

# MIC-7500

## 6th Generation Intel® Core™ i Compact Fanless System



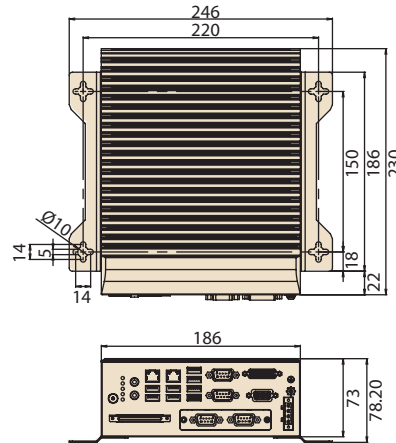
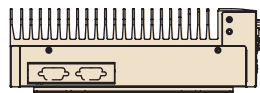
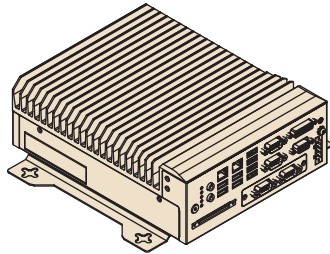
### Features

- 6th generation Intel® Core™ i7/i5/i3 Celeron BGA-type processor with Intel® QM170 chipset
- Wide operating temperature (-20 ~ 60 °C)
- 9 ~ 36 V DC input power range
- 2 x RS-232/422/485 and 4 x RS232 serial ports (with expansion cable)
- 1 x 2.5" HDD, 1 x CFast, and 1x mSATA
- Supports isolation COM and 32-bit GPIO modules
- 2 x GigaLAN and 8 x USB 3.0
- VGA and DVI output
- Supports Advantech's i-module, SUSIAccess, and embedded software APIs

### Specifications

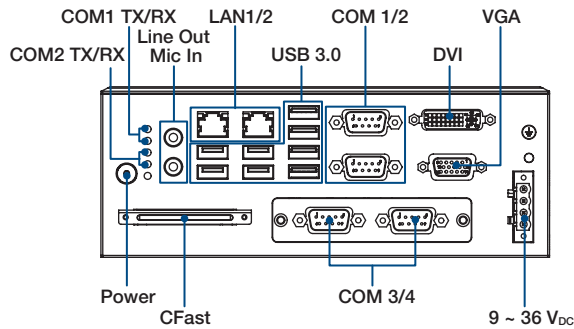
System Chipset	CPU	Intel® Core™ i7-6820EQ	Intel® Core™ i7-6822EQ	Intel® Core™ i5-6442EQ	Intel® Core™ i3-6102E	Intel Celeron G3900E
	Maximum Speed	2.8 GHz	2.0 GHz	1.9GHz	1.9 GHz	2.4 GHz
	L3 Cache	8M	8 MB	6 MB	3 MB	2 MB
	Chipset	Intel® QM170				
	BIOS	AMI® SPI 64 Mb				
Memory	Technology	Dual-channel DDR4 2133 MHz (without ECC)				
	Socket	2 x 260-pin 4 GB DDR4 SODIMM (up to 16 GB per socket)				
	Maximum Capacity	4 GB (expandible up to 32 GB)				
Display	Chipset	Intel® HD Graphics 530, supports DirectX 12				
	VGA	1 x DB15, up to 2048 x 1536 maximum resolution				
	DVI	1 x DVI, up to 1920 x 1200 maximum resolution @ 30Mhz (with optional cable expansion for second DVI connector)				
	Multiple Display	Supports 3 x independent display				
Ethernet	Controller	LAN1: Intel® i219-LM LAN2: Intel® i210 (supports wake-on-LAN)				
	Interface	2 x RJ-45				
Storage	HDD	1 x 2.5" HDD				
	CFast	1				
	RAID	0/1/5/10				
I/O	USB	8 x USB 3.0 and 1 x internal USB 2.0				
	Serial Port	2 x DB9, RS232/422/485 with automatic flow control and 4 x RS-232 (with optional cable expansion)				
	Audio	2 (1 x line out and 1 x mic in)				
Expansion	Module	Supports Advantech i-modules (MIC-75M13/MIC-75M40/MIC-75M20/MIC-75S20/MIC-75M11)				
	Mini PCIe	2 x Mini PCIe, One for USIM, One for m-SATA				
LED and Switch	LED	2 x TX, 2 x RX, and 1 x Storage				
	Button	1 x Power on/off switch				
Power	Type	ATX/AT				
	Input Voltage	9 ~ 36 V <sub>DC</sub>				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1 ~ 255 sec/min				
Environment	Temperature	Intel i7-6820EQ Operating (with industrial SSD only)	Operating (with industrial SSD)	Operating (with HDD)	Non-Operating	
		-20 ~ 50 °C with 0.7 m/s air flow Note: MIC-7500 i7-6820EQ system support SSD only.	-20 ~ 60 °C with 0.7 m/s air flow	0 ~ 40 °C	-40 ~ 85 °C	
	Humidity	95% @ 40 °C (non-condensing)				
	Vibration	With SSD: 3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis			2G	
Shock	With SSD: 20G, IEC-68-2-27, half-sine wave, 11 ms duration			50G 11 ms		
Mechanical	Dimensions (W x H x D)	74 x 192 x 230 mm				
	Weight	2.9 kg (6.39 lbs)				
	Installation	Desktop/wall mount				
Certifications	EMC	CE/FCC Class A, CCC, BSMI				
	Safety	UL, CCC, BSMI				

## Dimensions

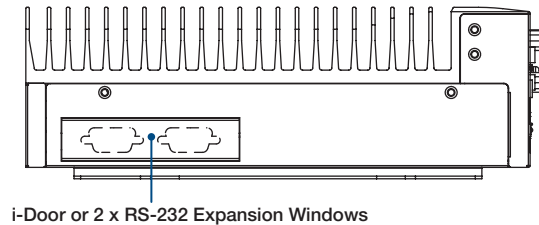


Unit: mm

## Front View



## Side View



## Ordering Information

Part Number	CPU	Memory	VGA	DVI	2.5" HDD	CFast	USB 3.0	GbE	COM	PCIe	Power
MIC-7500-U8A1E	i7-6820EQ (45W)	4G (Socket Type)	1	1	1	1	8	2	4	i-Module (optional)	9 ~ 36V DC
MIC-7500-U0A1E	i7-6822EQ	4G (Socket Type)	1	1	1	1	8	2	4	i-Module (optional)	9 ~ 36V DC
MIC-7500-S9A1E	i5-6442EQ	4G (Socket Type)	1	1	1	1	8	2	4	i-Module (optional)	9 ~ 36V DC
MIC-7500-19A1E	i3-6102E	4G (Socket Type)	1	1	1	1	8	2	4	i-Module (optional)	9 ~ 36V DC
MIC-7500-U4A1E	Celeron G3900E (45W)	4G (Socket Type)	1	1	1	1	8	2	4	i-module(optional)	9 ~ 36V DC

## Packing List

Part Number	Description
MIC-7500	6th Gen Intel Core i fanless system
2061750000	CD-ROM
2001750000	Startup manual
1652003234	4-pin Phoenix power connector
1960070543N001	2 x Mounting bracket
1700019445	SATA cable
1700024372-01	SATA power cable
1701200220	Dual DP9 port cable

## Optional Accessories

Part Number	Description
96PSA-A220W24P4-1	Adaptor A/D, 100-240V, 220W, 24V
96PSA-A150W19P4-1	Adaptor A/D, 100-240V, 150W, 19V
1702002600	Power cord (USA) UL/CSA, 3-pin, 10A, 125V, 1.83 M, 180 D
1700022940-01	Power cord PSE, 3-pin, 7A, 125V, 3 m, DAC-ST01
1702002605	Power cord (EU) 2-pin, 10/16A, 220V, 1.83 M, 90 D
AIIS-DIO32-00A1E	AIIS GPIO module (32 bit)
98R1C48500E	Isolation COM module
PCA-TPM-00A1E	TPM module
98R1750000E	Secondary DVI cable accessory kit
98R1750010E	Secondary HDMI cable/Remote power connector accessory kit

Note:

- MIC-7500 supports the i-door module (both MOS and PCM series). Visit the Advantech website for more information.
- The PCM series module requires a bracket (P/N: 1960065854N001) that must be ordered separately.

## Optional i-Module

Part Number	Description
MIC-75M40	4-slot expansion module (4 x PCIe slots)
MIC-75M13	4-slot expansion module (1 x PCIe and 3 x PCI slots)
MIC-75M20	2-slot expansion module (2 x PCIe slots)
MIC-75M20-01	2-slot expansion module (2xPCIe slots)
MIC-75M11	2-slot expansion module (1 x PCIe and 1 x PCI slots)
MIC-75S20	2-slot expansion and storage module (2 x PCIe and 2 x 2.5 hot swappable HDDs)

\*Additional i-module details provided on the following page

## Embedded OS

Part Number	Description
2070014106	img WES7P MIC-7500 x64 V5.6.6 10MUI
2070014584	img WES7P MIC-7500 x32 V5.3.0 10MUI

# i-Module for MIC-7 Series

## Compatible with MIC-7 Series Fanless Systems

### 4-Slot Expansion Modules

#### MIC-75M40

- 1 x PCIe x8
- 3 x PCIe x4
- 1 x SATA (2 x 2.5" HDD bays)
- Supports 1 x 8-cm fan (optional)
- Dimensions (W x H x D): 90 x 192 x 230 mm
- Operating Temperature:
  - 20 ~ 60 °C (with 0.7 m/s air flow and integrated industrial SSD without PC expansion boards)
  - 0 ~ 50 °C (if integrated with a fan module and industrial SSD with graphics/PoE card)



#### Note

- For expansion cards with more than 45W power consumption, a fan should be added for thermal management.
- MIC-75M40 does not support MIC-73 series systems.

#### MIC-75M13

- 1 x PCIe x16
- 3 x PCI
- 1 x SATA (2 x 2.5" HDD bays)
- Supports 1 x 8-cm fan (optional)
- Dimensions (W x H x D): 90 x 192 x 230 mm
- Operating Temperature:
  - 20 ~ 60 °C (with 0.7 m/s air flow and integrated industrial SSD without PC expansion boards)
  - 0 ~ 50 °C (if integrated with a fan module and industrial SSD with graphics/PoE card)



#### Note

- For expansion cards with more than 45W power consumption, a fan should be added for thermal management.
- For MIC-73 series systems (with Intel® Atom™ CPU), only 1 PCIe x4 is supported.

### 2-Slot Expansion Modules

#### MIC-75M20 MIC-75M20-01

- MIC-75M20: 1xPCIEx16/1xPCIEx4
- MIC-75M20-01: 2 x PCIEx8
- Supports 2 x 4-cm fans (optional)
- Dimensions (W x H x D): 45 x 192 x 230 mm
- Operating Temperature:
  - 20 ~ 60 °C (with 0.7 m/s air flow and integrated industrial SSD without PC expansion boards)
  - 0 ~ 50 °C (if integrated with a fan module and industrial SSD with graphics/PoE card)



#### Note

- For expansion cards with more than 45W power consumption, a fan should be added for thermal management.
- MIC-75M20 does not support MIC-73 series systems.

#### MIC-75M11

- 1 x PCIe x16
- 1 x PCI
- Supports 2 x 4-cm fans (optional)
- Dimensions (W x H x D): 45 x 192 x 230 mm
- Operating Temperature:
  - 20 ~ 60 °C (with 0.7 m/s air flow and integrated industrial SSD without PC expansion boards)
  - 0 ~ 50 °C (if integrated with a fan module and industrial SSD with graphics/PoE card)



#### Note

- For expansion cards with more than 45W power consumption, a fan should be added for thermal management.
- For MIC-73 series systems (with Intel® Atom™ CPU), support 1 PCIe x4 / 3 PCI socket.

#### MIC-75S20

- 1 x PCIe x16
- 1 x PCIe x4
- 2 x Hot-swappable HDD trays (HDD tray supports 15mm HDD)
- Supports 1 x 8-cm fan (optional)
- Dimensions (W x H x D): 90 x 192 x 230 mm



#### Note

- Install an SSD for wide temperature range. If the system does not feature an SSD, a fan should be added for thermal management.
- MIC-75S20 does not support high-performance expansion cards (i.e., graphics or PoE cards).
- MIC-75S20 does not support MIC-73 series systems.

### Optional Accessories

Part Number	Description
98R1751300E	8-cm fan for 4-slot i-module
98R1752000E	2 x 4-cm fan for 2-slot i-module
98R1752010E	Secondary HDD bracket (for 2-slot i-modules)

### Ordering Information

Part Number	Description
MIC-75M13-00A1E	4-Slot expansion i-module with 1 PCIe x16, 3 PCI
MIC-75M40-00A1E	4-Slot expansion i-module with 1 PCIe x8, 3 PCIe x4
MIC-75M11-00A1E	2-Slot expansion i-module with 1 PCIe x16, 1 PCI
MIC-75M20-00A1E	2-Slot expansion i-module with 1 PCIe x16, 1 PCIe x4
MIC-75M20-01A1E	2-Slot expansion i-module with 2 PCIe x8
MIC-75S20-00A1E	2-Slot expansion i-module with 1 PCIe x16, 1 PCIe x4, 2 2.5" HDD bay