MXC-6300/6310/6320 Series

3rd Generation Intel® Core™ i7/i5/i3/Celeron® PGA Processor-based Expandable Fanless Embedded Computer

Features

- Supports 3rd generation Intel® Core™ i7/i5/i3/Celeron® processor + QM77 chipset
- 2 x DDR3 SO-DIMM sockets, 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, 3 PCI + 1 PCIe x16 for MXC-6320 series
- 3 independent displays: 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, internal SATA III for 2 x 2.5" HDD/SSD installation, SATA 6Gb/s and RAID 0,1 support
- Rugged, up to -20°C to 55/60°C fanless operation (w/ industrial SSD/CFast)



Introduction

The Matrix MXC-6300/6310/6320 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-6300/6310/6320 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-6300/6310/6320 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.

Applications

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

Software Support

- **Win10/ Win7/Embedded standard 7/WES 2009**
- **Linux (by request)**

Ordering Information

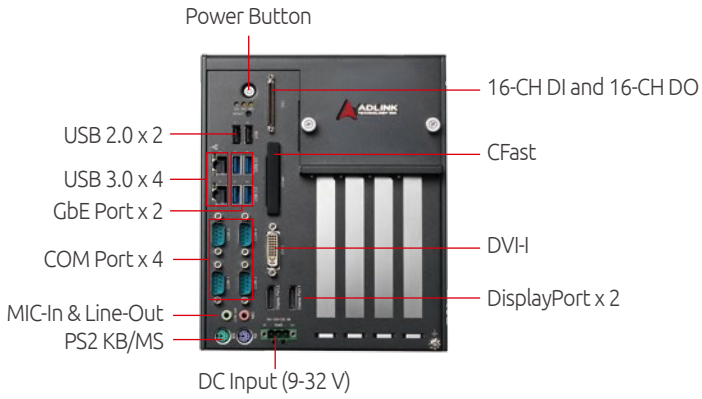
- **MXC-6301/ 6302/ 6303/ 6305**
  Intel® Core™ i7/i5/i3/Celeron®, w/ 1 PCI + 2 PCIe x8 or 1 PCIe x16 slots
- **MXC-6311/ 6312/ 6313/ 6315**
  Intel® Core™ i7/i5/i3/Celeron®, w/ 1 PCI + 1 PCIe x16 slots
- **MXC-6321/ 6322/ 6323/ 6325**
  Intel® Core™ i7/i5/i3/Celeron®, w/ 3 PCI + 1 PCIe x16 slots

Optional Accessories

- **Optional Fan Kit**
  Fan kit for MXC-6300/ 6320
  Fan kit for MXC-6310
- **8/ 16 GB DDR3 Upgrade**
  Upgrade to 8/ 16 GB DDR3 memory
- **HDD/ SSD/ CFast storage**
  Factory-installed and test
- **160 W AC-DC Adapter**
  160 W industrial grade AC-DC adapter
- **Wireless Kit Option**
  WiFi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ Antenna)
- **Extended Temperature Option**
  Optional screening to extended temperature of i7 CPU to -20 to 55°C; i5/i3/Celeron® CPU to -20 to 60°C

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Product Illustration



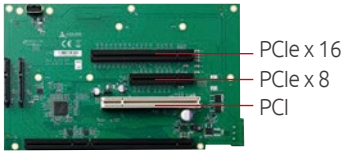
Specifications

Model Name	MXC-6301D/6311D/6321D	MXC-6302D/6312D/6322D	MXC-6303D/6313D/6323D	MXC-6305D/6315D/6325D
System Core				
Processor	Intel® Core™ i7-3610QE, 2.3/3.3 GHz, 6M cache	Intel® Core™ i5-3610ME, 2.7/3.3 GHz, 3 M cache	Intel® Core™ i3-3120ME, 2.4 GHz, 3 M cache	Intel® Celeron 1020E, 2.2 GHz, 2 M cache
Chipset	Intel® Mobile Platform Controller Hub (QM77)			
Video	3 independent display: 2 DisplayPort + 1 DVI-I 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), 1 PCI + 1 PCIe x16 (MXC-6310 series), 3 PCI + 1 PCIe x16 (MXC-6320 series)			
Ethernet	2 Intel® GbE ports (Intel® 82579 / I210) 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 VDC 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/MXC-6320 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-6300/6320 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 option*: -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			
Safety	UL/cUL, CB, KCC			

Versatile Expansion

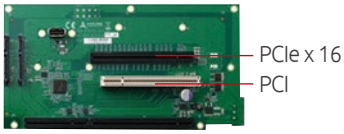
The MXC-6300 series offer various of expansion slot options for flexible function enhancement and easier system integration.

MXC-6300 (3 Slots)

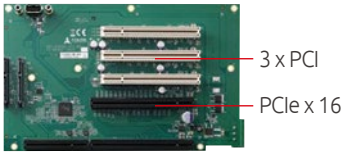


Recommended expansion slot configuration options for MXC-6300:
1 PCI +2 PCIe x8 slots or 1 PCI + 1 PCIe x16

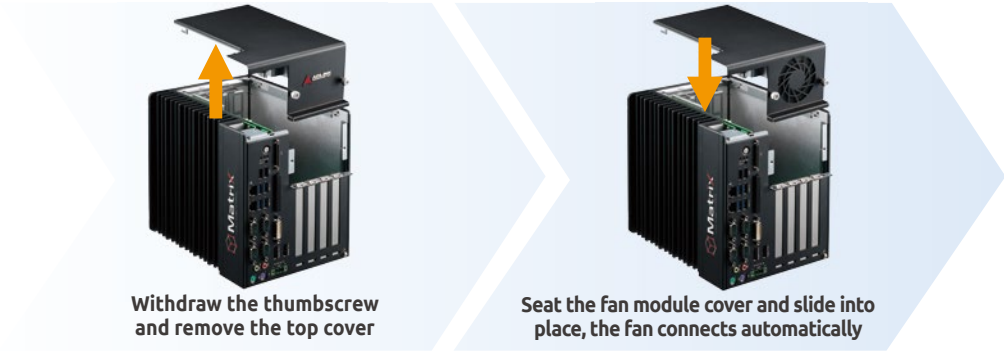
MXC-6310 (2 Slots)



MXC-6320 (4 Slots)



Easy-to-install Optional Fan Module



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