MIC-7700

Compact Fanless System with 6th/7th Gen Intel® Core™ i CPU Socket (LGA 1151)



Features

- Intel® 6th/7th Gen Core™ i CPU socket-type (LGA1151) with Intel® Q170/H110 chipset
- Wide operating temperature (-10 ~ 50 °C)
- VGA and DVI output
- 2 x GigaLAN and 8 x USB 3.0
- 2 x RS-232/422/485 and 4 x RS232 serial ports
- 1 x 2.5" HDD/SSD, 1 x CFast, and 1 x mSATA
- 9 ~ 36 V_{DC} input power range
- Supports 2 x LAN, isolation COMs, and 32-bit GPIO modules
- Supports Advantech i-Modules
- Supports Advantech SUSIAccess and embedded software APIs

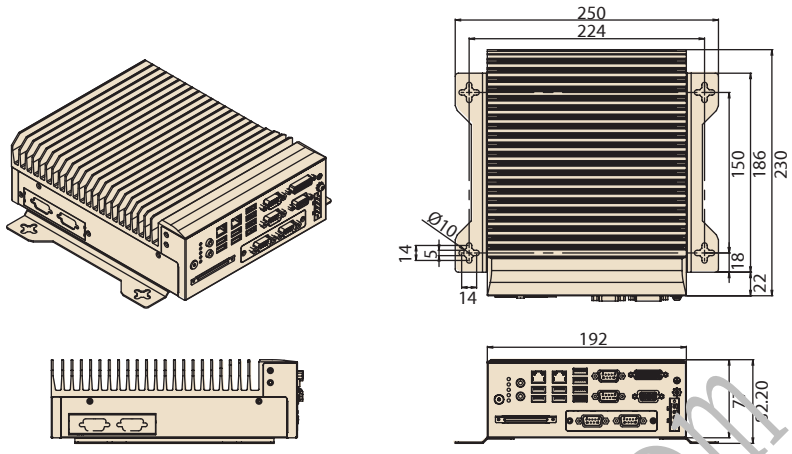
Specifications

6th/7th Generation Processor* (TDP 35W)	CPU	i7-6700TE	i5-6500TE	i3-6100TE	G4400TE
	Core Number	4	4	2	2
	Base Frequency	2.4 GHz	2.3 GHz	2.7 GHz	2.9 GHz
	Max Turbo Frequency	3.4 GHz	3.3 GHz		
	L3 Cache	8 MB	6 MB	4 MB	3 MB
	Temperature	-10 ~ 50 °C (w/ industrial SSD, 0.7 m/s air flow)			
	Chipset	Q170/H110			
	BIOS	AMI 128Mb SPI Flash			
6th/7th Generation Processor* (TDP 65W)	CPU	I5-7500	[illegible]710	I5-6500	I3-6100
	Core Number	4	2	4	2
	Base Frequency	3.4 GHz	3.9 GHz	3.2 GHz	3.7 GHz
	Max Turbo Frequency	4.0GHz		3.6GHz	
	L3 Cache	6 MB	[illegible]	6 MB	4 MB
	Temperature	-10 ~ 40 °C (w/ industrial SSD, 0.7 m/s air flow)			
	Chipset	Q170/H110			
	BIOS	AMI 128Mb SPI Flash			
Memory	Technology	Dual-channel DDR4 2133/2400 MHz (without ECC)			
	Socket	2 x 260-pin DDR4 SODIMM (up to 16 GB per socket)			
	Maximum Capacity	32GB			
Display	Chipset	7th Gen. CPU: Intel HD Graphics 630, supports DirectX 12 6th Gen. CPU: Intel HD Graphics 530/510, supports DirectX 12			
	VGA	1 x D-Sub, up to 2048 x 1152 maximum resolution			
	DVI	1 x DVI, up to 1920 x 1080 maximum resolution @ 30Mhz (with optional expansion cable for second DVI connector, or 1 x HDMI connector)			
	Multiple Display	MIC-7700Q: 3 x independent displays (third display output via optional cable) MIC-7700H: 2 x independent displays			
Ethernet	Controller	MIC-7700Q LAN1: Intel® I219LM, LAN2: Intel® i210IT MIC-7700H LAN1: Intel® I219V, LAN2: Intel® i210IT			
	Interface	2 x RJ45			
Storage	HDD	1 x 2.5" HDD/SSD			
	CFast	1			
	mSATA	1			
	RAID	0/1/5/10 (MIC-7700Q only)			
	SATA Conn.	MIC-7700Q: 3 x SATA signal, 3 x SATA power MIC-7700H: 1 x SATA signal, 1x SATA power			
I/O	USB	MIC-7700Q: 8 x USB 3.0 and 1 x internal USB 2.0 MIC-7700H: 4 x USB 3.0 and 4 x USB 2.0			
	Serial Port	2 x DB9, 2 x RS-232/422/485 support auto flow control; 4 x RS-232 (with expansion cable)			
	Audio	2 (1 x line out and 1 x mic in)			
Expansion	Module	Supports Advantech i-Modules			
	Mini PCIe	MIC-7700Q: 1 x mini PCIe (via USIM), 1 x mini PCIe/mSATA MIC-7700H: 1 x mini PCIe (via USIM), 1 x mSATA			
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_{DC}			
	Power consumption	Typical: 32.062W Maximum: 116.002W			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec/min			
Environment	Temperature	65W CPU w/ industrial SSD -10 ~ 40 °C with 0.7 m/s air flow	35W CPU w/ industrial SSD -10 ~ 50 °C with 0.7 m/s air flow		Non-operating -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)	77 x 192 x 230 mm (3.07" x 7.55" x 9.05")			
	Weight	2.8 kg (6.17 lbs)			
	Installation	Desktop/wall mount			
Certifications	EMC	CE/FCC Class A, CCC, BSMI			
	Safety	UL, CCC, BSMI			
OS Support		7th Gen. CPU: Windows 10, Windows 10 IoT 6th Gen. CPU: Windows 10, Windows 10 IoT, Windows 8 .1 (64 bit), Windows 7	MIC-7700Q: Windows Server 2016 Linux OS		

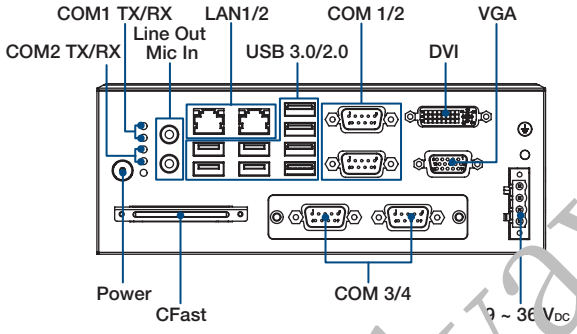
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Dimensions

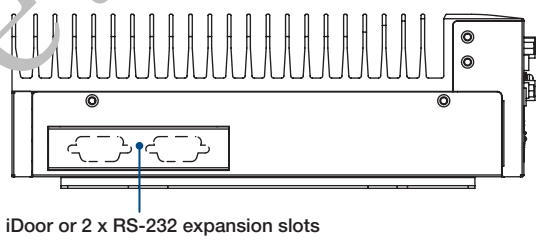
Unit: mm



Front View



Side View



Ordering Information

Part Number	VGA	DVI	2.5" HDD/SSD	CFast	mSATA	USB 3.0	USB 2.0	GbE	COM	PCIe	Power
MIC-7700Q-00A1	1	1	1	1	1	8	0	2	4, up to 6 via cable	i-Module (optional)	9 ~ 36V_{DC}
MIC-7700H-00A1	1	1	1	1	1	4	4	2	4, up to 6 via cable	i-Module (optional)*	9 ~ 36V_{DC}

*MIC-7700H does not support MIC-75M40 or MIC-75M20-01

Packing List

Part Number	Description	Quantity
MIC-7700	MIC-7700 bare system	1
2061770010	Driver CD	1
2001770030	Startup manual ENCNTC for MIC-7700 1st Ed	1
1652003234	4-pin Phoenix power connector	1
1960070543T001	Mounting bracket	2
1700013095	SATA cable	1
1700024372-01	SATA power cable	1
1701200220	Dual DB9 port cable (for COM5/COM6 expansion)	1
2170000093-01	CPU thermal grease	1
1990019498N000	RAM thermal pad	2

Optional i-Modules**

Part Number	Description
MIC-75M40 (MIC-7700Q 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 (MIC-7700Q only)	2-slot expansion module (2 x PCIe slots)
MIC-75M11	2-slot expansion module (1 x PCIe and 1 x PCI slots)
MIC-75M10	1-slot expansion module (1 x PCIe)
MIC-75S20	2-slot expansion and storage module (2 x PCIe and 2 removable 2.5" storage bay
MIC-75G20	GPU card expansion i-Module (2 x PCIe, 2 x removable 2.5" storage bay)

**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	DIO module, 32-CH, 9-pin USB interface
PCA-TPM-00B1E	TPM 2.0 module
98R1750000E	Secondary DVI accessory kit
98R1750010E	HDMI cable/Remote switch accessory kit
98R1750030E	HDMI accessory kit
98R1750040E	Remote switch accessory it
9891790040E	Dual LAN module accessory kit

Note:
* Suggest to use for MIC-7700 with i-Module added.
** Suggest to use for MIC-7700 without i-Module added.
1. MIC-7700 supports Advantech iDoor modules (both MOS and PCM series), excluding the PoE model.
2. The PCM series module requires a bracket (P/N: 1960065854N001) that must be ordered separately.

Embedded OS

Part Number	Description
2070015330	img WES7P MIC-7700H 64b 1701 10 MUI
2070015331	img WES7P MIC-7700Q 64b 1701 10 MUI
20706WX6ES0012	img W10 16EL MIC-7700Q 64b 1709 ENU (Entry)
20706WX6ES0013	img W10 16EL MIC-7700H 64b 1709 ENU (Entry)

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i-Module Series

Expansion Module for MIC-7000 Series



Features

- Flexible expansion via PCIe/PCI slot
- MIC-7000 series compatible
- Optional smart fan for thermal optimization
- Provide additional 12Vdc power source for add-on card
- Maximum 85W for add-on card power consumption
- 2.5" storage bays for HDD/SSD expansion
- Hot Swappable HDD/SSD supported

Introduction

The i-Module series provide flexible expansion function for MIC-7000 series systems. MIC-7000 system accompanied with i-Module technology can fulfill diverse demands of customers.

Compatible Table

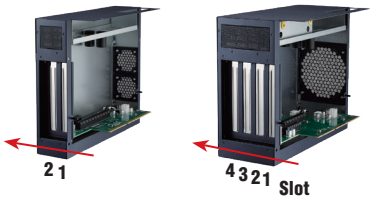
Model	MIC-7500 / MIC-7700 / MIC-7900			MIC-7300	
1-Slot	MIC-75M10 			-	
2-Slot	MIC-75M20 	MIC-75M20-01* 	MIC-75M11 	MIC-73M20 	MIC-73M11 
4-Slot	MIC-75M40* 	MIC-75M13 	MIC-75S20 	MIC-73M13 	

*MIC-7700H doesn't support MIC-75M20-01 and MIC-75M40

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Selection Table

i-Module slot number starts from the inner side, as the image on the right.



i-Module	MIC-75M10	MIC-75M11	MIC-75M20	MIC-75M20-01	MIC-75M40	MIC-75M13	MIC-75S20	MIC-73M20	MIC-73M11	MIC-73M13
Slot 1	PCIe x16	PCIe x16	PCIe x4	PCIe x8	PCIe x4	PCIe x16	PCIe x16	PCIe x1	PCIe x1	PCIe x1
Slot 2	-	PCI	PCIe x16	PCIe x8	PCIe x8	PCI	PCIe x4	PCIe x1	PCI	PCI
Slot 3	-	-	-	-	PCIe x4	PCI	-	-	-	PCI
Slot 4	-	-	-	-	PCIe x4	PCI	-	-	-	PCI
SATA Conn	-	1								
SATA PWR	-	1								
2.5" Storage Bay	-	1*			2		2x Hot Swap + 2x Internal**	1*		2
N.W. (kg)	0.64	0.87			1.16		1.60	0.87		1.16
G.W. (kg)	1.71	2.02			2.47		2.80	2.02		2.47
i-Module (W x H x D)	24 x 192 x 230	50 x 192 x 230			90 x 192 x 230			50 x 192 x 230		90 x 192 x 230
MIC-7000 + i-Module (W x H x D)	97 x 192 x 230	123 x 192 x 230			163 x 192 x 230			123 x 192 x 230		163 x 192 x 230
MIC-7700 + i-Module (W x H x D)	101 x 192 x 230	127 x 192 x 230			167 x 192 x 230			-		-
System Fan (Optional)***	-	4cm 98R1752000E			8cm 98R1751300E			4cm 98R1752000E		8cm 98R1751300E
12V$_{DC}$ Conn	1									
PCI/PCIe Card Max. Length (with fan)	181mm									
PCI/PCIe Card Max. Length (without fan)	207mm									

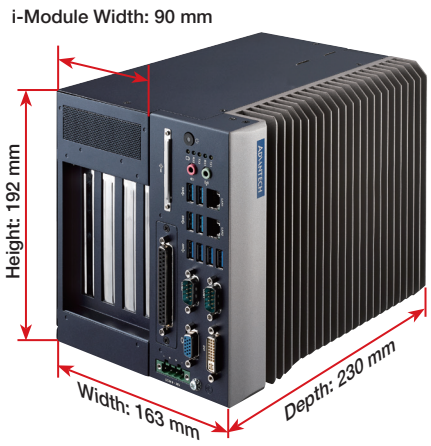
* Need to order 98R1752010E

** MIC-7500 and MIC-7700H: 1x SATA Conn.; MIC-7700Q: 3x SATA Conn.; MIC-7900: 4x SATA Conn.

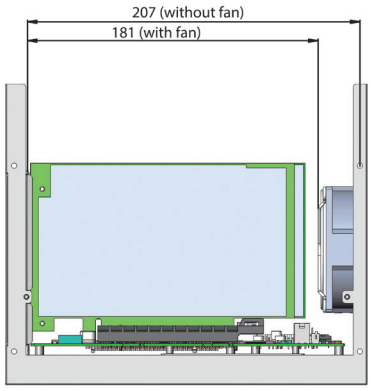
*** Suggest to add optional system fan if power consumption of add-on card is more than 45W for better thermal management.

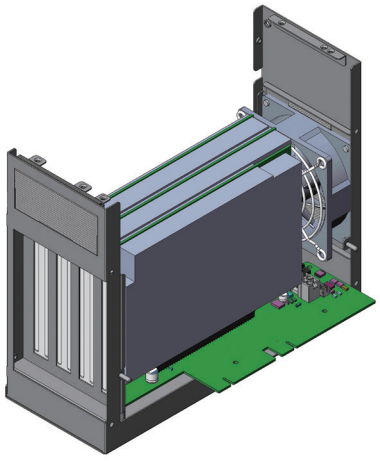
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Dimension Guide



Example: MIC-7500 + MIC-75M40





PCI/PCIe Card Max. Length Support

HDD / SSD Support Table

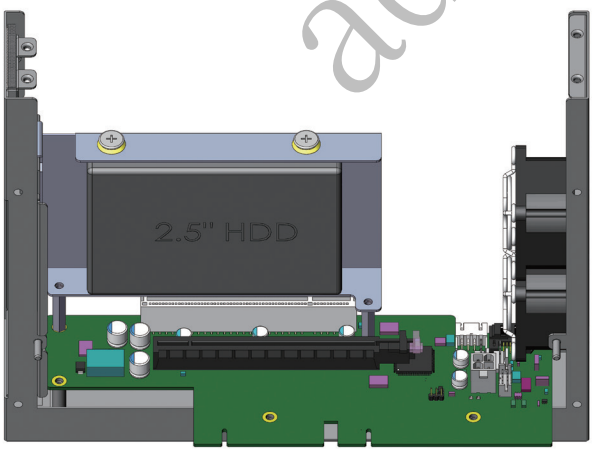
Every model of the MIC-7000 series can be installed with one HDD or SSD. With the i-Module, the numbers of supported HDD/SSD bay are as below:

Model	In i-Module	In MIC-7000	Max. No	Note
MIC-75M10	0	1	1	
MIC-75M20 MIC-75M20-01 MIC-75M11 MIC-73M20 MIC-73M11	1*	1	2	* Need to order 98R1752010E
MIC-75M40 MIC-75M13 MIC-73M13	2	1	3	With MIC-7900 or MIC-7700Q, , it can support to 3 x HDD/SSD
MIC-75S20	2x Hot Swap + 2x Internal	1	5	With MIC-7900, it can support up to 5 x HDD/SSD With MIC-7700Q, it can support up to 4 x HDD/SSD

Note: i-Module BUS has only one channel SATA signal between i-Module and MIC-7000 system.



2nd HDD bracket for 2-slot i-Module



Ordering information: 98R1752010E

Supportable i-Module: MIC-75M20, MIC-75M11, MIC-73M20, and MIC-73M11

Limitation: Slot 2 will be occupied

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-75M20-00B1	2-slot expansion i-Module with 1 PCIe x16, 1 PCIe x4
MIC-75M20-01A1E	2-slot expansion i-Module with 2 PCIe x 8
MIC-75M10-00A1	1-slot expansion i-Module with 1 PCIex16
MIC-75S20-00A1E	2-slot expansion i-Module with 1 PCIe x16, 1 PCIe x4, 2 2.5" HDD bay
MIC-73M13-00A1E	4-slot expansion i-Module with 1 PCIe x1, 3 PCI
MIC-73M11-00A1E	2-slot expansion i-Module with 1 PCIe x1, 1 PCI
MIC-73M20-00A1E	2-slot expansion i-Module with 2 PCIe x1

Optional Accessories

Part Number	Description
98R1751300E	8-cm fan for 4-slot i-Modules
98R1752000E	2 x 4-cm fan for 2-slot i-Modules
98R1752010E	Secondary HDD bracket (for 2-slot i-Modules)
1700024858-01	4-pin 12V_{DC} power cable (15cm)

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