MIC-330

3U CompactPCI® Serial Intel® 9th Gen. Processor Blade



Features

- Intel® 9th Gen 14nm Xeon®/Core™ processor with CM246 PCH
- Up to 32GB DDR4 by two channels, with ECC or Non-ECC options
- 2 x RJ45 GbE LAN, 2 x USB3.0, 2 x DP on front 4HP panel
- 2 x M12 X-Coding GbE LAN, 1 x DB9 COM on MIC-330 8HP panel
- Up to two onboard 2280 M.2 sockets at SATAIII speed on MIC-330 with Mezzanine-1 card
- One onbaord 2280 M.2 socket at SATAIII speed, and Fe-RAM function on MIC-330 with Mezzanine-2 card
- Designed to meet EN50121-4 and EN50155
- PICMG CompactPCI Serial (CPCI-S.0 R2.0) compliant

Introduction

Advantech MIC-330 series, using Intel® 9th Gen. 14nm technology provides significant performance and power efficiency. MIC-330 is a 3U CompactPCI® serial processor blade with 6 cores/12 thread Core™ i7 and Xeon® processor and configured with Intel® CM246 PCH to support dual-channel 32GB DDR4-2666, up to 16GB onboard memory for rugged applications, and another 16GB are available via the SO-DIMM socket for expansion.

Onboard mass storage is based on a low profile mezzanine expansion card, which accommodates one or two 2280 M.2 style sockets at high speed SATAIII. The host board front I/O is equipped with two Gigabit Ethernet ports, two USB 3.0 ports, and two DisplayPort connectors. In addition, one VGA port is reserved as an alternative option with DP on a configuration-one mezzanine card (M-1). Also extra two M12 X-code GbE, one DB9 non-isolated COM port and Fe-RAM function are provided by the configuration-two mezzanine card(M-2).

The MIC-330 series also offers some high speed I/O resources, up to 2 x PCIe x8, 2 x PCIe x4, 2 x PCIe x1, 8 x USB2.0, 2 x USB3.0, 4 x SATA, 2 x or 5 x GbE to the CompactPCI® Serial backplane for peripheral high-speed I/O expansion like storage, graphics, Ethernet, etc. To optimize the thermal solution, the board is equipped with a 4HP height heatsink and max 16GB onboard memory support. There is an 8HP height heatsink with 8HP height front panel for a SO-DIMM extension slot up to max 32GB memory. Its excellent thermal and EMC design makes it suitable for harsh environments and provides an ideal solution for railway rolling stock and high-performance computing applications.

Specifications

Processor System	CPU	Intel® Core™ i7-9850HL, 6C/12T, 1.9GHz, TDP 25W, Non ECC Intel® Core™ i7-9850HE, 6C/12T, 2.7GHz, TDP 45W, Non ECC
	BIOS	AMI 128 Mb SPI flash
Memory	Technology	Dual Channel DDR4 2666 MHz
	Max. Capacity	Max 32GB, 16GB soldered, 16GB SO-DIMM
CompactPCI® Serial Backplane Resources	PCIe	PCIe GenIII, 2 x PCIex8, 2 x PCIex4, 2 x PCIex1
	SATAIII	4 x SATA 3.0
	USB	2 x USB3.0; 8 x USB2.0
	GbE	2 x GbE to P6 on low profile mezzanine-1 card; 3 x GbE to P6 on low profile mezzanine-2 card
Graphics	Chipset	Integrated on processor
	I/O Connector	2 x DP (1 x VGA reserved for option)
	Resolution	DP: 4096 x 2304 @ 60Hz VGA: 1920 x 1080 @ 60HZ
Ethernet	Controller	Intel® WGI210 Gigabit Ethernet Controller
	Interface	10/100/1000 Base-T Ethernet
	I/O Connector	2 x RJ45 to 4HP front, 2 x M12 X-coding to 8HP(M-2) front
Storage	Mode	SATA-III
	Channels	Up to 2 channels to onboard 2280 M.2 type module 4 channels to CPCI-S backplane
Front I/O	USB	2 x USB3.0 type A
	Display	2 x DP (VGA per request)
	LAN	2 x RJ45 GbE on 4HP, 2 x M12 GbE on 8HP M-2 card
	COM	1 x DB9 COM port on 8HP M-2 card, RS232/422/485
	Front Panel LEDs	1 x blue/orange for hot swap/ HDD, 1 x green for PWR, 1 x green for master/drone
	Buttons	System reset button
To P1-P6 Signal	P1	PCIex4; 1 x USB3.0 (1 x USB2.0)
	P2	PCIex4, PCIex8, 3 x USB2.0
	P3	4 x SATA, 1 x USB3.0, 4 x USB2.0
	P4	2 x PCIex4, 2 x PCIex1
	P5	Clock
	P6	Up to 5 x GbE (2 GbE on M-1; max 5 GbE to P6 on M-2, Among them, 2 GbE switched with 2x GbE LAN to 8HP front)
BIOS	Boot Options	SATA, USB, network (PXE)

https://advantec.com

All product specifications are subject to change without notice.

Specifications (Cont.)

Watchdog Timer	Output	Local reset	
	Interval	Programmable 1s ~ 255s	
Operating System	Compatibility	Windows10, Linux, Vxworks	
Power Requirement	Configuration	CPU TDP 25W/45W	
	Consumption	35W/55W	
Physical	Dimension & Weight	4HP or 8HP, 160.00 x 100.00 mm	
Environment		Operating (depending on forced airflow)	Non-operating
	Temperature	0 ~ 55 °C (32 ~ 122 °F)	-40 ~ 85° C (-40 ~ 185° F)
	Humidity	95 % @ 40° C, non-condensing	95 % @ 60° C, non-condensing
	Vibration	2Grms	
	Shock	10 G, 11ms, each axis three times, operation mode	
Regulatory	Conformance	FCC Class A, CE, RoHS	
Compliance	Standards	PICMG® CompactPCI® Serial	

Supported CPU Configurations

Intel® CPU Model Number	# Cores	Base Freq.	Cache	Memory Types	ECC Support	CPU TDP
Intel® Xeon® E-2276ML	6	2.0GHz	12 MB	DDR4-2666	Yes	25W
Intel® Core™ i7-9850HL	6	1.9GHz	9 MB	DDR4-2666	No	25W
Intel® Core™ i7-9850HE	6	2.7GHz	9 MB	DDR4-2666	No	45W
Intel® Core™ i3-9100HL	4	1.6GHz	6 MB	DDR4-2666	Yes	25W

Ordering Information

System board	Front Panel					Onboard Features					Others	
	4HP			8HP							Width	To P6 Conn.
	LAN (RJ45)	USB3.0	DP (1)	LAN (M12)	COM (2)	CPU	Memory OnBoard	So-DIMM Socket	ECC(3)	SATA (M.2)	Height	GbE Signal
MIC-330-A1S1	2	2	2	-	-	i7-9850HL	16GB	-	No	2	4HP	2
MIC-330-A2D1	2	2	2	-	-	i7-9850HL	16GB	Yes	No	2	8HP	2
MIC-330-A3D1	2	2	2	2	1	i7-9850HL	16GB	Yes	No	1	8HP	max 5 (4)
MIC-330-C1D1	2	2	2	-	-	i7-9850HE	16GB	Yes	No	2	8HP	2

Note:
(1) VGA port is available per request
(2) DB9 port by cable from onboard pin head,RS232/422/485 support
(3) Corei3/Xeon CPUs with ECC support are available per request
(4) Among 5 x GbE Signals to P6, 2 x GbE switched with 2 x GbE LAN to 8HP front

Related 3U Compact PCI Serial Products

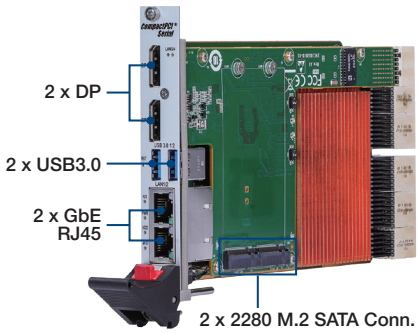
Peripheral board	Description
MIC-3954D	3U CPCI-Serial, quad Mini-PCIe carrier board
MIC-3954E	3U CPCI-Serial, quad M.2 carrier board for LTE module
MIC-3810	3U CPCI-Serial PCIe x8/x16 carrier board
MIC-3820	3U CPCI-Serial 2.5" SSD carrier board
MIC-3811	3U CPCI-Serial dual mini PCIe carrier for wifi/BT/i-door module
MIC-3860	3U CPCI-Serial 4 RJ45/4 M12 GbE LAN board
MIC-3812	3U CPCI-Serial MXM carrier board

Peripheral board	Description
MIC-3821	3U CPCI-Serial 4 NVMe carrier board
MIC-3840	3U CPCI-Serial 8-port DB62 COM Board
MIC-3861	3U CPCI-Serial 10 Gigabit Ethernet Board
MIC-3850	3U CPCI-Serial form factor, 10 Gigabit and Gigabit Ethernet Switch Board
MIC-3954F	3U CPCI-Serial 4 x USB type A, 2 x M.2 E key carrier Board
MIC-300A	3U CPCI-Serial 84HP/44HP width, 3U/4U height chassis, with 8 slots
MIC-3890DC	3U CPCI-Serial DC-DC power module, 110V in/12V out, 300W
MIC-3890AC	3U CPCI-Serial AC-DC power module, 12V & 5V out, 300W

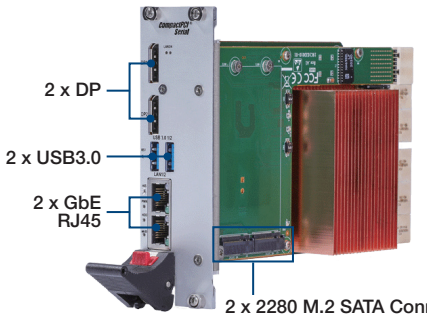
Note: Please contact local sales for more 3U CPCI-Serial peripheral I/O & chassis information.

Storage & I/O

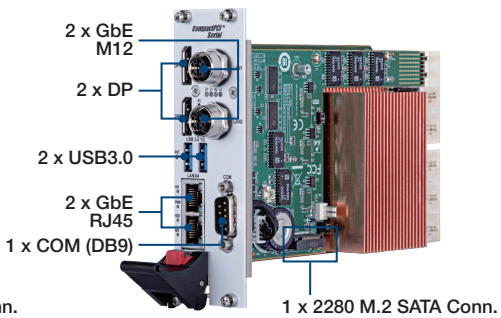
MIC-330 4HP height with M-1(mezzanine) board without SO-DIMM extension



MIC-330 8HP height with M-1(mezzanine) board with SO-DIMM extension



MIC-330 8HP height with M-2(Mezzanine) board with SO-DIMM extension



https://advvee.com