

# MIC-770

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

**NEW**



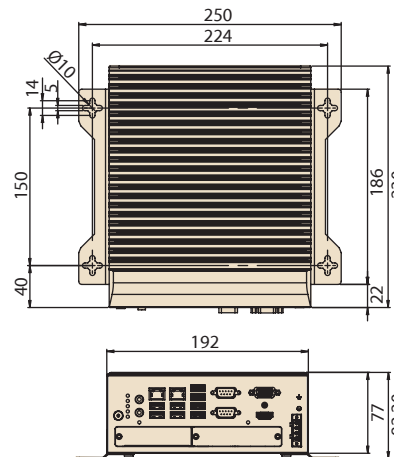
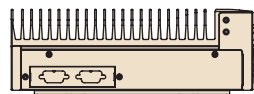
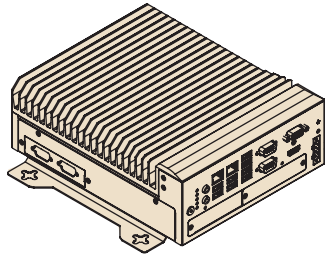
### Features

- 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

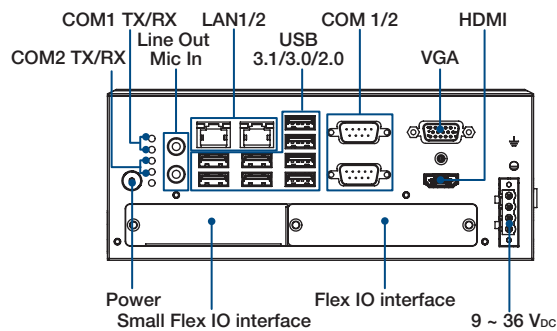
8 <sup>th</sup> /9 <sup>th</sup> Generation Processor (TDP 35W)	CPU	I7-9700E	I5-9500E	I3-9100E	I7-8700T	I5-8500T			
	Core/Thread number	8/8	6/6	4/4	6/12	6/6			
	Base Frequency	2.6GHz	3.0GHz	3.1GHz	2.4GHz	2.1GHz			
	Max Turbo Frequency	4.4GHz	4.2GHz	3.7GHz	4.0GHz	3.5GHz			
	L3 Cache	12MB	8MB	6MB	12MB	9MB			
	Temperature	-10 ~ 50 °C (with SSD) (w/ industrial SSD, 0.7 m/s air flow)							
	Chipset	Q370/H310							
8 <sup>th</sup> /9 <sup>th</sup> Generation Processor (TDP 65W)	BIOS	AMI 256Mb SPI Flash							
	CPU	I7-9700TE	I5-9500TE	I3-9100TE	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	1.8GHz	2.2GHz	2.2GHz	3.2GHz	3.0GHz	3.6GHz	3.7GHz	2.9GHz
	Max Turbo Frequency	3.8GHz	3.6GHz	3.2GHz	4.6GHz	4.1GHz			
	L3 Cache	12MB	9MB	6MB	12MB	9MB	6MB	4MB	2MB
	Temperature	-10 ~ 40 °C (with SSD) (w/ industrial SSD, 0.7 m/s air flow)							
Memory	Chipset	Q370/H310							
	BIOS	AMI 256Mb SPI Flash							
	Technology	Dual-channel DDR4 2400/2666 MHz (without ECC)							
Display	Socket	2 x 260-pin DDR4 SODIMM (up to 32GB per socket)							
	Maximum Capacity	64GB							
	Chipset	Q370: Intel® HD Graphics 630, supports DirectX 12 H310: Intel® HD Graphics 610, supports DirectX 12							
Ethernet	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)							
	Multiple Display	Q370: 3 x independent displays (third display output via optional cable) H310: 2 x independent displays							
Storage	Controller	Q370 LAN1: Intel® I219LM, LAN2: Intel® i210IT H310 LAN1: Intel® I219V, LAN2: Intel® i210IT							
	Interface	2 x RJ45							
I/O	HDD	1 x 2.5" HDD/SSD							
	mSATA	1							
	RAID	0/1/5/10 (MIC-770Q only)							
Expansion	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)							
	Audio	2 (1 x line out and 1 x mic in)							
LED and Switch	Module	Supports Advantech i-Modules							
	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							
Power	Button	1 x Power on/off switch							
	Remote Switch	Yes, 2pin terminal block (Optional)							
	Type	ATX/AT							
Watchdog Timer	Input Voltage	9 ~ 36 V <sub>DC</sub>							
	Power consumption	Typical: 32.062W Maximum: 116.002W							
	Output	System reset							
Environment	Interval	Programmable 1 ~ 255 sec/min							
	Temperature	65W CPU w/ industrial SSD				35W CPU w/ industrial SSD			
	Humidity	-10 ~ 40 °C with 0.7 m/s air flow				-10 ~ 50 °C with 0.7 m/s air flow			
Mechanical	Vibration	95% @ 40 °C (non-condensing)							
	Shock	With SSD: 3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis With 2.5" HDD: 1 Grms @ 5 ~ 500 Hz, random, 1 hr/axis							
	Dimensions (W x H x D)	With SSD: 20G, IEC-68-2-27, half-sine wave, 11 ms duration							
Certifications	Weight	77 x 192 x 230 mm (3.07" x 7.55" x 9.05")							
	Installation	2.8 kg (6.17 lbs)							
	OS Support	Desktop/wall mount							
OS Support	EMC	CE/FCC Class A, CCC, BSMI							
	Safety	CB/UL, CCC, BSMI							
		Windows 10, Windows 10 IoT, Windows Server 2016/2019 (with Win 10 drivers), Linux OS							

## Dimensions

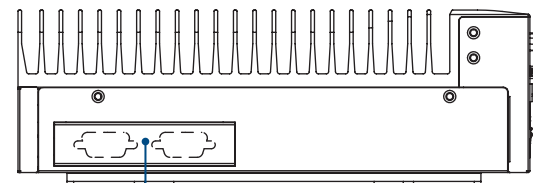


Unit: mm

## 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