

# MIC-770

## Compact Fanless System with 8<sup>th</sup>/9<sup>th</sup> Gen Intel® Core™ i CPU Socket (LGA 1151)

**NEW**



### Features

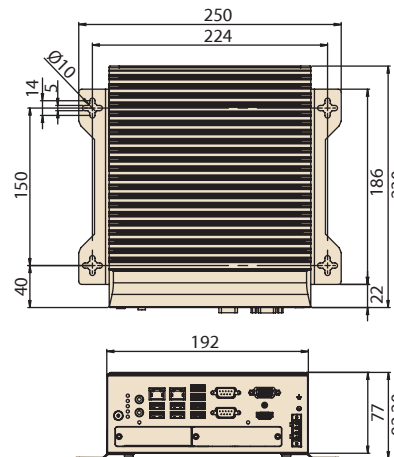
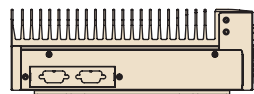
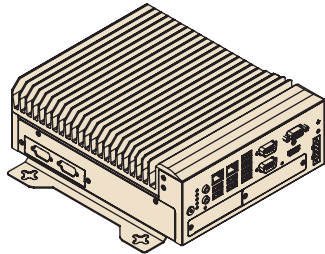
- Intel® 8<sup>th</sup>/9<sup>th</sup> Gen Core™ i CPU socket-type (LGA1151) with Intel® Q370/H310 chipset
- Wide operating temperature (-10 ~ 50 °C)
- VGA and HDMI output
- 2 x GigaLAN, 2 x USB 3.1 and 6 x USB 3.0
- 2 x RS-232/422/485 and 4 x RS232 serial ports (Optional)
- 1 x 2.5" HDD/SSD, and 1 x mSATA
- 9 ~ 36 V<sub>DC</sub> input power range
- Supports FlexIO and iDoor technology, flexible configure additional HDMI, DVI, Comport, DIO, Remote switch IO
- Supports Advantech i-Modules
- Supports Advantech SUSI-API and embedded software APIs



### Specifications

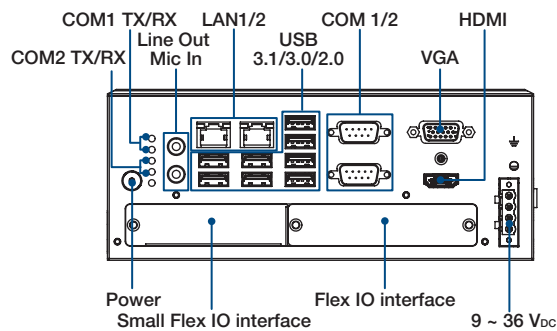
8 <sup>th</sup> /9 <sup>th</sup> Generation Processor (TDP 35W)	CPU	I7-9700TE	I5-9500TE	I3-9100TE	I7-8700T	I5-8500T			
	Core/Thread number	8/8	6/6	4/4	6/12	6/6			
	Base Frequency	1.8GHz	2.2GHz	2.2GHz	2.4GHz	2.1GHz			
	Max Turbo Frequency	3.8GHz	3.6GHz	3.2GHz	4.0GHz	3.5GHz			
	L3 Cache	12MB	9MB	6MB	12MB	9MB			
	Temperature	-10 ~ 50 °C (with SSD) (w/ industrial SSD, 0.7 m/s air flow)							
8 <sup>th</sup> /9 <sup>th</sup> Generation Processor (TDP 65W)	Chipset	Q370/H310							
	BIOS	AMI 256Mb SPI Flash							
	CPU	I7-9700E	I5-9500E	I3-9100E	I7-8700	I5-8500	I3-8100	G5400	G4900
	Core/Thread number	8/8	6/6	4/4	6/12	6/6	4/4	2/4	2/2
	Base Frequency	2.6GHz	3.0GHz	3.1GHz	3.2GHz	3.0GHz	3.6GHz	3.7GHz	2.9GHz
	Max Turbo Frequency	4.4GHz	4.2GHz	3.7GHz	4.6GHz	4.1GHz	3.7GHz	3.7GHz	2.9GHz
Memory	L3 Cache	12MB	8MB	6MB	12MB	9MB	6MB	4MB	2MB
	Temperature	-10 ~ 40 °C (with SSD) (w/ industrial SSD, 0.7 m/s air flow)							
	Chipset	Q370/H310							
Display	BIOS	AMI 256Mb SPI Flash							
	Technology	Dual-channel DDR4 2400/2666 MHz (without ECC)							
	Socket	2 x 260-pin DDR4 SODIMM (up to 32GB per socket)							
Ethernet	Maximum Capacity	64GB							
	Chipset	Q370: Intel® HD Graphics 630, supports DirectX 12 H310: Intel® HD Graphics 610, supports DirectX 12							
	VGA	1 x DB15, up to 1920 x 1200 maximum resolution							
	HDMI	1 x HDMI, up to 4096 x 2160@30Hz (with optional expansion cable for 2nd HDMI or 1 x DVI connector)							
Storage	Multiple Display	Q370: 3 x independent displays (third display output via optional cable) H310: 2 x independent displays							
	Controller	Q370 LAN1: Intel® I219LM, LAN2: Intel® I210IT H310 LAN1: Intel® I219V, LAN2: Intel® I210IT							
I/O	Interface	2 x RJ45							
	HDD	1 x 2.5" HDD/SSD							
	mSATA	1							
Expansion	RAID	0/1/5/10 (MIC-770Q only)							
	USB	Q370: 2 x USB3.1, 6 x USB3.0 and 1 x internal USB 2.0 H310: 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 (Optional)							
LED and Switch	Audio	2 (1 x line out and 1 x mic in)							
	Module	Supports Advantech i-Modules							
Power	Mini PCIe	Q370: 1 x mini PCIe (via USIM), 1 x mini PCIe/mSATA H310: 1 x mini PCIe (via USIM), 1 x mSATA							
	LED	2 (1 x Storage and 1 x Power), 4 for COM1 TX/RX and COM2 TX/RX							
Watchdog Timer	Button	1 x Power on/off switch							
	Remote Switch	Yes, 2pin terminal block (Optional)							
Environment	Type	ATX/AT							
	Input Voltage	9 ~ 36 V <sub>DC</sub>							
Mechanical	Power consumption	Typical: 32.062W Maximum: 116.002W							
	Output Interval	System reset Programmable 1 ~ 255 sec/min							
Certifications	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							
	Shock	With SSD: 20G, IEC-68-2-27, half-sine wave, 11 ms duration 50G 11 ms							
OS Support	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)							
OS Support	Installation	Desktop/wall mount							
	EMC	CE/FCC Class A, CCC, BSMI							
OS Support	Safety	CB/UL, CCC, BSMI							
	OS Support	Windows 10, Windows 10 IoT, Windows Server 2016/2019 (with Win 10 drivers), Linux OS							

## Dimensions

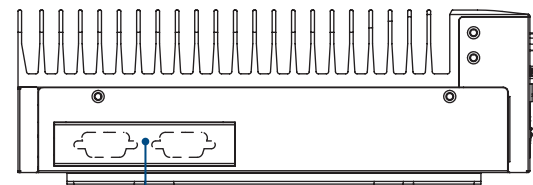


Unit: mm

## Front View



## Side View



iDoor or 2 x RS-232 expansion slots

## Ordering Information

Part Number	VGA	HDMI	2.5" HDD/SSD	mSATA	USB 3.1	USB 3.0	USB 2.0	GbE	COM	PCIe	Power
MIC-770Q-00A1	1	1	1	1	2	6	0	2	2, up to 6 (Optional)	i-Module (optional)*	9 ~ 36Vdc
MIC-770H-00A1	1	1	1	1	0	4	4	2	2, up to 6 (Optional)	i-Module (optional)*	9 ~ 36Vdc

\*MIC-770H does not support MIC-75M40 or MIC-75M20-01

## Packing List

Part Number	Description	Quantity
MIC-770	MIC-770 bare system	1
2041077000	MIC-770 startup manual (ENG+TC+SC)	1
1652003234	4-pin Phoenix power connector	1
1960070543T001	2 x Mounting bracket	2
1700013095	SATA cable	1
1700024372-01	SATA power cable	1
2170000093-01	CPU thermal grease	1
1990019498N000	RAM thermal pad	2

## Optional i-Modules\*

Part Number	Description
MIC-75M40 (Q370)	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 (Q370)	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-75G20	GPU Card expansion module (2 x PCIe and 2 x removable 2.5" storage bay)
MIC-75S20	2-slot expansion and storage module (2 x PCIe and 2 x 2.5 hot swappable HDDs)

\*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, 3M, DAC-ST01
1702002605	Power Cord (EU), 3-pin, 10A, 250V 1.83M, 90D
PCA-TPM-00B1E	TPM 2.0 module
98R1750000E	MIC DVI kit FIO
98R1750030E	MIC HDMI kit FIO
98R1750060E	MIC COMport kit FIO
98R1750070E	MIC Remote Switch kit for SFIO
98R1750080E	MIC Reset/Remote Switch/5VDC kit FIO
98R1750090E	MIC GPIO kit
98R1750020E	MIC Din Rail Mounting kit
98R1750050E	MIC Wall Mounting kit

Note:

\* Suggest to use for MIC-770 with i-Module added.

\*\* Suggest to use for MIC-770 without i-Module added.

- MIC-770 supports Advantech iDoor modules (both MOS and PCM series), excluding the PoE model.
- The **PCM** series module requires a bracket (P/N: **1960065854N001**) that must be ordered separately.

## Embedded OS

Part Number	Description
20706WX9HS0005	img MIC-770H Win10 IOT Enterprise 2019 LTSC 64b high end
20706WX9VS0007	img MIC-770H Win10 IOT Enterprise 2019 LTSC 64b value
20706WX9ES0010	img MIC-770H Win10 IOT Enterprise 2019 LTSC 64b entry
20706WX9HS0004	img MIC-770Q Win10 IOT Enterprise 2019 LTSC 64b high end
20706WX9VS0006	img MIC-770Q Win10 IOT Enterprise 2019 LTSC 64b value
20706WX9ES0009	img MIC-770Q Win10 IOT Enterprise 2019 LTSC 64b entry