DATENBLATT

MIC-7700-Serie

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D-82239 Alling bei München

Erwähnte Firmen- und Produktnamen sind zum Teil eingetragene Warenzeichen der jeweiligen Hersteller.

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 FlexIO and iDoor technology, flexible configure additional HDMI, DVI, DIO, Remote switch IO
- Supports Advantech i-Modules
- Supports Advantech SUSIAccess and embedded software APIs

Specifications

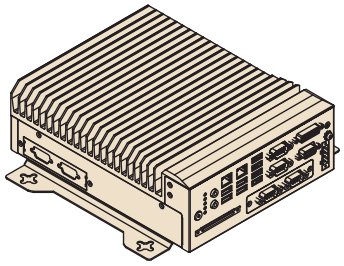
6th/7th Generation Processor* (TDP 35W)	CPU	i7-6700TE	i5-6500TE	i3-6100TE	G4400TE
	Core Number	4	4	2	2
	Base Frequency	2.4 GHz	2.3 GHz	2.7 GHz	2.9 GHz
	Max Turbo Frequency	3.4 GHz	3.3 GHz		
	L3 Cache	8 MB	6 MB	4 MB	3 MB
	Temperature	-10 ~ 50 °C (w/ industrial SSD, 0.7 m/s air flow)			
	Chipset	Q170/H110			
	BIOS	AMI 128Mb SPI Flash			
6th/7th Generation Processor* (TDP 65W)	CPU	I5-7500	I3-7101E	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	3 MB	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 DB15, 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	Q170: 3 x independent displays (third display output via optional cable) H110: 2 x independent displays			
Ethernet	Controller	Q170 LAN1: Intel® I219LM, LAN2: Intel® i210IT H110 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.	Q170: 3 x SATA signal, 3 x SATA power H110: 1 x SATA signal, 1x SATA power			
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, 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	Q170: 1 x mini PCIe (via USIM), 1 x mini PCIe/mSATA H110: 1 x mini PCIe (via USIM), 1 x mSATA			
LED and Switch	LED	2 (1 x Storage and 1 x Power), 4 for COM1 TX/RX and COM2 TX/RX			
	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			

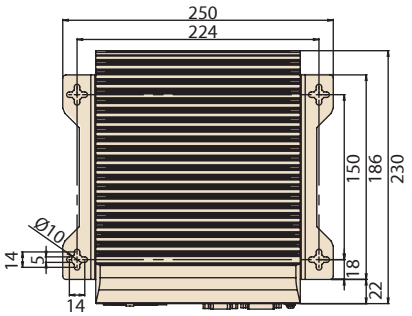
All product specifications are subject to change without notice.

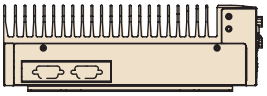
Last updated: 9-Sep-2019

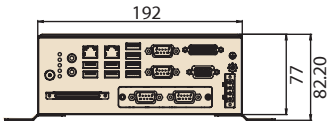
Dimensions

Unit: mm

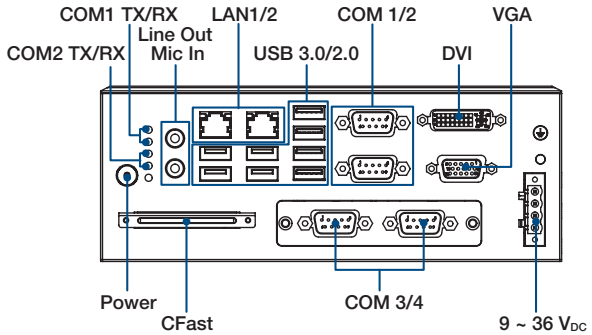




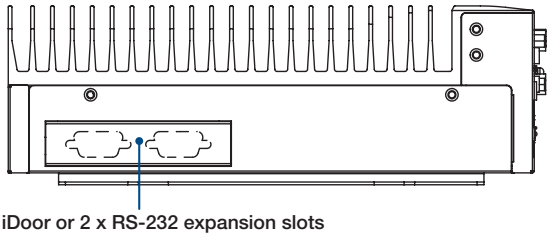




Front View



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 (Optional)	i-Module (optional)	9 ~ 36V_{DC}
MIC-7700H-00A1	1	1	1	1	1	4	4	2	4, up to 6 (Optional)	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 EN\CN\TC 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 (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-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)

* Please refer to i-Module datasheet for more detail.

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)
PCA-TPM-00B1E	TPM 2.0 module
98R1750000E	MIC DVI kit FIO
98R1750010E	MIC HDMI/Remote Switch kit FIO
98R1750030E	MIC HDMI kit FIO
98R1750040E	MIC Remote Switch kit FIO
98R1750080E	MIC Reset/Remote Switch/5VDC kit FIO
98R1750090E	MIC GPIO kit
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
20706WX9HS0008	img W10 19HL MIC-7700H 64b 1809 ENU
20706WX9VS0010	img W10 19VL MIC-7700H 64b 1809 ENU
20706WX9ES0013	img W10 19EL MIC-7700H 64b 1809 ENU
20706WX9HS0007	img W10 19HL MIC-7700Q 64b 1809 ENU
20706WX9VS0009	img W10 19VL MIC-7700Q 64b 1809 ENU
20706WX9ES0012	img W10 19EL MIC-7700Q 64b 1809 ENU

i-Module Series

Expansion Module for MIC-7 Series

Features

- Flexible expansion via PCIe/PCI slot
- MIC-7 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
- Support 250W power consumption GPU card by GPU i-Module
- Expansion for 2.5" HDD/SSD bay
- Swappable HDD/SSD supported

Introduction

MIC i-Module Series provide flexible expansion function for MIC-7 Series system. MIC i-Module Series support PCIe/PCI I/F add-on card, such as frame grabber, GPU and motion control cards, etc.. Except for the power from PCIe/PCI slot, i-Module reserves additional 12VDC power via the on-board connector for cards that need more power. To better control over the heat generated from add-on cards, optional system fans are supported with intelligent Smart Fan feature for better thermal management. With additional HDD/SDD bays in i-Module, customer can have more rooms for massive data storage. Removable storage bays are also supported.

Compatible Table

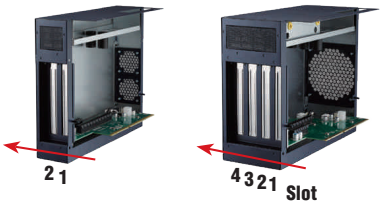
i-Module / MIC-7 System	1-slot	2-slot		
	MIC-75M10	MIC-75M20	MIC-75M20-01	MIC-75M11
MIC-7300	✓	✓	✓	✓
MIC-7500	✓	✓	✓	✓
MIC-770Q/7700Q	✓	✓	✓	✓
MIC-770H/7700H	✓	✓	–	✓
MIC-7900	✓	✓	✓	✓

i-Module / MIC-7 System	4-slot		Featured	
	MIC-75M40	MIC-75M13	MIC-75S20	MIC-75G20
MIC-7300	–	✓	✓	–
MIC-7500	✓	✓	✓	✓
MIC-770Q/7700Q	✓	✓	✓	✓
MIC-770H/7700H	–	✓	✓	✓
MIC-7900	✓	✓	✓	✓

All product specifications are subject to change without notice.
Last updated: 20-Jun-2019

Selection Table

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

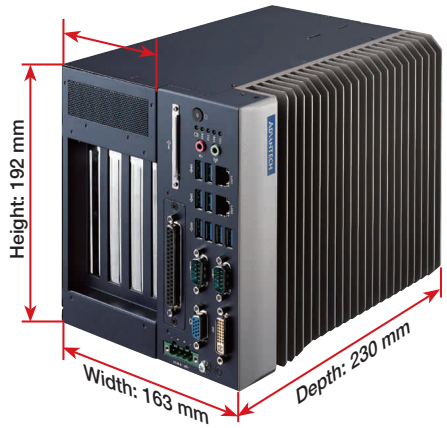


i-Module	MIC-75M10	MIC-75M11	MIC-75M20	MIC-75M20-01	MIC-75M40	MIC-75M13	MIC-75S20	MIC-75G20
Slot 1	PCIe x16*	PCIe x16*	PCIe x4*	PCIe x8*	PCIe x4	PCIe x16*	PCIe x16*	PCIe x4
Slot 2	-	PCI	PCIe x16*	PCIe x8*	PCIe x8	PCI	PCIe x4*	-
Slot 3	-	-	-	-	PCIe x4	PCI	-	PCIe x16
Slot 4	-	-	-	-	PCIe x4	PCI	-	-
SATA Port	-	1						
SATA PWR	-	1						
2.5" HDD/SSD Bay	-	1**			2		2 x Swappable + 2 x Internal	2 x Swappable
N.W. (kg)	0.64	0.87			1.16		1.60	2.99
G.W. (kg)	1.71	2.02			2.47		2.98	4.79
i-Module (W x H x D)	24 x 192 x 230	50 x 192 x 230			90 x 192 x 230			110 x 192 x 350
MIC-7000 + i-Module (W x H x D)	97 x 192 x 230	123 x 192 x 230			163 x 192 x 230			184 x 192 x 350
MIC-77X + i-Module (W x H x D)	101 x 192 x 230	127 x 192 x 230			167 x 192 x 230			187 x 192 x 350
System Fan	-	98R1752000E (Optional)***			98R1751300E (Optional)***			Embedded
$12V_{DC}$ Conn	1							
$12V_{DC}$ Conn. for GPU	-							2
PCI/PCIe Card Max. Length (with fan)	190.2 mm				184.75 mm			287.35 mm
PCI/PCIe Card Max. Length (without fan)	210.4 mm							-

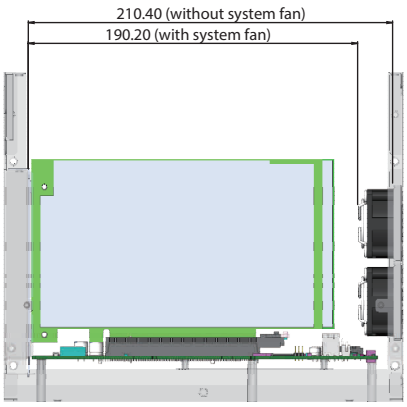
* If install on MIC-7300, this slot is PCIe x1 signal.
** Need to order 98R1752010E (2.5" HDD/SSD kit for 2-slot i-Module)
*** Suggest to add optional system fan if power consumption of add-on card is more than **45W** for better thermal management.

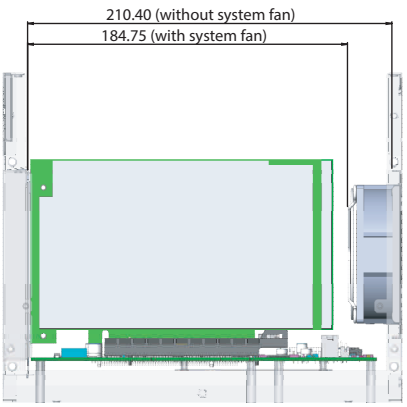
Dimension Guide

i-Module Width: 90 mm



i-Module Add-on card Dimension Guide



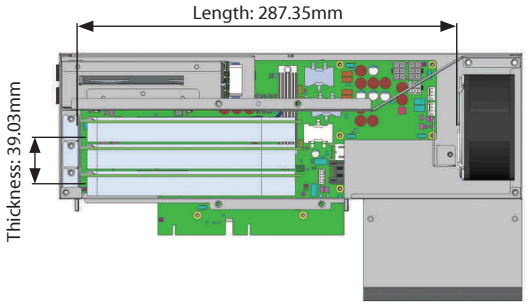


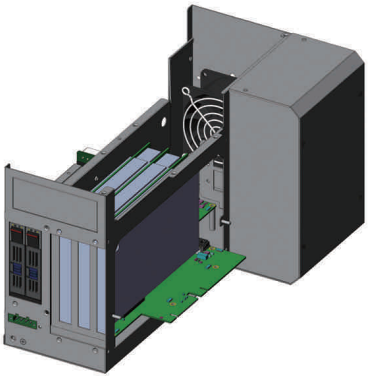
Example: MIC-7500 + MIC-75M40
Using MIC-77xx, width will be increased by 4mm.

2-slot i-Module

4-slot i-Module

MIC-75G20 GPU card Dimension Guide





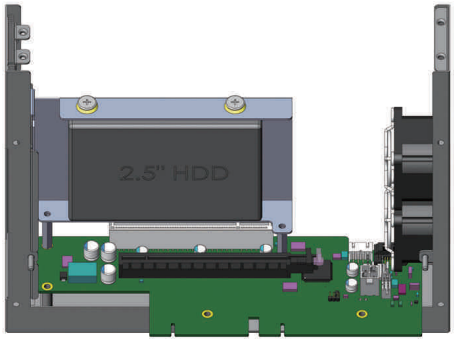
2.5" HDD/SSD Bay Support Table

Every MIC-7 Series can support one HDD/SSD bay in system. With i-Module added, the total 2.5" HDD/SSD bay quantity as below.

MIC-7 Series		MIC-7300	MIC-7500	MIC-7700		MIC-770		MIC-7900
				MIC-7700Q	MIC-7700H	MIC-770Q	MIC-770H	
SATA Port in system		1	1	3	1	3	1	4
2.5" HDD/SSD bay in MIC		1						
Total 2.5" HDD/SSD Bay with i-Module added	MIC-75M20 MIC-75M20-01 MIC-75M11	1 / 2*						
	MIC-75M40 MIC-75M13	2	2	3	2	3	2	3
	MIC-75S20	2	2	4	2	4	2	5
	MIC-75G20	-	2	3	2	3	2	3

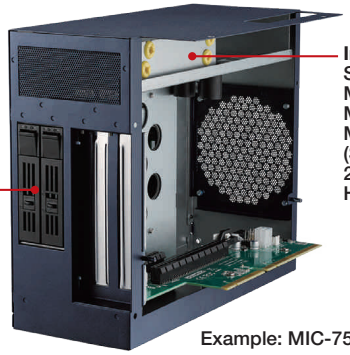
* Need to order 98R1752010E (2.5" HDD/SSD kit for 2-slot i-Module)
Note: i-Module BUS has only one channel SATA signal between i-Module and MIC-7 system.

2.5" HDD/SSD kit for 2-slot i-Module



Ordering information: 98R1752010E
Supportable i-Module: MIC-75M20, MIC-75M20-01 , MIC-75M11
Limitation: Slot 2 will be occupied

2.5" HDD/SSD Thickness Guide



Internal HDD/SSD Supportable i-Module: MIC-75M40, MIC-75M13, MIC-75S20 (Support 1x 15mm 2.5" or 2x 9.6mm 2.5" HDD/SSD)

Swappable HDD/SSD Supportable i-Module: MIC-75S20 (Maximum 15mm 2.5" HDD/SSD)

Example: MIC-75S20

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 x 2.5" swappable HDD/SSD bay
MIC-75G20-00A1*	GPU card expansion i-Module with 1 PCIe x16, 1 PCIe x4, 2 x 2.5" swappable HDD/SSD bay

* Please refer to MIC-75G20 datasheet for more product information.

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	2.5" HDD/SSD kit for 2-slot i-Module
1700024858-01	4-pin 12V_{DC} power cable (15cm)
MIC-75G20*	
96PSD-A480W24-MN	480W PSU
1700029474-01	PSU Y-type cable (1.5M)
1700029720-01	PSU power cord (USA) UL/CSA (1.83M)
1700022074-11	4-pin 12VDC power cable (40cm)