

MODEL. I590-BI

Fan Design Industrial Box PC

Introduction

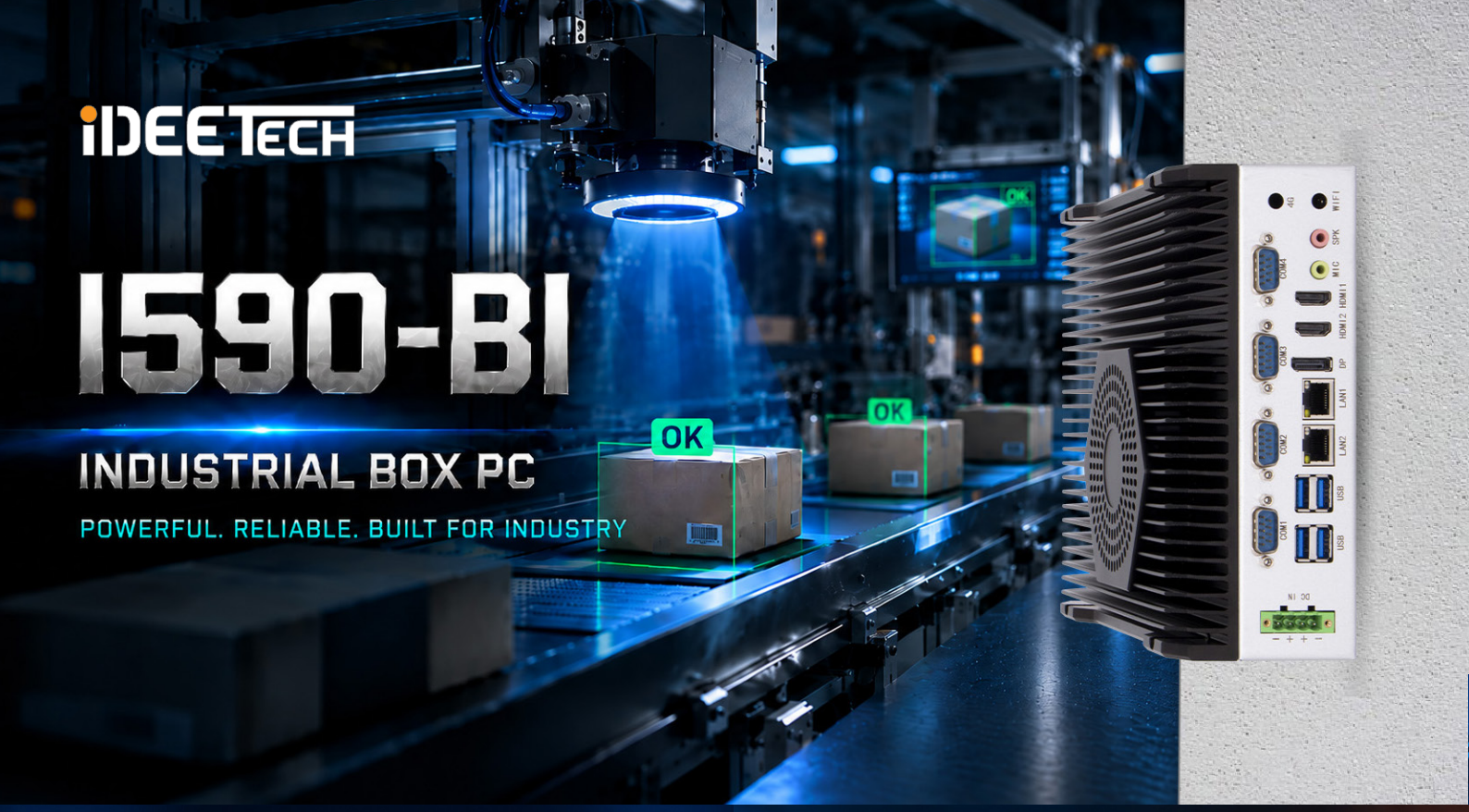
I590-BI is a solution designed for industrial applications, using Intel processor, supports 2*DDR4 RAM slot,1*M.2 SATA SSD,2*SATA slot, and 2*M.2 expansion slot. The whole machine uses 9-36V DC power supply. It has 2*Gigabit Ethernet port, 4*COM, and 4*USB, 2*HDMI, 1*DP display ports and 2*expansion card slot. I590-BI is compatible with mainstream operating systems and embedded operating systems such as Windows 10, Windows 11, Linux, etc., and can run application software and programs based on the above operating systems developed by customers.

iDEETECH

I590-BI

INDUSTRIAL BOX PC

POWERFUL. RELIABLE. BUILT FOR INDUSTRY



All aluminum alloy heat dissipation

FAN COOLING LOW-NOISE DESIGN

Industrial Box PC uses dual cooling with a fan and fins, ensuring external airflow and improving heat dissipation efficiency. Its aluminum alloy die-cast body is smooth and rounded, giving it a more refined appearance.

DUAL COOLING SYSTEM
Fan + Fins

LOW NOISE DESIGN
Silent • Reliable • Dust-free



TEMPERATURE

WITHSTANDS EXTREME TEMPERATURES:

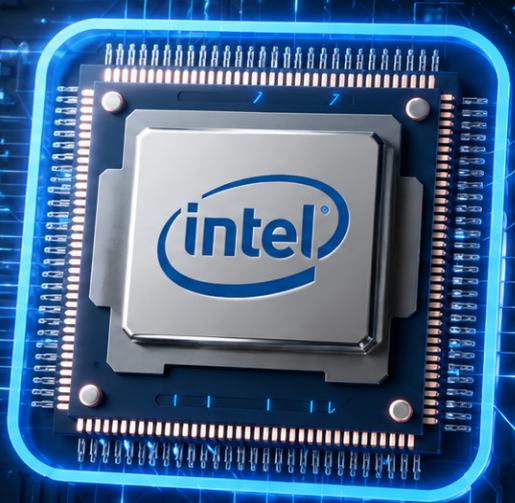
-20°C TO +70°C

- WIDE TEMPERATURE -20°C TO 70°C
- RUGGED & RELIABLE
- DUST RESISTANT
- ALL-ALUMINUM ALLOY
- LONG-TERM STABILITY



Intel Power Chip
Stable Operation
Faster Than One Step

Through The Controlled High Temperature Test To Test The Product To Adapt To High And Low Temperature, Even In The Harsh Environment Is Not Afraid.



Stable operation

Power on and run 24/7 Stable operation around the clock

Capable of operating around the clock, it can run stably in unstable environments and meets the operational needs of various commercial, automated, and unmanned equipment.



WIRELESS NETWORKING

SUPPORTS 4G / WiFi MODULE

Gigabit Ethernet + Wireless 4G / WiFi Connectivity

GIGABIT ETHERNET

WIRELESS NETWORK



INSTALLATION

3 INSTALLATION OPTIONS

DESKTOP / EMBEDDED / WALL-MOUNTED

01 DESKTOP

Place on a desk or flat surface for easy access and maintenance.



02 EMBEDDED

Integrate into cabinets, kiosks, or enclosures for a clean and space-saving solution.



03 WALL-MOUNTED

Mount on walls or structures securely with the included mounting brackets.



POWERFUL

COMPATIBILITY SYSTEM

Compatible with Windows 7 / Windows 8 / Windows 10 / Linux.









Specification

Mother Board Specification

Model	I590-BI	
Chipset	H310	H610
CPU	Celeron G Series Pentium G series Core 8 / 9th-i3 / i5 / i7 / i9	Celeron G Series Pentium G series Core 12 / 13 / 14th-i3 / i5 / i7 / i9
Memory	2*DDR4 RAM Slots, Up to 32GB	2*DDR4 RAM Slots, Up to 128GB
Storage	1*M.2 SATA SSD Slot	1*M.2 NVME SSD Slot
Display	2*HDMI: Resolution up to 4096*2304@24Hz 1*DP: Resolution up to 4096*2304@60Hz	1*HDMI: Resolution up to 4096*2304@24Hz 1*VGA: Resolution up to 1920*1200@60Hz
Expansion	2*M.2 Slots, Support 4G and WIFI module	1*M.2 Slot, Support WIFI module
Ethernet	2*Realtek 8111E LAN Chip (10 / 100 / 1000 Mbps, RJ-45 Type)	2*Intel i226V LAN Chip (10 / 100 / 1000 / 2500 Mbps, RJ-45 Type)
USB	4*USB 3.0 (Type-A)	4*USB 3.0 (Type-A) 2*USB 2.0 (Type-A)
COM	2*RS-232 / 422 / 485 (DB9 Type) 2*RS-232 (DB9 Type)	2*RS-232 / 485 (DB9 Type)
Audio	1*Line-In+1*Line-Out	

Fittings Information

RAM	DDR4	4GB / 8GB / 16GB / 32GB
Storage	M.2 SATA / NVME	128GB / 256GB / 512GB / 1TB / 2TB / 4TB
GSM Module	4G	4G+GPS
WIFI Module	7260AC / AX210	

Device Specification

BIOS	AMI UEFI BIOS
Power Input	DC 9-36V With Overvoltage Protection
	Support Auto-Start
	4 Pin Phoenix Terminal Type DC Plug
Watch Dog	Support
Working Temperature	-20℃ - 70℃ , Support 24/7 Working
Storage Temperature	-30℃ - 80℃
Humidity	90% (20±50℃)
Size	227mm*230mm*82mm
Structure	Fully Enclosed Aluminum Alloy Material
Heat dissipation	Fan Design
Installation	Desktop / Embedded / Wall-Mounted
System	Windows and Linux

Ordering Information

Model	Chipset	LAN	USB	COM	Display	RAM	SSD	Expansion	Power
I590-BI	H310	2	4	2*RS-232/422/485 2*RS-232	2*HDMI 1*DP	2*DDR 4 Up to 32GB	1*M.2 SATA	2*M.2	DC 9-36V
	H610	2	6	2*RS-232/485	1*HDMI 1*VGA	2*DDR 4 Up to 128GB	1*M.2 NVME	1*M.2	

CPU Information

Intel Chipset H310						
CPU	Core	Threads	Frequency	Cache	Graphics	RAM
Celeron G4900	2	2	3.10 GHz	2 MB	UHD Graphics 610	Max to 32GB for 2*DDR4 Slot
Celeron G4900T	2	2	2.90 GHz	2 MB	UHD Graphics 610	Max to 32GB for 2*DDR4 Slot
Celeron G4920	2	2	3.20 GHz	2 MB	UHD Graphics 610	Max to 32GB for 2*DDR4 Slot
Celeron G4930	2	2	3.20 GHz	2 MB	UHD Graphics 610	Max to 32GB for 2*DDR4 Slot
Celeron G4930T	2	2	3.00 GHz	2 MB	UHD Graphics 610	Max to 32GB for 2*DDR4 Slot
Celeron G4950	2	2	3.30 GHz	2 MB	UHD Graphics 610	Max to 32GB for 2*DDR4 Slot
Pentium Gold G5400	2	4	3.70 GHz	4 MB	UHD Graphics 610	Max to 32GB for 2*DDR4 Slot
Pentium Gold G5400T	2	4	3.10 GHz	4 MB	UHD Graphics 610	Max to 32GB for 2*DDR4 Slot
Pentium Gold G5420	2	4	3.80 GHz	4 MB	UHD Graphics 610	Max to 32GB for 2*DDR4 Slot
Pentium Gold G5420T	2	4	3.20 GHz	4 MB	UHD Graphics 610	Max to 32GB for 2*DDR4 Slot
Pentium Gold G5500	2	4	3.80 GHz	4 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
Pentium Gold G5500T	2	4	3.20 GHz	4 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
Pentium Gold G5600	2	4	3.80 GHz	4 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot

Intel Chipset H310						
CPU	Core	Threads	Frequency	Cache	Graphics	RAM
Pentium Gold G5600T	2	4	3.30 GHz	4 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i3-8100	4	4	3.60 GHz	6 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i3-8100T	4	4	3.10 GHz	6 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i3-8300	4	4	3.70 GHz	8 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i3-8300T	4	4	3.20 GHz	8 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-8400	6	6	2.80-4.00 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-8400T	6	6	1.70-3.30 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-8500	6	6	3.00-4.10 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-8500T	6	6	2.10-3.50 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-8600	6	6	3.10-4.30 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-8600T	6	6	2.30-3.70 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-8600K	6	6	3.60-4.30 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-8700	6	12	3.20-4.60 GHz	12 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-8700T	6	12	2.40-4.00 GHz	12 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-8700K	6	12	3.70-4.70 GHz	12 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-8705G	4	8	3.10-4.10 GHz	8 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-8706G	4	8	3.10-4.10 GHz	8 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-8709G	4	8	3.10-4.10 GHz	8 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-8086K	6	12	4.00-5.00 GHz	12 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-8700B	6	12	3.20-4.60 GHz	12 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i3-9100	4	4	3.60-4.20 GHz	6 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i3-9100T	4	4	3.10-3.70 GHz	6 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i3-9300	4	4	3.70-4.30 GHz	8 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot

Intel Chipset H310						
CPU	**Core**	**Threads**	**Frequency**	**Cache**	**Graphics**	**RAM**
i3-9300T	4	4	3.20-3.80 GHz	8 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i3-9320	4	4	3.70-4.40 GHz	8 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-9400	6	6	2.90-4.10 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-9400T	6	6	1.80-3.40 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-9500	6	6	3.00-4.40 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-9500T	6	6	2.20-3.70 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-9600	6	6	3.10-4.60 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-9600T	6	6	2.30-3.90 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i5-9600K	6	6	3.70-4.60 GHz	9 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-9700	8	8	3.00-4.70 GHz	12 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-9700T	8	8	2.00-4.30 GHz	12 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i7-9700K	8	8	3.60-4.90 GHz	12 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i9-9900	8	16	3.10-5.00 GHz	16 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i9-9900T	8	16	2.10-4.40 GHz	16 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i9-9900K	8	16	3.60-5.00 GHZ	16 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
i9-9900KS	8	16	4.00-5.00 GHz	16 MB	UHD Graphics 630	Max to 32GB for 2*DDR4 Slot
Intel Chipset H610						
CPU	**Core**	**Threads**	**Frequency**	**Cache**	**Graphics**	**RAM**
Celeron G6900	2	2	3.40 GHz	4 MB	UHD Graphics 710	Max to 128GB for 2*DDR4 Slot
Celeron G6900E	2	2	3.00 GHz	4 MB	UHD Graphics 710	Max to 128GB for 2*DDR4 Slot
Celeron G6900T	2	2	2.80 GHz	4 MB	UHD Graphics 710	Max to 128GB for 2*DDR4 Slot

Intel Chipset H610						
CPU	Core	Threads	Frequency	Cache	Graphics	RAM
Celeron G6900TE	2	2	2.40 GHz	4 MB	UHD Graphics 710	Max to 128GB for 2*DDR4 Slot
Pentium Gold G7400	2	4	3.70 GHz	6 MB	UHD Graphics 710	Max to 128GB for 2*DDR4 Slot
Pentium Gold G7400T	2	4	3.10 GHz	6 MB	UHD Graphics 710	Max to 128GB for 2*DDR4 Slot
Pentium Gold G7400E	2	4	3.60 GHz	6 MB	UHD Graphics 710	Max to 128GB for 2*DDR4 Slot
Pentium Gold G7400TE	2	4	3.00 GHz	6 MB	UHD Graphics 710	Max to 128GB for 2*DDR4 Slot
i3-12100	4	8	3.30-4.30 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i3-12100T	4	8	2.20-4.10 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i3-12300	4	8	3.50-4.40 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i3-12300T	4	8	2.30-4.20 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i5-12400	6	12	2.50-4.40 GHz	18 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i5-12400T	6	12	1.80-4.20 GHz	18 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i5-12500	6	12	3.00-4.60 GHz	18 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-12500T	6	12	2.00-4.40 GHz	18 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i3-12100	4	8	3.30-4.30 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i3-12100T	4	8	2.20-4.10 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i3-12300	4	8	3.50-4.40 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i3-12300T	4	8	2.30-4.20 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i5-12400	6	12	2.50-4.40 GHz	18 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i5-12400T	6	12	1.80-4.20 GHz	18 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i5-12500	6	12	3.00-4.60 GHz	18 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-12500T	6	12	2.00-4.40 GHz	18 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot

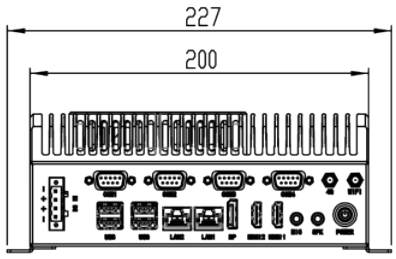
Intel Chipset H610						
CPU	Core	Threads	Frequency	Cache	Graphics	RAM
i5-12600	6	12	3.30-4.80 GHz	18 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-12600K	10	16	3.70-4.90 GHz	20 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-12600T	6	12	2.10-4.60 GHz	18 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i7-12700	12	20	2.10-4.90 GHz	25 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i7-12700K	12	20	3.60-5.00 GHz	25 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i7-12700T	12	20	1.40-4.70 GHz	25 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-12900	16	24	2.40-5.10 GHz	30 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-12900K	16	24	3.20-5.20 GHz	30 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-12900KS	16	24	3.40-5.50 GHz	30 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-12900T	16	24	1.40-4.90 GHz	30 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i3-13100	4	8	3.40-4.50 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i3-13100T	4	8	2.50-4.20 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i5-13400	10	16	2.50-4.60 GHz	20 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i5-13400T	10	16	1.30-4.30 GHz	20 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i5-13500	14	20	2.50-4.80 GHz	24 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-13500T	14	20	1.60-4.60 GHz	24 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-13600	14	20	2.70-5.00 GHz	24 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-13600K	14	20	3.50-5.10 GHz	24 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-13600T	14	20	1.80-4.80 GHz	24 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i7-13700	16	24	2.10-5.20 GHz	30 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i7-13700K	16	24	3.40-5.40 GHz	30 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i7-13700T	16	24	1.40-4.90 GHz	30 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-13900	24	32	2.00-5.60 GHz	36 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-13900K	24	32	3.00-5.80 GHz	36 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot

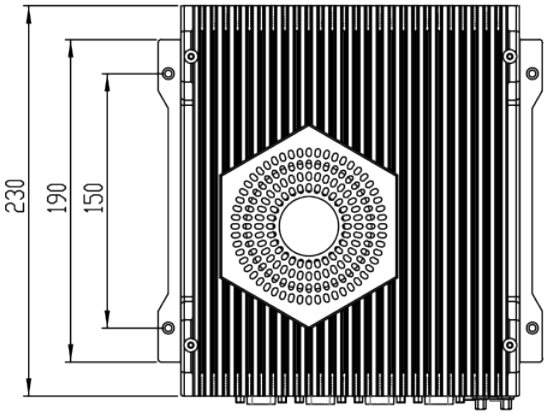
Intel Chipset H610						
CPU	Core	Threads	Frequency	Cache	Graphics	RAM
i9-13900KS	24	32	3.20-6.00 GHz	36 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-13900T	24	32	1.10-5.30 GHz	36 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-13900TE	24	32	1.00-5.00 GHz	36 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i3-14100	4	8	3.50-4.70 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i3-14100T	4	8	2.70-4.40 GHz	12 MB	UHD Graphics 730	Max to 128GB for 2*DDR4 Slot
i5-14500	14	20	2.60-5.00 GHz	24 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-14500T	14	20	1.70-4.80 GHz	24 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-14600	14	20	2.70-5.20 GHz	24 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-14600K	14	20	3.50-5.30 GHz	24 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i5-14600T	14	20	1.80-5.10 GHz	24 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i7-14700	20	28	2.10-5.40 GHz	33 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i7-14700K	20	28	3.40-5.60 GHz	33 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i7-14700T	20	28	1.30-5.20 GHz	33 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-14900	24	32	2.00-5.80 GHz	36 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-14900K	24	32	3.20-6.00 GHz	36 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot
i9-14900T	24	32	1.10-5.50 GHz	36 MB	UHD Graphics 770	Max to 128GB for 2*DDR4 Slot

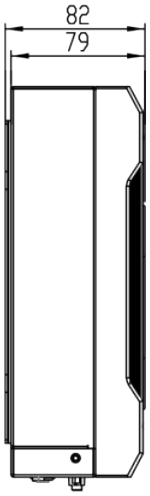
System Information

Chipset	Specification
Intel H310	Windows 10 / 11 and Linux
Intel H610	

Dimensions



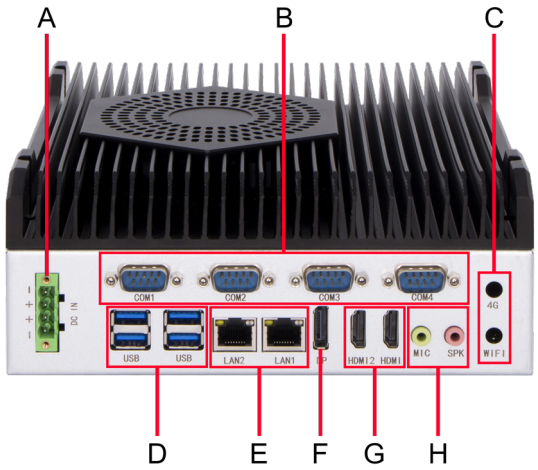




Model. I590-BI Series

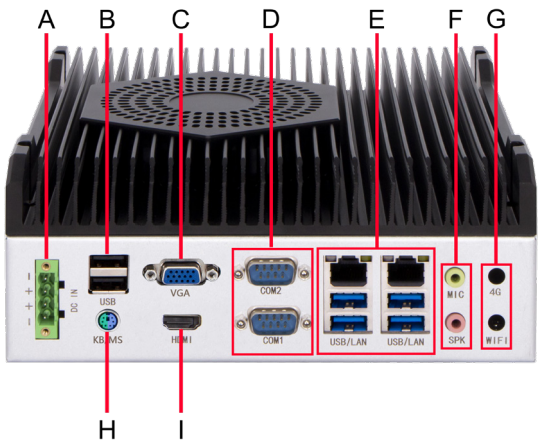
I/O Port

Model I590-BI-H310



A : 1*DC POWER IN
B : 4*COM
C : 1*GSM+1*WIFI
D : 4*USB3.0
E : 2*LAN
F : 1*Display Port
G : 2*HDMI Port
H : 1*SPK+1*MIC

Model I590-BI-H610



A : 1*DC POWER IN
B : 2*USB2.0
C : 1*VGA
D : 2*COM
E : 2*LAN + 4*USB3.0
F : 1*SPK+1*MIC
G : 1*GSM+1*WIFI
H : 1*KS/MS
I : 1*HDMI

Package List

Adapter	1*12V 10A adapter
Power Cable	1*Power Cable (The type is depends on the national standard of the buyer)

Applications



Factory Automation



Machine Control



Production Control