

- 4KV Isolated Protection for each channel
- -40°C to 85°C Operating Temperature
- 32-bit Programmable signals
- 4 ports digital signal, each with 8-bit GPIO
- Onboard Interrupt supports Rising/Falling Edge
- Programmable Timer and Counter for status monitoring
- Isolated DIO Control : Sink Mode/Source Mode



## Specifications

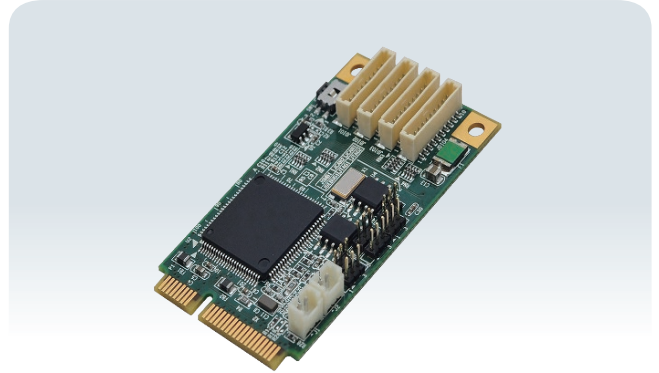
Ethernet	
Interface	USB 2.0
Number of port	4 (8-bit GPIO/each)
Power Input	3.3V DC-in
I/O Voltage	3.3V
Isolated DIO Expansion Card (DMX-100-E)	
Number of port	- Input : 2 (8-bit GPIO/each) - Output : 1 with 16-bit Isolated DIO
I/O Voltage	- Sink Mode : 6V to 40V - Source Mode : 6V to 48V
Mechanical	
Dimensions (W x L)	▪ DMX-100-M : 30.0mm x 50.9mm ▪ DMX-100-E : 45.0mm x 55.0mm ▪ Cable Length : 250mm
Weight	160 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 DMX-100-M GPIO Card - 4 Isolated DIO Cable - 1 Screw Kit - 2 Bracket	- 2 DMX-100-E Isolated DIO Expansion Card - 2 Sink/Source Mode Control Cable - 2 Terminal block 20-pin (2.54mm)

## Order Information

DMX-110	Mini PCIe 32-bit GPIO Card with Isolated DIO Expansion Card
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# DMX-100

Mini PCIe Digital I/O Card, 32-bit GPIO



## Features

- -40°C to 85°C Operating Temperature
- 32-bit Programmable signals
- 4 ports digital signal, each with 8-bit GPIO
- Onboard Interrupt supports Rising/Falling Edge
- Programmable Timer and Counter for status monitoring



## Specifications

Ethernet	
Interface	USB 2.0
Number of port	4 (8-bit GPIO/each)
Power Input	3.3V DC-in
I/O Voltage	3.3V
Mechanical	
Dimensions (W x L)	▪ DMX-100-M : 30.0mm x 50.9mm ▪ Cable Length : 250mm
Weight	160 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 Screw Kit - 2 Bracket	- 1 DMX-100-M GPIO Card - 4 GPIO Cable

## Order Information

DMX-100	Mini PCIe 32-bit GPIO Card
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1 High-performance Fanless Systems

2 AI Computing Systems

3 10GigE Embedded Systems

4 Expandable Embedded Systems

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# SMX-200

Mini PCIe 4-port Isolated RS-232/422/485 Serial Card



## Features

- 4-port high-speed RS-232/422/485
- Each serial channel supports up to 2.5kV Isolation
- Up to 31.25Mbps super fast data transmission
- -40°C to 85°C Operating Temperature
- Interrupt Status Register for Performance Enhancement



## Specifications

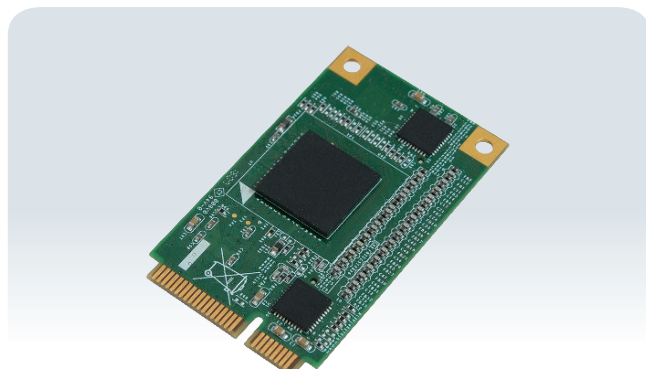
Ethernet	
Interface	Mini PCIe
Controller	EXAR XR17V354
Standard	RS-232/422/485 (2.5kV Isolation)
Number of Port	4
Baud Rate	Up to 921.6kbps
FIFOs	256 byte
Flow Control	CTS/RTS, Xon/Xoff
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Cable Length : 260mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 SMX-200 Serial Card	- 1 Screw Kit
- 2 Cable Set	- 2 Bracket
- 1 Driver CD	

## Order Information

SMX-200	4-port Isolated RS-232/422/485 Serial Card
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# SMX-100

Mini PCIe 4-port RS-232/422/485 Serial Card



## Features

- 4 high-speed RS-232/422/485 ports
- Up to 31.25Mbps super fast data transmission
- -40°C to 85°C Operating Temperature
- 3kV ESD Protection
- Interrupt Status Register for Performance Enhancement



## Specifications

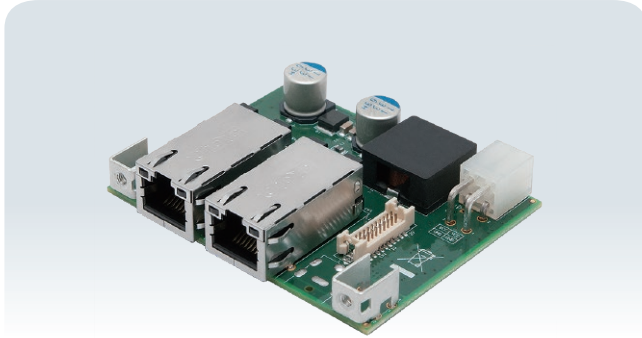
Ethernet	
Interface	Mini PCIe
Chipset	EXAR XR17V354
Standard	RS-232/422/485
Number of Port	4
Baud Rate	Up to 921.6kbps
FIFOs	256 byte
Flow Control	CTS/RTS, Xon/Xoff
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Cable Length : 300mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 SMX-100 Serial Card	- 1 Screw Kit
- 2 Cable Set	- 1 Bracket
- 1 Driver CD	

## Order Information

SMX-100	4-port RS-232/422/485 Serial Card
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# PMX-100

Mini PCIe 2-port PoE+ GigE Card



## Features

- 2 GigE LAN ports support IEEE 802.3at PoE+ with 12V to 24V DC Power Input
- -40°C to 85°C Operating Temperature
- IEEE 802.3, 802.3u and 802.3ab compliant



## Specifications

Ethernet	
Interface	PCI Express x1
Controller	Intel® I210 Gigabit LAN
Data Rate	10/100/1000 Mbps
Number of Port	2
Connector	8-pin RJ45
PoE Standard	IEEE 802.3at compliant
Power Requirement	
Input	12V to 24V
Output	Up to 25.5W Power Output at 48V DC per port
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Daughter Card : 56mm x 61mm</li> <li>▪ Cable Length : 300mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
<ul style="list-style-type: none"> <li>- 1 Driver CD</li> <li>- 1 Screw Kit</li> <li>- 1 Bracket</li> </ul>	<ul style="list-style-type: none"> <li>- 1 PMX-100 PoE GigE Card</li> <li>- 1 RJ45 Daughter Card</li> <li>- 1 Connection Cable</li> </ul>

## Order Information

PMX-101	Mini PCIe 2-port PoE+ GigE Card with DC Jack
PMX-100	Mini PCIe 2-port PoE+ GigE Card

# LMX-200

Mini PCIe 2-port Gigabit LAN Card



## Features

- 2 GigE LAN ports, up to 1Gbps data rate
- IEEE 802.3, 802.3u and 802.3ab compliant
- PCI Express x1 Interface
- -40°C to 85°C Operating Temperature



## Specifications

Ethernet	
Interface	PCI Express x1
Chipset	2 Intel® I210 Gigabit LAN
Data Rate	10/100/1000 Mbps
Number of Port	2
Connector	8-pin RJ45
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Daughter Card : 50.5mm x 27.7mm</li> <li>▪ Cable Length : 300mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
<ul style="list-style-type: none"> <li>- 1 Driver CD</li> <li>- 1 Screw Kit</li> <li>- 1 Bracket</li> </ul>	<ul style="list-style-type: none"> <li>- 1 LMX-200 Mini PCIe LAN Card</li> <li>- 1 RJ45 Connector Card</li> <li>- 1 Connection Cable</li> </ul>

## Order Information

LMX-200	Mini PCIe 2-port Gigabit LAN Card
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1 High-performance Fanless Systems

2 AI Computing Systems

3 10GigE Embedded Systems

4 Expandable Embedded Systems

5 Ultra-compact Fanless Systems

6 Rackmount Systems

7 Industrial Multi-Touch Computers/Displays

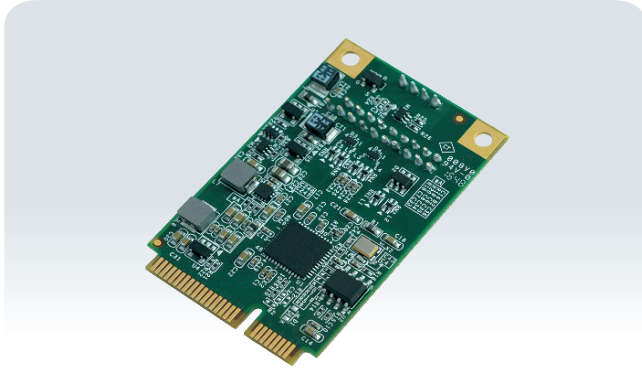
8 Industrial Motherboards

9 COM Express

10 Embedded Peripherals

# UMX-100

Mini PCIe 2-port USB 3.0 Card



## Features

- 2 high-speed USB 3.0 ports, up to 5Gbps data rate
- USB 3.0 Rev. 1.0 compliant
- Intel® xHCI Rev. 1.0 compliant
- PCI Express x1 Interface
- -40°C to 85°C Operating Temperature



## Specifications

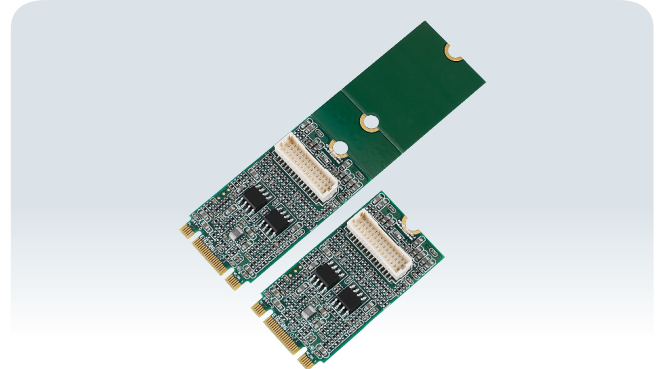
Ethernet	
Interface	Mini PCIe
Controller	Renesas μPD720202
Standard	USB 3.0 Rev. 1.0 compliant
Number of Port	2
Data Rate	Up to 5Gbps
Link Aggregation	Present
Connector	19-pin Header
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ Mini Card : 30mm x 51mm</li> <li>▪ Cable Length : 320mm</li> </ul>
Weight	152 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 Driver CD	- 1 UMX-100 Mini PCIe USB Card
- 1 Screw Kit	- 1 Cable Set
- 1 Bracket	

## Order Information

UMX-100	Mini PCIe 2-port USB Card
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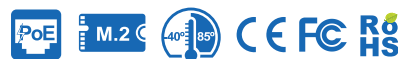
# M.2 Module LMT-100

M.2 2-port GigE LAN Card with optional PoE\*



## Features

- Intel® I210 Ethernet Controller supports 2-port independent GigE LAN
- IEEE 802.3at PoE\* with 12V to 24V Power Input
- Flexible supports M.2 Key B, Key M
- Foldable design supports multiple M.2 form factors : 2242, 2252, 2280
- -40°C to 85°C Operating Temperature



## Specifications

Ethernet	
LAN Controller	Intel® I210 Ethernet Controller
Data Rate	1Gbps/100Mbps/10Mbps
Connector	8-pin RJ45
VLAN	802.1Q VLAN supported
Power Requirement	
PoE Standard	IEEE 802.3at compliant
Power Input	12V to 24V
Power Output	Up to 25.5W Power Output at 48V DC per port
Mechanical	
Dimensions (W x L)	<ul style="list-style-type: none"> <li>▪ M.2 Card : 22mm x 80mm (Foldable design for 22mm x 42mm or 22mm x 52mm)</li> <li>▪ Daughter Card for LMX-100 : 50.5mm x 27.7mm</li> <li>▪ Daughter Card for LMX-100P : 56mm x 61mm</li> <li>▪ Cable Length : 300mm</li> </ul>
Weight	145 g
Environment	
Operating Temperature	-40°C to 85°C (-40°F to 185°F), with air flow
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Packing List	
- 1 Driver CD	- 1 M.2 LAN Card
- 1 Screw Kit	- 1 RJ45 I/O Card
- 1 Bracket	- 1 Connection Cable

## Order Information

LMT-100	Intel® I210 M.2 2-port GigE LAN Card
LMT-100P	Intel® I210 M.2 2-port PoE* GigE LAN Card

# Power Module

## WPM-120

DC to ATX Power Module, 750W, 9V to 55V Input



### Features

- Wide Input Range : 9V to 55V DC
- 750W Power Budget
- Over Voltage and Current Protection
- Surge Protection
- -25°C to 55°C Operating Temperature



### Specifications

Power	
Input Voltage	9V to 55V
Output	750W
Output Voltage	12V
I/O Connector	
Input Connector	2 1-pin connector
Output Connector	ATX 16-pin connector
Fan Connector	1 4-pin Fan connector
Mechanical	
Dimensions (W x L)	118.0mm x 74.0mm (4.65" x 2.91")
Others	
Over Voltage	14.4V
Over Current	80A
Surge Protection	TVS (8kW/58V)
Environment	
Operating Temperature	-25°C to 55°C (-13°F to 131°F), with air flow
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

### Order Information

<b>WPM-120</b>	DC to ATX Power Module, 750W, 9V to 55V Input, ATX Output, -25°C to 55°C
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# WPM-110

DC to ATX Power Module, 200W, 16V to 160V Input



### Features

- Wide Input Range : 16V to 160V DC
- 200W Power Budget
- 4kV DC Isolation, up to 500V Surge Protection
- Over Voltage and Current Protection
- -25°C to 55°C Operating Temperature
- EN50155, EN45545 Compliant



### Specifications

Power	
Input Voltage	16V to 160V
Output	200W
Output Voltage	12V
I/O Connector	
Input Connector	ATX 6-pin connector
Output Connector	ATX 6-pin connector
Fan Connector	1 4-pin Power connector
Mechanical	
Dimensions (W x L)	160.0mm x 70.0mm (6.30" x 2.76")
Others	
Over Voltage	13.2V to 15.6V
Over Current	18.7A to 24A
Isolation	4kV DC
Surge Protection	0.5kV DC 8/20us Surge
Environment	
Operating Temperature	-25°C to 55°C (-13°F to 131°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing

### Order Information

<b>WPM-110</b>	DC to ATX Power Module, 200W, 16V to 160V Input, ATX Output, -25°C to 55°C
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