MXC-6400 Series

6th Generation Intel® Core™ i7/i5/i3 Processor-Based Expandable Fanless Embedded Computer

Features

- 6th Gen Intel® Core™ i7/i5/i3 Processors and QM170 chipset
- 2 DDR4 SO-DIMM sockets support up to 32 GB memory
- 1 PCI and 2 PCIe Gen3 x8 (or 1 PCIe Gen3 x16) slots
- Support for 3 independent displays via 2 DisplayPort and 1 DVI-I ports with resolution up to 4K UHD
- 6 USB 3.0 ports and 1 internal USB 2.0 wafer connector
- 2 hot-swappable SATA III trays on the front panel and 2 internal SATA III ports with RAID 0/1/5/10 support
- Remote power on/off switch connector on the front panel
- Rugged construction provides fanless -20°C to 70°C operability (with industrial grade SSD/CFast)
- Built-in SEMA 3.0



Introduction

The Matrix MXC-6400 series is a line of high-performance fanless embedded computers, integrating 6th generation Intel® Core™ i7/i5/i3 processors and the QM170 chipset for more powerful computing and graphics performance with minimal power consumption.

Features include 3 PCI/PCIe expansion slots allowing installation of a variety of off-the-shelf PCI/PCIe cards for configurable applications, 2 internal mPCIe, and 1 USIM slot for 4G/3G communication. In addition, the MXC-6400 series offers independent digital display support from DisplayPort and DVI-I with resolution up to 4K UHD, as well as 6 USB 3.0 and 3 GbE LAN ports with Intel® iAMT 11.0 and teaming function. The 2 hot-swappable SATA III trays support 2.5" storage in the front panel with high speed SATA 6.0 Gb/s and 2 internal SATA III ports carry RAID 0, 1, 5, 10 support. 16 channel isolated DI/O with digital filter meets the needs of general purpose industrial automation.

Features with the integrated 6th Generation Intel® Core™ i7/i5/i3 processor, 4x 2.5” SATA III (6Gb/s) ports, fanless rugged constrction, operating shock tolerance up to 50G, withstanding vibration up to 5Grms and extended operating temperatures of -20°C to 70°C (with industrial grade SSD/CFast), the MXC-6400 Series fully satisfies all the needs of Intelligent Transportation System as railway rolling stock, maritime, in-vehicle infotainment, and high-speed data processing and mission critical industrial automation.

Software Support

- **Win10/Win7/Embedded Standard 7**
- **Linux® Ubuntu 16.04 LTS**

Ordering Information

- **MXC-6401D**
  Intel® Core™ i7-6820EQ, 4GB DDR4 SODIMM
- **MXC-6402D**
  Intel® Core™ i5-6440EQ, 4GB DDR4 SODIMM
- **MXC-6403D**
  Intel® Core™ i3-6100E, 4GB DDR4 SODIMM

Optional Accessories

- **MXC-6400 Optional Fan Module**
  P/N: 91-95199-0010
- **8/16/32 GB DDR4 Option**
  Upgrade to 1x 8GB/ 2x 8GB/ 2x 16GB DDR4 SODIMM
- **2.5" SATA HDD/SSD & CFast**
  Factory-installed and test
- **160W AC-DC Adapter**
  160W industrial grade AC-DC adapter (-20 to 70°C. -4°F to 158°F)
- **Extended Temperature Option***
  Optional screening service to extended operating temperature (-20 to 70°C)
- **Kit for Internal USB Wafer Connector**
  P/N: 91-95199-100E (including 2 sets)
  A cable for type A USB connector, bracket and screws for fixing the cable

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Specifications

Model Name	MXC-6401D	MXC-6402D	MXC-6403D
System Core			
Processor	Intel® Core™ i7-6820EQ 4 Core/8 Threads, 2.8GHz, 8M Cache (Max Turbo Frequency 3.5 GHz)	Intel® Core™ i5-6440EQ 4 Core/4 Threads, 2.7GHz, 6M Cache (Max Turbo Frequency 3.4 GHz)	Intel® Core™ i3-6100E 2 Core/4 Threads, 2.7 GHz, 3M Cache
Chipset	Intel® QM170		
Video	2 DisplayPort (4K2K resolution) 1 DVI-I		
Memory	2x DDR4 SODIMM up to 32GB		
I/O Interface			
Expansion slots	1 PCI +2 PCIe Gen3 x8 or 1 PCI + 1 PCIe Gen3 x16 (auto switched)		
Mini PCIe	2x full size Mini PCIe		
USIM	1 USIM		
Ethernet	3x GbE (2 Intel I210IT + 1 I219 PHY)		
Serial Ports	COM1/2: RS-232/422/485 COM3/4: RS-232		
USB	6 USB 3.0 2 w/ 1600 mA, 4 w/ 900 mA 1 internal USB 2.0 wafer connector		
DIO	Isolated 16x DI + 16x DO		
Audio	ALC262, Line-out/ Mic-in		
KB/MS	1 PS/2 keyboard and 1 PS/2 mouse		
Manageability			
Security	TPM1.2		
WDT	Watch Dog Timer supported		
Storage Device			
2.5" SATA	2x removable drive bays 2x internal (RAID 0/ 1/ 5/ 10)		
CompactFlash	1 type II CFast		
Power Supply			
DC Input	Built-in 9-32 VDC wide-range DC input 3 pluggable connectors with latch (GND, V-, V+) 3-pin remote power on/off switch on the front		
AC Input	Optional 160 W external AC-DC adapter		
Mechanical			
Optional Fan Module	Optional hot-pluggable fan module, smart fan control		
Dimensions	170 (W) x 225 (D) x 200 (H) mm		
Weight	4 kg (8,82 lbs)		
Mounting	Wall-mount kit		
Environmental			
Operating Temperature	Standard: 0°C to 50°C (32°F to 122°F) (w/HDD) Extended option*: -20°C to 70°C (-4°F to 158°F) (w/Ind. SSD or CFast)		
Storage Temperature	-40°C to 85°C (-40°F to 185°F) (excl. HDD/SSD/CFast)		
Humidity	approx. 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		

*Extended operating temperature is optional and requires use of an industrial solid-state drive storage device or CFast card.
**Other Linux Distribution support by request

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