Matrix MXC-6000 Series

Powerful Intel® Core i7 Fanless Expandable Embedded Computer with PCI/PCIe Slots

Introduction

The Matrix MXC-6000 series of powerful fanless, expandable embedded computers feature the new 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 more 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 to -10°C to +60°C is optional and requires use of an industrial solid-state drive storage device. Heat dissipation from inserted PCI/PCIe cards may affect thermal performance

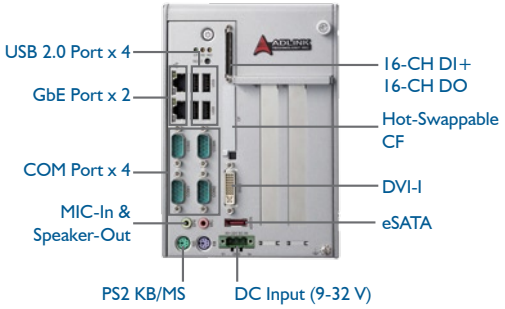
Features

- Intel® Core i7-620LE 2.0 GHz processor + Intel® QM57 chipset
- Configurable, providing PCI and PCIe x4 slots
- Rugged, -10°C to 60°C 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
- Two RS-232 ports and two 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

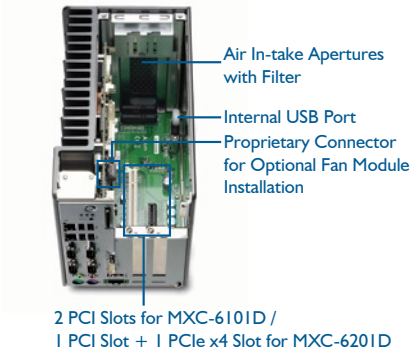
Applications

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

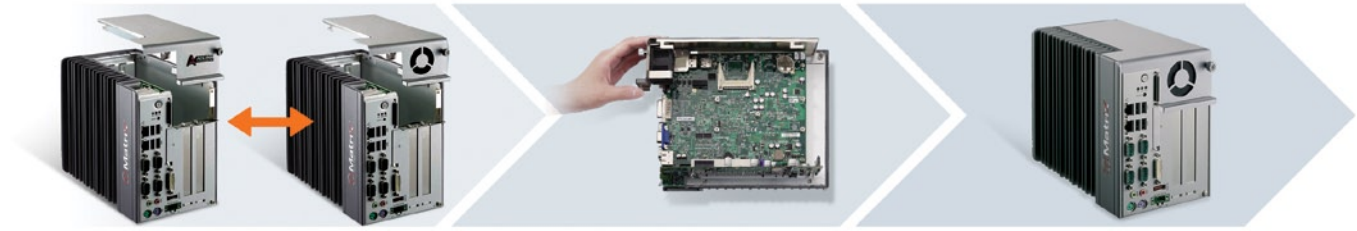
■ MXC-6000 Series Front Panel



■ Inside of the MXC-6000 Series



■ An Ingenious Design of Easy-to-install and Hot-pluggable Fan Module

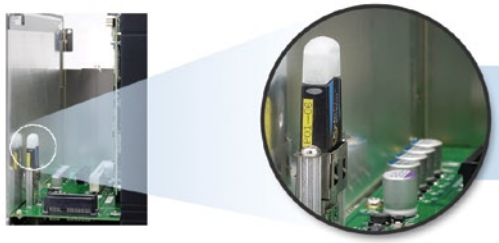


1. Open the top cover of MXC-6000

2. Insert the optional fan module by gently sliding it into the fan connector

3. Replace the cover

■ 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-D display by DVI-I connector • Analog CRT, supports QXGA (2048 x 1536) resolution • DVI 1.0 (DVI-D + 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 1066 MHz SODIMM module	
I/O Interface		
Expansion Slots	2 PCI slots	1 PCI slot and 1 PCIe x4 slot
Ethernet	2 GbE ports (2 Intel® 82574L)	
Serial Ports	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 speaker-out	
KB/MS	1 PS/2 keyboard and 1 PS/2 mouse	
DIO	16-CH isolated DI + 16-CH isolated DO	
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	Two On-board SATA ports for 2.5" HDD/SSD installation	
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 (w/HDD) Extended option: -10°C to 60°C (w/industrial SSD)	
Storage Temperature	-40°C to 85°C (excl. HDD/SSD/CF)	
Humidity	~95% @ 40°C (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	

*Without PCI/PCIe card installation.

Ordering Information

Model Name	Description	PCI	x4 PCIe	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	Hot-pluggable fan module for the MXC-6000 series
4 GB DDR3 upgrade	Upgrade to 4 GB DDR3 memory
320 GB HDD option	Factory-installation of 320 GB SATA hard disk drive
32 GB SSD option	Factory-installation of 32 GB SATA solid-state drive
8 GB industrial SSD option	Factory-installation of 8 GB industrial-grade SATA solid-state drive
100 W AC adapter	100 W industrial-grade AC adapter
Extended Temperature Option*	Extend the operating temperature of the MXC-6000 series to -10°C to 60°C

*This option guarantees cold boot of the system at -10°C and operation with 100% loading at 60°C. The industrial solid-state drive storage option is required.