

MXC-6300/6310 Series

High Performance 3rd Generation Intel® Core™ i7/i5/i3 Processor-based Fanless Expandable Embedded Computer with PCI/PCIe (Gen2) Slots



Introduction

The Matrix MXC-6300/6310 series is a high-performance fanless embedded computer integrating a 3rd generation Intel® Core™ i7/ i5/i3 processor and QM77 chipset to provide powerful computing and superior graphic performance. Graphic-intensive and computing-oriented applications including image and vision measurement, machine automation, maritime automation, surveillance and high-resolution medical imaging all benefit.

Increased PCI & PCI express (Gen2) expansion slots allow installation of a variety of PCI, PCIe x8 or PCIe x16 add-on cards, meeting the needs of application platform development environments. In addition, the MXC-6300/6310 series offers 2 DisplayPort and one DVI-I port for three independent display support connections, four USB 3.0 and two USB 2.0 ports, and 2 GbE LAN ports with teaming function. The two 2.5" onboard SATA III ports with high speed SATA 6 Gb/s and RAID 0, 1 ensure all data in the RAID array is fully backed up. Built-in 16 CH isolated DIO provides overall industrial control.

Delivering high quality, durable and compact construction, the MXC-6300/6310 series leverages a reliable fanless and cable-free configuration, optimal thermal dissipation, and easy installation for flexible and user-friendly system development and application implementation in harsh environments.

Features

- Supports 3rd generation Intel® Core™ i7/i5/i3 processor + QM77 chipset
- 2 x DDR3 SO-DIMM socket, supporting up to 16 GB memory
- 1 PCI + 2 PCIe x8 slots or 1 PCI + 1 PCIe x16 for MXC-6300 series; 1 PCI + 1 PCIe x16 for MXC-6310 series, supporting PCIe Gen2
- 3 independent display capability with onboard 2 DisplayPort + 1 DVI-I
- 6 external USB ports (4 USB 3.0 + 2 USB 2.0) + 1 internal USB 2.0
- 2 Intel® GbE ports with teaming function, Intel® iAMT 8.0
- 2 CFast sockets, onboard SATA III for 2 x 2.5" HDD/SSD installation, SATA 6Gb/s and RAID 0, 1 support
- Built-in 9 V_{DC} to 32 V_{DC} wide-range DC power input
- Rugged, up to -20°C to 60°C (-4°F to 140°F) fanless operation (w/ industrial SSD)

Applications

- Factory Automation / Machine Vision
- Intelligent Transportation Systems / Surveillance
- Maritime Automation
- High Resolution Medical Imaging

Software Support

OS Information

- Windows® 7/Embedded standard 7/XP/XP Embedded
 - Linux
- *Linux Distribution by Request

Easy-to-install Optional Fan Module



1. Undo the thumbscrews by hand

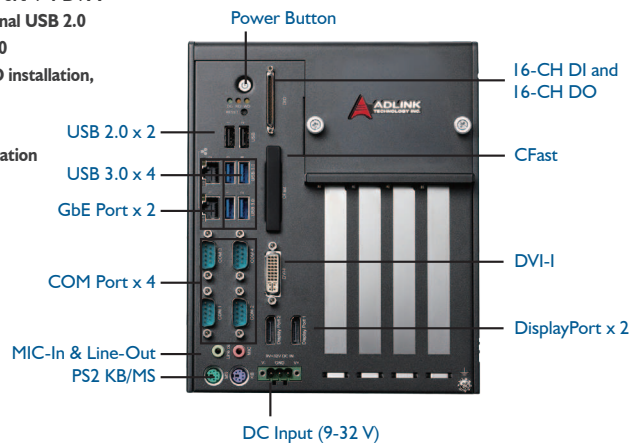


2. Withdraw the thumbscrew and remove the top cover

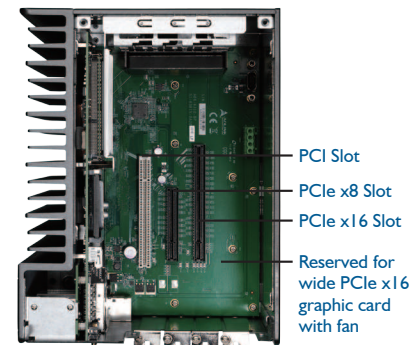


3. Seat the fan module cover and slide into place, the fan connects automatically

MXC-6300 Series Front Panel



Inside of the MXC-6300 Series



*Recommended expansion slot configuration options for MXC-6300 (not applicable for MXC-6310):

- 1 x PCI card + 1 x PCIe x16, with PCIe x8 slot empty
- OR
- 1 x PCI card + 1 x PCIe x8 (in PCIe x8 slot) + 1 x PCIe x8 (in PCIe x16 slot)

For best results, other configurations are not recommended

*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.

Model Name	MXC-6301D/6311D	MXC-6302D/6312D	MXC-6303D/6313D
System Core			
■ Processor	Intel® Core™ i7-3610QE, 2.3 GHz, 6M cache (Max Turbo 3.3 GHz)	Intel® Core™ i5-3610ME, 2.7 GHz, 3 M cache (Max Turbo up to 3.3 GHz)	Intel® Core™ i3-3120ME, 2.4 GHz, 3 M cache
■ Chipset	Intel® Mobile Platform Controller Hub (QM77)		
■ Video	Three independent display capability (2 DisplayPort + 1 VGA or 2 DisplayPort + 1 DVI-D) 1st DP: up to 2560x1600 / 2nd DP: up to 1920x1600 / DVI-I port: up to 1920x1200		
■ Memory	4 GB DDR3 1600 MHz SODIMM module (Max. capacity 16 GB with 2 SODIMM socket option)		
I/O Interface			
■ Expansion Slots	1 PCI + 2 PCIe x8 slots or 1 PCI + 1 PCIe x16 (MXC-6300 series), supporting PCIe Gen2 1 PCI + 1 PCIe x16 (MXC-6310 series), supporting PCIe Gen2		
■ Ethernet	2 Intel® GbE ports (1 Intel® Springville WG1210IT + 1 82579LM) Support Teaming function, Intel iAMT 8.0, Wake On LAN		
■ Serial Ports	2 software-programmable RS-232/422/485 (COM 1&2) with autoflow control, 2 RS-232 (COM 3&4)		
■ USB	6 external USB ports (4 USB 3.0 + 2 USB 2.0) + 1 internal USB 2.0		
■ DIO	16-CH DI and 16-CH DO with 1.5KV isolation		
■ Audio	1 MIC-in and 1 Line-out		
■ KB/MS	1 PS/2 keyboard and 1 PS/2 mouse		
■ WDT	Supports a watchdog timer		
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 160 W external AC-DC adapter for AC input		
Storage Device			
■ SATA HDD	2 onboard SATA-III for 2.5" HDD/SSD installation, SATA RAID 0, 1 & SATA 6 Gb/s support		
■ CompactFlash	2 CFast socket (1 external + 1 internal)		
Mechanical			
■ Optional Fan Module	Optional fan module for dissipating heat generated by PCI/PCIe card, Smart fan control		
■ Dimensions	MXC-6300 series: 172.5 (W) x 225 (D) x 213 (H) mm (6.9" x 9" x 8.52"); MXC-6310 series: 154 (W) x 225 (D) x 213 (H) mm (6.16" x 9" x 8.52")		
■ Weight	MXC-6300 series: 4.3 kg (9.5 lbs); MXC-6310 series: 3.8kg (8.39 lbs)		
■ Mounting	Wall-mount kit		
Environmental			
■ Operating Temperature	Standard: 0°C to 50°C (32°F to 122°F) Extended Temperature: -20°C to 55°C (-4°F to 131°F) (w/industrial SSD or CFast) for MXC-6301D/6311D -20°C to 60°C (-4°F to 140°F) (w/industrial SSD or CFast) for MXC-6302D/6303D/6312D/6313D		
■ Storage Temperature	-40°C to 85°C (-40°F to 185°F) (excl. HDD/SDD/CFast)		
■ Humidity	~95% @ 40°C (104°F) (non-condensing)		
■ Vibration	Operating, 5 Grms, 5-500 Hz, 3 axes (w/ CFast 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/ CFast or SSD)		
■ EMC	CE and FCC Class A		

Ordering Information

Model Name	Description	Expansion Slots	Memory	DIO
MXC-6301D	Intel® Core™ i7-3610QE fanless computer	1 PCI + 2 PCIe x8 slots or 1 PCI + 1 PCIe x16	4 GB DDR	16 DI + 16 DO
MXC-6302D	Intel® Core™ i5-3610ME fanless computer	1 PCI + 2 PCIe x8 slots or 1 PCI + 1 PCIe x16	4 GB DDR	16 DI + 16 DO
MXC-6303D	Intel® Core™ i3-3120ME fanless computer	1 PCI + 2 PCIe x8 slots or 1 PCI + 1 PCIe x16	4 GB DDR	16 DI + 16 DO
MXC-6311D	Intel® Core™ i7-3610QE fanless computer	1 PCI + 1 PCIe x16	4 GB DDR	16 DI + 16 DO
MXC-6312D	Intel® Core™ i5-3610ME fanless computer	1 PCI + 1 PCIe x16	4 GB DDR	16 DI + 16 DO
MXC-6313D	Intel® Core™ i3-3120ME fanless computer	1 PCI + 1 PCIe x16	4 GB DDR	16 DI + 16 DO

Optional Accessories

MXC-6300 Optional Fan Module	Fan module for MXC-6300 series
8/16 GB DDR3 Upgrade	Upgrade to 8/16 GB DDR3 Memory
320/500 GB HDD Option	Factory-installed 320/500 GB SATA hard disk drive (0°C to 60°C, 32°F to 140°F)
8/16 GB CFast Option	Factory-installed 8/16 GB industrial CFast (-40°C to 85°C, -40°F to 185°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)
160 W AC-DC Adapter	160 W industrial grade AC-DC adapter (-20°C to 70°C, -4°F to 158°F)
Extended Temperature Option*	Optional screening service to extend the operating temperature to -20°C to 55°C (-4°F to 131°F) for MXC-6301D/6311D; -20°C to 60°C (-4°F to 140°F) for MXC-6302D/6303D/6312D/6313D