

# MIC-7700

## Intel® 6<sup>th</sup>/7<sup>th</sup> Generation Core i Desktop Compact Fanless System



### Features

- Intel® 6<sup>th</sup>/7<sup>th</sup> Generation Core i Desktop CPU (LGA1151) with Q170/H110 chipset
- 2 x RS-232/422/485 and 4 x RS232 serial ports (with expansion cable)
- 1 x 2.5" HDD, 1 x CFast, 1x mSATA and 1 mini-PCIe with SIM
- Supports 2 LAN, Isolation COM, 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
- 9 ~ 36 V DC input power range
- Wide operating temperature



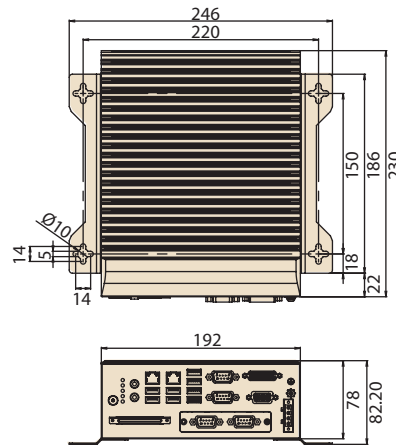
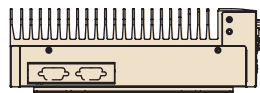
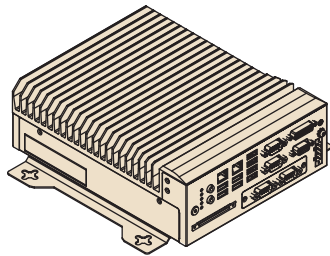
### Specifications

6 <sup>th</sup> Generation Processor	CPU	i5-6500	i3-6100	i7-6700TE	i5-6500TE	i3-6100TE	G4400TE	G3900TE	
	Core	4	2	4	4	2	2	2	
	Base Frequency	3.2 GHz	3.7 GHz	2.4 GHz	2.3 GHz	2.7 GHz	2.9 GHz	2.6 GHz	
	L3 Cache	6 MB	4 MB	8 MB	6 MB	4 MB	3 MB	2 MB	
	TDP	65W	65W	35W	35W	35W	35W	35W	
Temperature	65W: -10 ~ 40 °C (with SSD)			35W: -10 ~ 50 °C (with SSD)					
Chipset	Q170/H110								
BIOS	AMI 128Mb SPI Flash								
7 <sup>th</sup> Generation Processor	CPU	i5-7500	i3-7100E	i7-7700T	i5-7500T	i3-7101TE			
	Core	4	2	4	4	2			
	Base Frequency	3.4 GHz	3.9 GHz	2.9 GHz	2.7 GHz	3.4 GHz			
	L3 Cache	6 MB	3 MB	8 MB	6 MB	3 MB			
	TDP	65W	65W	35W	35W	35W			
Temperature	-10 ~ 40 °C (with SSD)								
Chipset	Q170/H110								
BIOS	AMI 128Mb SPI Flash								
Memory	Technology	Dual-channel DDR4 2133 MHz (without ECC)							
	Socket	2 x 260-pin DDR4 SODIMM (up to 16 GB per socket)							
	Maximum Capacity	32GB (16GB per DIMM)							
Display	Chipset	Q170: Intel® HD Graphics 530, supports DirectX 12 H110: Intel® HD Graphics 510, supports DirectX 12							
	VGA	1 x DB15, up to 2048 x 1152 maximum resolution							
	DVI	1 x DVI, up to 1920 x 1080 maximum resolution @ 30MHz							
	Multiple Display	Q170: 3 x independent display (The 3rd display output by optional cable) H110: 2 x independent display							
Ethernet	Controller	Q170 LAN1: Intel I219LM, LAN2: Intel i210IT H110 LAN1: Intel I219V, LAN2: Intel i210IT							
	Interface	2 x RJ-45							
Storage	HDD	1 x 2.5" HDD							
	CFast	1							
	mSATA	1							
	RAID	0/1/5/10, supported by Q SKU only							
I/O	USB	Q170: 8 x USB 3.0 and 1 x internal USB 2.0 H110: 4 x USB 3.0 and 4 x USB 2.0							
	Serial Port	2 x DB9, RS232/422/485 with automatic flow control and 2 x RS-232							
	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	Q170: 2 x Mini-PCIe. One is with USIM and the other is mini-PCIe/mSATA H110: 2 x Mini-PCIe. One is with USIM and the other is mSATA only							
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	65W CPU w/ industrial SSD*		35W CPU w/ industrial SSD		Non-Operating			
		-10 ~ 40 °C		-10 ~ 50 °C**		-40 ~ 85 °C			
	Humidity	95% @ 40 °C (non-condensing)							
	Vibration	With SSD: 3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis With 2.5" HDD: 1 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)	78 x 192 x 230 mm							
	Weight	2.8 kg (6.17 lbs)							
	Installation	Desktop/wall mount							
Certifications	EMC	CE/FCC Class A, CCC, BSMI							
	Safety	UL, CCC, BSMI							

\* Not include i7-6700

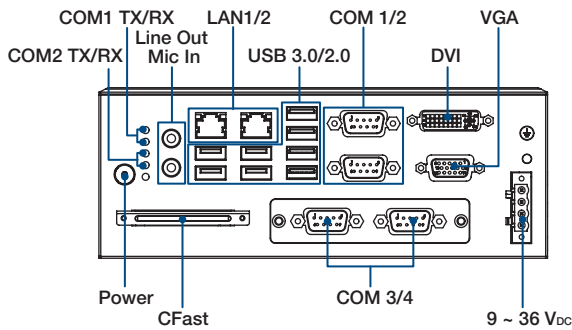
\*\* The 7th generation CPU only supports -10 ~ 40 °C

## Dimensions

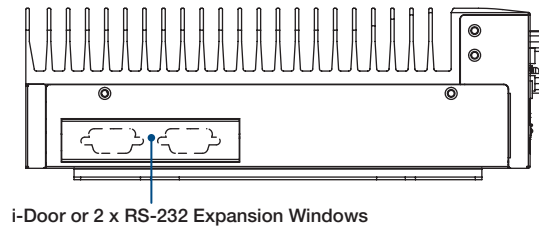


Unit: mm

## Front View



## Side View



## Ordering Information

Part Number	VGA	DVI	2.5" HDD	CFast	USB 3.0	USB 2.0	GbE	COM**	PCIe	Power
MIC-7700Q-00A1	1	1	1	1	8	0	2	4	i-Module (optional)	9 ~ 36V DC
MIC-7700H-00A1	1	1	1	1	4	4	2	4	i-Module (optional)*	9 ~ 36V DC

\* MIC-7700H does NOT support MIC-75M40 & MIC-75M20-01

\*\* 2 x RS-232/422/485 and 2 x RS-232

## Packing List

Part Number	Description
MIC-7700	6th Gen Intel Core i fanless system
2061770000	CD-ROM
2001770000	Startup manual En/CN for MIC-7700 1st Ed
2001770010	Startup manual TC for MIC-7700 1st Ed
1652003234	4-pin Phoenix power connector
1960070543N001	2 x Mounting bracket
1700013095	SATA cable
1700024372-01	SATA power cable
1701200220	Dual DB9 port cable

## Optional i-Module

Part Number	Description
MIC-75M40 (Q170 only)	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 (Q170 only)	2-slot expansion module (2 x PCIe 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

## 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-00B1E	TPM 2.0 module
98R1750000E	Secondary DVI cable accessory kit
98R1750010E	Secondary HDMI cable/Remote power connector accessory kit
98R1770000E	2 LAN module

Note:

- MIC-7700 supports the i-door modules (both MOS and PCM series), except for PoE model. Visit the Advantech website for more information.
- The PCM series module requires a bracket (P/N: 1960065854N001) that must be ordered separately.

## Embedded OS

Part Number	Description
TBD	image WES7P MIC-7700 x64

# 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:
  - 0 ~ 40 °C (with 0.7 m/s air flow and integrated industrial SSD without PC expansion boards)
  - 0 ~ 40 °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-7700H.

#### 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:
  - 0 ~ 40 °C (with 0.7 m/s air flow and integrated industrial SSD without PC expansion boards)
  - 0 ~ 40 °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 PCIe x8
- Supports 2 x 4-cm fans (optional)
- Dimensions (W x H x D): 45 x 192 x 230 mm
- Operating Temperature:
  - 0 ~ 40 °C (with 0.7 m/s air flow and integrated industrial SSD without PC expansion boards)
  - 0 ~ 40 °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-75M20-01 does not support MIC-7700H.

#### 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:
  - 0 ~ 40 °C (with 0.7 m/s air flow and integrated industrial SSD without PC expansion boards)
  - 0 ~ 40 °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