MXC-6000 Series

Powerful Intel® Core™ i7 Processor-based Fanless Expandable Embedded Computer with PCI/PCIe Slots



Introduction

The Matrix MXC-6000 series of powerful fanless, expandable embedded computers feature the Intel® Core i7 2.0 GHz processor for maximized computing. The MXC-6000 inherits its exceptional fanless and cable-free design from ADLINK's existing Matrix C series.

The MXC-6000 series' Intel® Core i7 2.0 GHz processor and Intel® QM57 chipset deliver a level of performance ideal for image and vision measurement and automation applications. PCI and PCIe slots allow integration of off-the-shelf PCI/PCIe cards for development of configurable application platforms. 16 built-in isolated DIO channels enable standardized industrial control. A DVI-I connector output on the front panel allows direct connection to a LCD panel, and one eSATA port supports storage expansion or hot-swapping SATA drives.

Leveraging a reliable fanless and durable cable-free design, the MXC-6000 series exhibits excellent dependability in harsh environments, where severe temperature variation and vibration may exist. The MXC-6000 series provides an optional hot-pluggable fan module to dissipate heat generated within the system when high power consumption PCI/PCIe cards are installed. This inventive mechanical design retains a cable-free structure which dramatically improves thermal stability when PCI/PCIe cards are installed.

The MXC-6000 also provides an USB 2.0 port internally located on a riser card, enabling heightened reliability for secure applications, with license keys or password encryption on an internal USB dongle dramatically improve system security. Combining a reliable design with computing power and innovative features, the Matrix MXC-6000 series is the optimal choice on which to base any rugged application system.

*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

Features

- Intel® Core i7-620LE 2.0 GHz processor + Intel® QM57 chipset
- Configurable, providing PCI and PCIe x4 slots
- Rugged, -10°C to 60°C (-14°F to 140°F) fanless operation*
- Built-in 9 VDC to 32 VDC wide-range DC power input
- VGA+DVI-D display by DVI-I connector
- Dual 1000/100/10 Mbps Ethernet ports, 2 RS-232 ports and 2 software-selectable RS-232/422/485 ports
- USB 2.0 port internally on riser card, built-in 16-CH isolated DI and 16-CH isolated DO
- RAID 0, 1 function available through 2 internal SATA-connected HDD or one internal SATA-connected HDD and one external eSATA-connected HDD

Applications

- Machine Automation / Factory Automation
- Image & Vision Measurement
- Test Instrumentation
- Safety Surveillance

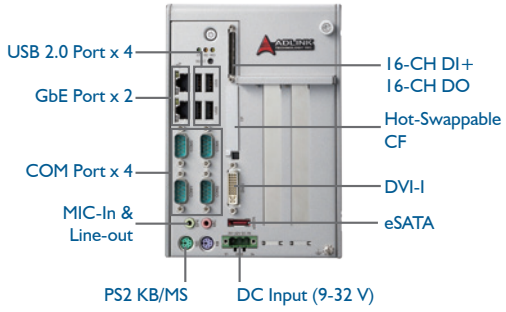
Software Support

OS Information

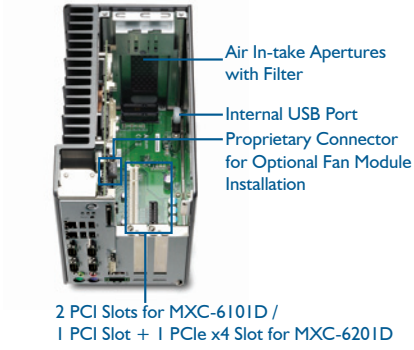
- Windows® XP/XP Embedded/7
- Linux*
- INtime*

*Linux Distribution by Request
*Custom BIOS is necessary to support INtime®

■ MXC-6000 Series Front Panel



■ Inside of the MXC-6000 Series



■ Easy-to-install Hot-pluggable Fan Module



1. Undo the thumbscrew by hand
2. Withdraw the thumbscrew and remove the top cover
3. Replace it by plugging the hot-pluggable fan module cover into the fan connector on CPU board

■ A More Reliable Design of Internal USB Port



The Matrix internal USB 2.0 port provides increased application security with connectivity for license keys or password encryption on USB dongle.

Specifications

Model Name	MXC-6101D	MXC-6201D
System Core		
Processor	Intel® Core i7-620LE 2.0 GHz CPU	
Chipset	Intel® QM57	
Video	VGA+DVI display by DVI-I connector • Analog CRT, supports QXGA (2048 x 1536) resolution • DVI-I 1.0 (DVI + VGA) (with external cable for connecting DVI-I connector to DVI-D and VGA device) • Optional 48-bit LVDS (by Internal box header)	
Memory	2 GB DDR3 800/1066 MHz SODIMM module (Max. capacity 4 GB SODIMM module option)	
I/O Interface		
Expansion Slots	2 PCI slots	1 PCI slot and 1 PCIe x4 slot
Ethernet	2 GbE ports (2 Intel® 82574L)	
Serial Port	2 software-programmable RS-232/422/485 (COM1 & COM2) 2 RS-232 (COM3 & COM4)	
USB	4 USB 2.0 ports (external), 1 USB 2.0 port (internal)	
Audio	1 mic-in and 1 line-out	
KB/MS	1 PS/2 keyboard and 1 PS/2 mouse	
DIO	16-CH isolated DI + 16-CH isolated DO	
WDT	Supports a watchdog timer	
Power Supply		
DC Input	AT/ATX, built-in 9-32 VDC wide-range DC power input 3P pluggable connector with latch (GND, V-, V+)	
AC Input	Optional 100 W external AC-DC adapter for AC input	
Storage Device		
SATA HDD	On-board SATA port for 2.5" HDD/SSD installation Support SATA RAID 0, 1	
CompactFlash	1 external type II CompactFlash socket 1 internal type II CompactFlash socket	
eSATA	1 eSATA interface connector for external storage expansion	
Mechanical		
Optional Fan Module	Optional hot-pluggable fan module for dissipating heat generated by PCI/PCIe card	
Dimensions	130 mm (W) x 225 mm (D) x 183 mm (H) (5.1" x 8.9" x 7.2")	
Weight	3.5 kg (7.72 lbs)	
Mounting	Wall-mount kit	
Environmental		
Operating Temperature*	Standard: 0°C to 50°C (32°F to 122°F) Extended temperature option*: -10°C to 60°C (-14°F to 140°F) (w/industrial SSD)	
Storage Temperature	-40°C to 85°C (-40°F to 185°F) (excl. HDD/SSD/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)	
Shock	Operating, 50 G, Half sine 11 ms duration (w/ CF or SSD)	
EMC	CE and FCC Class A	

*Without PCI/PCIe card installation.

Ordering Information

Model Name	Description	PCI	PCIe x4	GbE	eSATA	COM	USB	Memory	DIO
MXC-6101D	Intel® Core i7-620LE 2.0 GHz fanless expandable embedded computer	2	0	2	1	4	5	2 GB DDR3	16 DI+16 DO
MXC-6201D	Intel® Core i7-620LE 2.0 GHz fanless expandable embedded computer	1	1	2	1	4	5	2 GB DDR3	16 DI+16 DO

Optional Accessories

MXC-6000 Optional Fan Module	Optional Fan module fan module for the MXC-6000 series
4 GB DDR3 Upgrade	Upgrade to 4 GB DDR3 memory
500 GB HDD Option	Factory-installed 500 GB SATA hard disk drive (0°C to 60°C, 32°F to 140°F)
32/64/128 GB SSD Option	Factory-installed 32/64/128 GB SATA solid-state drive (0°C to 70°C, 32°F to 158°F)
100 W AC-DC Adapter	100 W industrial-grade AC-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 to extend the operating temperature of the MXC-6000 series to -10°C to 60°C (-14°F to 140°F)

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

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

*Updated January 24, 2014. ©2014 ADLINK Technology, Inc. All Rights Reserved. All specifications are subject to change without further notice.