MXC-2300 Series

Intel® Atom™ Quad-Core Processor-based Fanless Expandable Embedded Computer with PCI/PCIe Slots

NEW

Matrix

SEMA

Introduction

Featuring the latest Intel® Atom™ E3845 processor (Formerly Bay Trail), the Matrix MXC-2300 series excels with minimal power consumption, exceptional 3D graphics, and powerful media acceleration, delivering a leading improvement in performance and cost- efficiency over any previous generation Atom-based system.

Features include dual-port CAN connectivity supported by a Philips SJA1000 controller that can run independently or bridged at the same time, bus arbitration and error detection with auto correction and re-transmission capability, and 16-CH isolated DI/O for general industrial control.

An increased total 3PCI/PCIe expansion slot count allows installation of a variety of off-the-shelf PCI/PCIe cards for configurable applications, and an internal PCI Express Mini Card socket and USIM slot support extension of additional functions, such as wireless connection.

In addition, the MXC-2300 series offers one DisplayPort and one DVI-I port for dual independent display with full HD, four USB 2.0 and one USB 3.0 ports, and 2 GbE LAN ports with teaming function.

With ADLINK's proprietary SEMA (Smart Embedded Management Agent) tool, the MXC-2300 maximizes manageability and security for a world of applications. Provide efficient remote monitoring of system activity and health in real time, system control over a robust secured channel, and fully manageable complete utilization of system resources.

With its ruggedized architecture, flexibility, and rich I/O capacity, the MXC-2300's minimal power consumption, abundant features, and leading performance and cost-efficiency make it the embedded system of choice for industrial automation, facility management, and intelligent transportation systems and applications demanding reliability in harsh environments.

Features

- Intel® Atom™ E3845 processor with 4 core @1.91 GHz SoC
- 2x DDR3L SO-DIMM, supporting up to 8 GB memory
- 2 PCI + 1 PCIe x4 or 3 PCI expansion slots
- Built-in dual-port isolated CAN and 16-CH isolated DI and DO
- 1 DisplayPort + 1 DVI-I
- 2 Intel GbE ports with teaming function, 1 USB 3.0 + 4 USB 2.0 ports
- 1 external CF slot and 1 internal PCIe Mini Card socket with USIM socket
- 2 software-programmable RS-232/422/485 + 2 RS-232 ports
- Built-in 9 to 32 V$_{DC}$ wide-range DC power input
- Rugged, -20℃ to 70℃ Fanless operation (w/ industrial SSD)
- Built-in ADLINK SEMA 2.2 (Smart Embedded Management Agent)
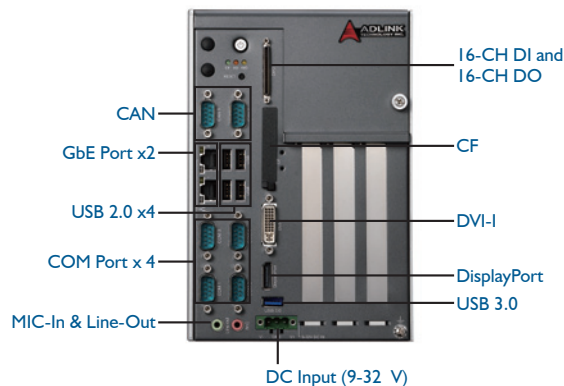
Applications

- Machine Automation/Factory Automation
- Maritime Automation
- Intelligent Transportation System/ Surveillance
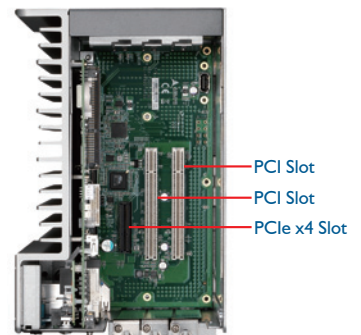- Test Instrumentation

Software Support

OS Information

- Windows® 8/Windows® 8 Embedded
- Windows® 7/ Windows® 7 Embedded
- Linux* Fedora 18

*Linux Distribution by request

■ MXC-2300 Series Front Panel

CAN
GbE Port x2
USB 2.0 x4
COM Port x 4
MIC-In & Line-Out

16-CH DI and 16-CH DO
CF
DVI-I
DisplayPort
USB 3.0
DC Input (9-32 V)

■ Inside of the MXC-2300(CD)-3E1

PCI Slot
PCI Slot
PCIe x4 Slot

Recommended expansion slot configuration options for MXC-2300:
2 PCI + 1 PCIe x4 or 3 PCI expansion slots

*Extending the operating temperature is optional and requires use of an industrial solid-state drive storage device.
Heat dissipation from inserted PCI/PCIe cards may affect thermal performance.

Specifications

Model Name	MXC-2300CD-3EI	MXC-2300CD-3S	MXC-2300-3EI	MXC-2300-3S
System Core				
■ Processor	Intel® Atom™ Processor E3845 Processor, 1.91 GHz, 4 cores; 542/792 MHz graphics frequency (Base/Turbo)			
■ Chipset	Intel SoC (System on Chip)			
■ Video	DisplayPort: resolution up to 2560x1600 VGA: resolution up to 2560x1600 DVI: resolution up to 1920x1200			
■ Memory	4GB DDR3L 1333 MHz SODIMM module, (up to 8 GB with 2 SODIMM sockets)			
I/O Interface				
■ Expansion slots	2 PCI+1 PCIe x4	3 PCI	2 PCI+1 PCIe x4	3 PCI
■ Ethernet	2 Intel® GbE ports (Intel® Springville WGI210IT chipset) Teaming function, Wake On LAN			
■ Serial Ports	2 software-programmable RS-232/422/485 (COM 1&2) with auto-flow control, 2 RS-232 (COM 3&4)			
■ USB	5 external USB ports (4 USB 2.0 + 1 USB 3.0) + 1 internal USB 2 .0			
■ CAN	2 DB9 isolated CAN port with SjA1000 CAN controller		-	
■ DIO	16-CH DI and 16-CH DO with 1.5KV isolation		-	
■ Mini PCIe	1 internal mini PCIe card socket		-	
■ USIM	1 USIM socket for 3G communication		-	
■ Audio	1 MIC-in and 1 Line-out			
Manageability				
■ WDT	Hierarchical WDT supported			
■ SEMA	SEMA 2.2 (Smart Embedded Management Agent)			
Power Supply				
■ DC Input	Built-in 9-32 V_{DC} wide-range DC input pluggable connectors with latch (GND, V-, V+), 2-pin remote power on/off switch			
■ AC Input	Optional 100 W external AC-DC adapter for AC input			
Storage Device				
■ SATA HDD	1x onboard SATA-II port for 2.5" HDD/SSD installation			
■ CompactFlash	1 Type II CF socket CompactFlash socket			
Mechanical				
■ Optional Fan Module	Optional fan module for heat dissipation, smart fan control			
■ Dimensions	142 (W) x219 (D) x210(H) mm (WxDxH) (5.84" x 8.76" x 8.4)			
■ Weight	3.5 kg (7.73 lbs)			
■ Mounting	Wall-mount kit			
Environmental				
■ Operating Temperature	Standard: 0°C to 50°C (32°F to 122°F) Extended temperature option*: -20°C to 70°C (-4°F to 158°F) (w/industrial SSD or CF)			
■ Storage Temperature	-40°C to 85°C (-40°F to 185°F) (excl. HDD/SDD/CF)			
■ Humidity	~95% @ 40°C (104°F) (non-condensing)			
■ Vibration	Operating, 5 Grms, 5-500 Hz, 3 axes (w/ CF or SSD) Operating, 0.5 Grms, 5-500 Hz, 3 axes (w/ HDD)			
■ ESD	Contact +/-4 KV and Air +/-8 KV			
■ Shock	Operating, 50 G, half sine 11 ms duration (w/ CF or SSD)			
■ EMC	CE and FCC Class A			
■ Safety	UL/cUL, CB			

Ordering Information

Model Name	Description	Memory	Expansion Slots	Mini PCIe	CAN	DIO
MXC-2300CD-3EI	Intel® Atom™ E3845 Fanless computer	4 GB DDR3L	2 PCI+1 PCIe x4	1	2	16-CH
MXC-2300CD-3S	Intel® Atom™ E3845 Fanless computer	4 GB DDR3L	3 PCI	1	2	16-CH
MXC-2300-3EI	Intel® Atom™ E3845 Fanless computer	4 GB DDR3L	2 PCI+1 PCIe x4	-	-	-
MXC-2300-3S	Intel® Atom™ E3845 Fanless computer	4 GB DDR3L	3 PCI	-	-	-

Optional Accessories

MXC-2300 Optional Fan Module	Fan module for MXC-2300 series
500 GB HDD Option	Factory-installed 500 GB SATA hard disk drive (0°C to 50°C, 32°F to 122°F)
32/64 GB SSD Option	Factory-installed 32/64 GB MLC SATA solid-state drive (0°C to 70°C, 32°F to 158°F)
32G CF	Factory-installed 32 GB industrial Compact Flash (-40°C to 85°C, -40°F to 185°F)
100 W AC-DC Adapter	100 W industrial grade A C-DC adapter (-20°C to 70°C, -4°F to 158°F)
90 W AC-DC Adapter	90 W commercial grade AC-DC adapter (0°C to 50°C, 32°F to 122°F)
Extended Temperature Option*	Optional screening service to extend the operating temperature to -20°C to 70°C (-4°F to 158°F)

*For more options regarding display and COM port cables, please refer to page 1-28.