

MIC-336S1-D1

3U CompactPCI® Serial Intel® Atom EN50155 Fanless Computer, Compliant for Rolling Stock Applications



Features

- Intel® Atom X7835RE platform, ECC support
- Featured Time-sensitive Network technology
- Reserved for Ethernet, TRDP, Ethernet Switch, COM, 2.5" SATA storage, 5G & Wi-Fi wireless connectivity etc.expansion
- Wide range 24-110Vdc power input
- Compliant with EN 50155, EN 45545-2
- Compliant with PICMG CompactPCI Serial (CPCI-S.0 R2.0)

Introduction

Advantech MIC-336S1-D1 is a fanless system solution compliant with 3U CompactPCI serial standard, it powered by Intel Atom® Processor X7835RE platform with ECC function, and provides with 2 x 2.5GbE M12 LAN ports(support Time-sensitive Network technology), 2 x COM ports(support RS232, RS422, RS485 mode), 2 x USB 3.2 ports, 1 x DP port, 1 x Line Out, and wide range 24V-110VDC power input; The CompactPCI Serial backplane in MIC-336S1-D1 supports various protocols, including PCIe 3.0, PCIe 2.0, SATA 3.0, USB 2.0, and Ethernet, so the reserved blank slots in MIC-336S can expand for Ethernet, TRDP, Ethernet Switch, COM, 2.5" SATA storage, 5G and WIFI wireless connectivity etc. Function.

MIC-336S is fully compliance with EN 50155, EN 50121-3-2 and EN 45545-2 test standard, and ensure stability and reliability system operations on railway critical applications.

Specifications

System Chipset	CPU	Intel Atom® X7835RE
	Max Turbo Frequency	3.6GHz
	Cache	6MB
	Cores/TDP	8C/12W
	ECC	Support
	BIOS	AMI 256Mb SPI flash
Memory	Technology	DDR5 4800 MT/s, ECC
	ECC	support
	Max. Capacity	16GB on-board
Graphics	Controller	Intel® UHD Graphics
	I/O connector	1 x DisplayPort
	Resolution	3840 x 2160@60Hz
Ethernet	Interface	Up to three Ethernet in total 2 x 2.5GBASE-T M12 on front panel of CPU board 1 x 2.5GBASE-T to backplane Slot 8
	Controller	Intel i226IT 2.5Gbps Ethernet Controller
Storage	Mode	SATA 3.0/ PCIe 3.0
	Channels	1 x onboard 2280/2242 M.2 type module (M-key socket) 1 x SATA 3.0 to backplane Slot 4
Front I/O	USB	2 x USB3.2 with gen1 speed
	LAN	2 x 2.5GBASE-T M12, With TSN/TCC function
	COM	2 x COM, default RS232 mode, RS422, RS485 mode can be selected in BIOS setting
	Audio	1 x Line Out
	Front LEDs	CPU board: 1 x blue LED for hot swap 1 x green LED for PWR 1 x green LED for master/drone 1 x yellow LED for HDD
		2 x green/orange LEDs for LAN speed(green indicates 2.5Gbps; orange indicates 1Gbps)
		3 x green LEDs for LAN activity
		Power board: 1 x green LED for PWR
	Buttons	System reset button

Specifications (Cont.)

CompactPCI Serial Backplane Resources	PCIe	PCIe Gen III speed 1 x PCIe 3.0 x1 to backplane slot 3 1 x PCIe 3.0 x1 to backplane slot 4 1 x PCIe 2.0 x1 to backplane slot 5 1 x PCIe 2.0 x1 to backplane slot 6
	SATA	SATA Gen III speed 1 x SATA 3.0 to backplane slot 4
	USB	4 x USB2.0 @ 480MHz speed 1 x USB2.0 to backplane slot 3 1 x USB2.0 to backplane slot 4 1 x USB2.0 to backplane slot 5 1 x USB2.0 to backplane slot 6
	GbE	1 x 2.5 GbE to backplane slot 8
BIOS	Boot Options	SATA, USB, network(PXE)
Watchdog Timer	Output	Local reset
	Interval	Programmable 1s~255s
Operating System	Compatibility	Windows 11, Windows 10, Ubuntu 22.04, Vxworks
Power	Input Voltage	24-110VDC power input, compliant with EN50155
	Output Wattage	150W (Ta 55°C, fanless) 70W (Ta 70°C, fanless)
	Connector	1 x M12 K-Coded 5 pin
Mechanical	Dimension	482.6 x 132.55 x 200 mm
	Weight	5.0 Kg
Environment	Temperature	Operating -40 ~ 70 °C (-40 ~ 158 °F) Non-operating -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
Certification	Conformance	FCC Class A, CE, RoHS
Architecture Compliance		PICMG® CompactPCI® Serial
EN 50155 Compliance	Operating temperature classes	EN 50155:2021 OT4 (-40 ~ 70 °C)
	Shock and Vibration	EN 61373 body mount class B
	Interruptions of Voltage Supply	Class S2: 10ms interruptions
	Supply Change Over	Class C1: at 0.6Un during 100ms without interruptions
	EMC	EN 50121-3-2
	Fire protection	EN 45545-2: 2020+A1: 2023 HL3

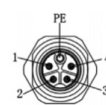
Ordering Information

Part Number	Processor	Onboard RAM	ECC	Ethernet M12 X-Coded	USB 3.2	COM	DP port	Line Out	M.2 slot	PCIe/SATA/Ethernet expansion slot
MIC-336S1-D1	Intel® Atom X7835RE	16GB	Yes	2	2	2	1	1	1	5

Optional Accessory

Part Number	Description
FRU-ITAPWR-0004	External M12 K-Coded 5 pin Female power cable
1960117152S001	3U 4HP Blank Panel for CPCI Anodizing
1960117153S001	3U 8HP Blank Panel for CPCI Anodizing

DC in power M12 connector pin define

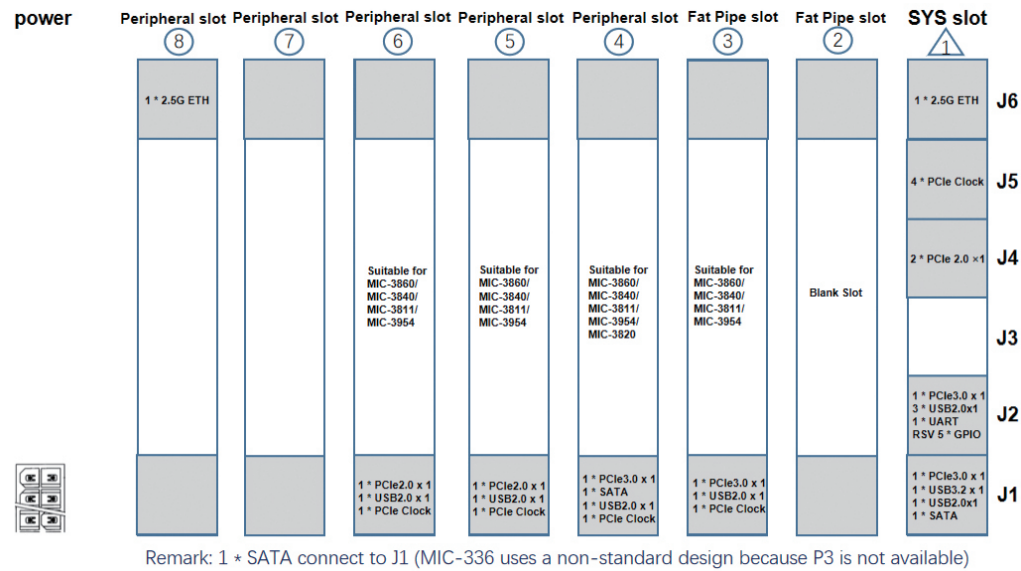


pin	Signal Name	pin	Signal Name
1	V+	3	V-
2	V-	4	V+
PE	Earth ground		

Related front I/O Board

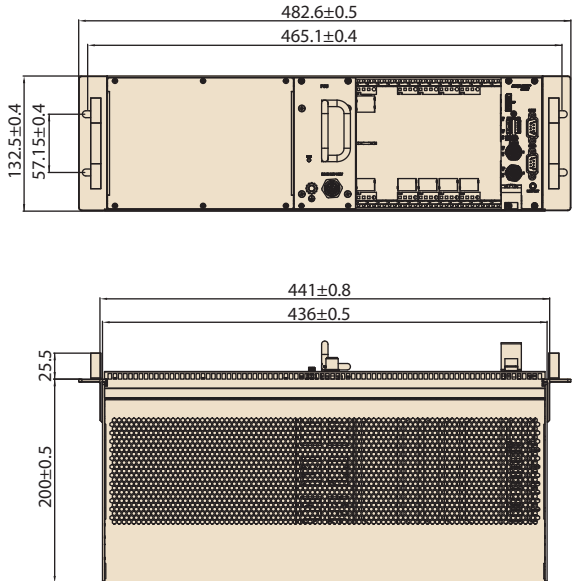
Peripheral board	Description
MIC-3860	3U CPCI-Serial 4 RJ45/4 M12 2.5 Gbps LAN board
MIC-3850	3U CPCI-Serial RJ45/M12 Ethernet Switch board
MIC-3820	3U CPCI-Serial 2.5" SSD carrier board
MIC-3811	3U CPCI-Serial dual mini PCIe carrier for i-door
MIC-3840	3U CPCI-Serial COM obard
MIC-3954D	3U CPCI-Serial quad M.2 carrier board for 5G, Wi-Fi module
MIC-3954E	3U CPCI-Serial quad miniPCIe carrier board
MIC-3954F	3U CPCI-S 4 x USB typeA, 1 x M.2 E key carrier board

Backplane Topology



Dimensions

Unit: mm



Front View

