

MODEL. I610-BI

Fanless Design Industrial Box PC

Introduction

I610-BI is a high-performance industrial Box PC supporting Intel Core Gen 12-14 (i3-i9) processors, engineered for rapid and precise computing within a superior fanless cooling structure. It ensures stable 24/7 operation across extreme temperatures from -20°C to 70°C, offering comprehensive connectivity via LAN, USB, COM, and GPIO with flexible PCIe/PCI expansion slots. Integrated with international-standard protections against surges and interference, and supporting a wide 19-36V power input, it represents the ultimate solution for automation and mission-critical applications demanding maximum long-term reliability.

iDEE TECH

I610-BI

INDUSTRIAL BOX PC

POWERFUL. RELIABLE. BUILT FOR INDUSTRY



All aluminum alloy heat dissipation

FANLESS COOLING
LOW-NOISE DESIGN

The surface of the industrial computer adopts a striped grid pattern and is molded into a sealed, integrated structure, which ensures external air circulation and improves heat dissipation efficiency; the fanless design reduces dust accumulation.

CIRCULATING HEAT DISSIPATION
Efficient air circulation

LOW NOISE DESIGN
Silent • Reliable • Dust-free



TEMPERATURE

WITHSTANDS EXTREME TEMPERATURES:

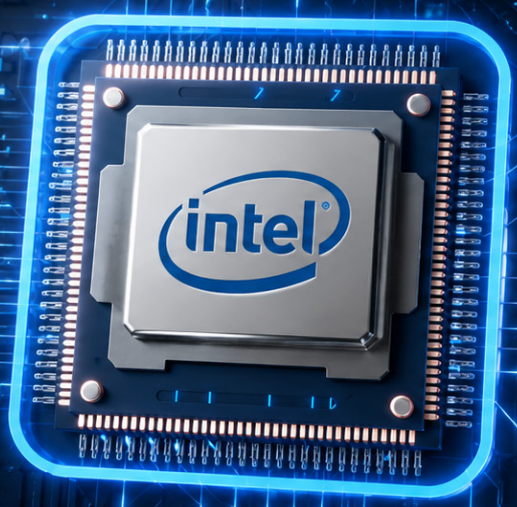
-20°C TO +70°C

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

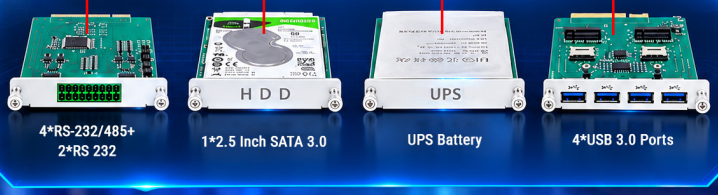
Capable of operating around the clock, it can run stably in unstable environments and meets the operational needs of various commercial, automated, and unmanned equipment.



Multi-functional Expansion Card Display

Multiple expansion cards available





Classis with Fan and Fanless

Modern Design | High Performance | Flexible Connectivity

Fanless Design

- Silent Operation
- Reliable & Durable
- Wide Temp Support



FAN Design

- Active Cooling
- High Performance
- Stable & Reliable



INSTALLATION

3 INSTALLATION OPTIONS

DESKTOP / EMBEDDED / WALL-MOUNTED

DESKTOP

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



EMBEDDED

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



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	I610-BI
Chipset	H670
CPU	Celeron G Series / Pentium Gold Series / Core Gen 12-14th-i3/i5/i7/ i9
RAM	2*DDR4 RAM Slots, Up to 64GB
Storage	1*MSATA SSD Slot , 1*M.2 NVME SSD Slot , 1*SATA SSD Slots
Display	1*HDMI: Resolution up to 4096*2304@60Hz 1*DP: Resolution up to 4096*2304@60Hz 1*VGA: Resolution up to 1920*1200@60Hz
Expansion	1*Mini PCIE Slot + 1*M.2 Slot, Support 4G/5G and WIFI module 1*PCIE 16X+1*PCIE 1X or 2*PCI
Ethernet	2*Intel LAN Chip (10 / 100 / 1000 Mbps, RJ-45 Type)
USB	4*USB 3.1 + 3*USB 3.0 (Type-A)
COM	4*RS-232 / 422 / 485 + 2*RS-232 (DB9 Type)
Audio	1*Line-In + 1*Line-Out
GPIO	14 ports GPIO (7*GPI+7*GPO, Phoenix terminal type)
Daughter Card	2*Daughter Card Slots, Support expansion I/O interfaces and funcational slots

Fittings Information

RAM	DDR4	4GB / 8GB / 16GB / 32GB
Storage	M.2 NVME	128GB / 256GB / 512GB / 1TB / 2TB / 4TB
	MSATA	64GB / 128GB / 256GB / 512GB / 1TB
	SATA	120GB / 128GB / 240GB / 256GB / 480GB / 512GB / 960GB / 1TB / 2TB / 4TB
GSM Module	4G	4G+GPS
	5G	5G+GPS
WIFI Module	7260AN / 7260AC / AX210	
GPU	Power Consumption < 75W, Size small than 200mm	
CAN BUS Module	2*CAN BUS Ports	

Device Specification

BIOS	AMI UEFI BIOS
Power Input	DC 19-36V 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	236mm*230mm*118mm
Structure	Fully Enclosed Aluminum Alloy Material

Heat dissipation	Fan Design (Fanless design chassis, optional)
Installation	Desktop / Embedded / Wall-Mounted
System	Windows and Linux
Power Consumption	Max to 240W

Daughter Card Specification

COM Port-2	2*RS-232 / 485 (DB9 type)
COM Port-6	4*RS-232 / 485+2*RS-232 (Phoenix terminal type)
Ethernet Port-2	2*Intel i211V LAN Chip (RJ-45 type)
Ethernet Port-4	4*Intel i211V LAN Chip (RJ-45 type,POE function optional)
USB Port-4	4*USB 3.0 (Type-A)
10G Ethernet Port-2	2*10Gbps Ethernet Ports
GPIO Port-14	14 ports GPIO, 7*GPI+7*GPO, 0-3.3V (Phoenix terminal type)
Mini PCIE Slot-2	2*Mini PCIE slots, Support 4G and WIFI module
M.2 Slot-1	1*M.2 Key-B slot, Support 5G module
M.2 NVME SSD Slot-1	1*M.2 NVME SSD slot
SATA SSD Slot-1	1*SATA 3.0 SSD Slot, Support RAID 1
CAN Port-2	2*CAN interfaces (Phoenix terminal type)
UPS battery	1.2AH or 4.8AH
DIDO Port-16	16 ports DIDO, 8*DI+8*DO, 24V, Isolation (Phoenix terminal type) Comes with 4*RS-485 COM ports (Phoenix terminal type)


6-way COM



2.5-inch SSD



UPS power supply

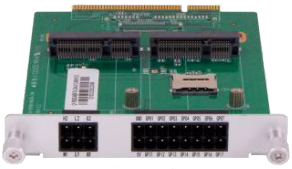

4-channel USB

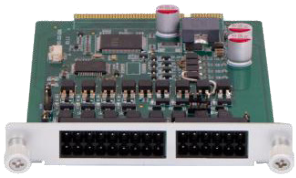

2-channel COM


14 GPI0 channels

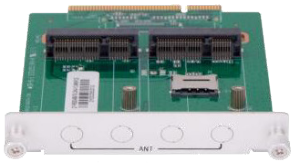

Dual Gigabit Ethernet ports


Four Gigabit Ethernet port


CAN+GPIO


DIDO


M.2 SSD


4G WIFI GPS

Ordering Information

Model	Chipset	LAN	USB	COM	Display	RAM	SSD	Expansion	Power
I610-BI	H670	2	7	4*RS-232/422/485 2*RS-232	1*HDMI 1*DP 1*VGA	2*DDR 4	1*M.2 NVME 1*MSATA 1*SATA	1*Mini PCIE 1*M.2 PCIE or PCI	DC 19-36V

System Information

Chipset	CPU	Specification
H670	Celeron G Series	Windows 10 / 11 and Linux
	Pentium Gold Series	
	12th / 13th / 14th	

CPU Information

CPU	Core	Threads	Frequency	Cache	Graphics	RAM
Celeron G6900	2	2	3.40 GHz	4 MB	UHD Graphics 710	Max to 64GB for 2*DDR4 Slot
Celeron G6900T	2	2	2.80 GHz	4 MB	UHD Graphics 710	Max to 64GB for 2*DDR4 Slot
Celeron G6900E	2	2	3.00 GHz	4 MB	UHD Graphics 710	Max to 64GB for 2*DDR4 Slot
Celeron G6900TE	2	2	2.40 GHz	4 MB	UHD Graphics 710	Max to 64GB for 2*DDR4 Slot
Pentium Gold G7400	2	4	3.70 GHz	6 MB	UHD Graphics 710	Max to 64GB for 2*DDR4 Slot
Pentium Gold G7400T	2	4	3.10 GHz	6 MB	UHD Graphics 710	Max to 64GB for 2*DDR4 Slot
Pentium Gold G7400E	2	4	3.60 GHz	6 MB	UHD Graphics 710	Max to 64GB for 2*DDR4 Slot
Pentium Gold G7400TE	2	4	3.00 GHz	6 MB	UHD Graphics 710	Max to 64GB for 2*DDR4 Slot
i3-12100	4	8	3.30-4.30 GHz	12 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i3-12100T	4	8	2.20-4.10 GHz	12 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i3-12300	4	8	3.50-4.40 GHz	12 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i3-12300T	4	8	2.30-4.20 GHz	12 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i5-12400	6	12	2.50-4.40 GHz	18 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i5-12400T	6	12	1.80-4.20 GHz	18 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i5-12500	6	12	3.00-4.60 GHz	18 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i5-12500T	6	12	2.00-4.40 GHz	18 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i5-12600	6	12	3.30-4.80 GHz	18 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot

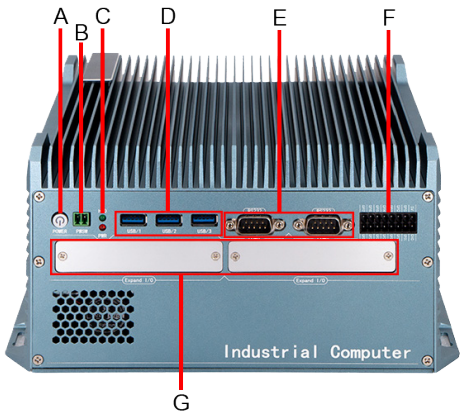
CPU	Core	Threads	Frequency	Cache	Graphics	RAM
i5-12600T	6	12	2.10-4.60 GHz	18 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-12700	12	20	2.10-4.90 GHz	25 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-12700T	12	20	1.40-4.70 GHz	25 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-12700K	12	20	3.60-5.00 GHz	25 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-12700TE	12	20	1.40-4.60 GHz	25 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-12900	16	24	2.40-5.40 GHz	30 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-12900T	16	24	1.40-5.90 GHz	30 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-12900K	16	24	3.20-5.20 GHz	30 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-12900TE	16	24	1.10-4.80 GHz	30 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-12900KS	16	24	3.40-5.50 GHz	30 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i3-13100	4	8	3.40-4.50 GHz	12 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i3-13100T	4	8	2.50-4.20 GHz	12 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i3-13100E	4	8	3.30-4.40 GHz	12 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i3-13100TE	4	8	2.40-4.10 GHz	12 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i5-13400	10	16	2.50-4.60 GHz	20 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i5-13400T	10	16	1.30-4.40 GHz	20 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i5-13500	14	20	2.50-4.80 GHz	24 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i5-13500T	14	20	1.60-4.60 GHz	24 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i5-13600	14	20	2.70-5.00 GHz	24 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i5-13600T	14	20	1.80-4.80 GHz	24 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-13700	16	24	2.10-5.20 GHz	30 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-13700T	16	24	1.40-4.90 GHz	30 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-13700K	16	24	3.40-5.40 GHz	30 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-13700TE	16	24	1.10-4.80 GHz	30 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot

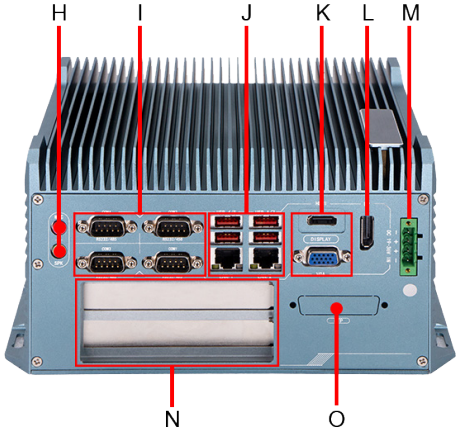
CPU	Core	Threads	Frequency	Cache	Graphics	RAM
i9-13900	24	32	2.00-5.60 GHz	36 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-13900T	24	32	1.10-5.30 GHz	36 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-13900K	24	32	3.00-5.80 GHz	36 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-13900TE	24	32	1.00-5.00 GHz	36 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-13900KS	24	32	3.20-6.00 GHz	36 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i3-14100	4	8	3.50-4.70 GHz	12 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i3-14100T	4	8	2.70-4.40 GHz	12 MB	UHD Graphics 730	Max to 64GB for 2*DDR4 Slot
i5-14500	14	20	2.60-5.00 GHz	24 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i5-14500T	14	20	1.70-4.80 GHz	24 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i5-14600	14	20	2.70-5.20 GHz	24 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i5-14600T	14	20	1.80-5.10 GHz	24 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-14700	20	28	2.10-5.40 GHz	33 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-14700T	20	28	1.30-5.20 GHz	33 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i7-14700K	20	28	3.40-5.60 GHz	33 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-14900	24	32	2.00-5.80 GHz	36 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-14900T	24	32	1.10-5.50 GHz	36 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot
i9-14900K	24	32	3.20-6.00 GHz	36 MB	UHD Graphics 770	Max to 64GB for 2*DDR4 Slot

Package List

Adapter	1*19V 10A adapter
Power Cable	1*Power Cable (The type is depends on the national standard of the buyer)
Terminal	2 Pin Phoenix Terminal for Power Switch
Terminal	8 Pin Phoenix terminal for GPIO port

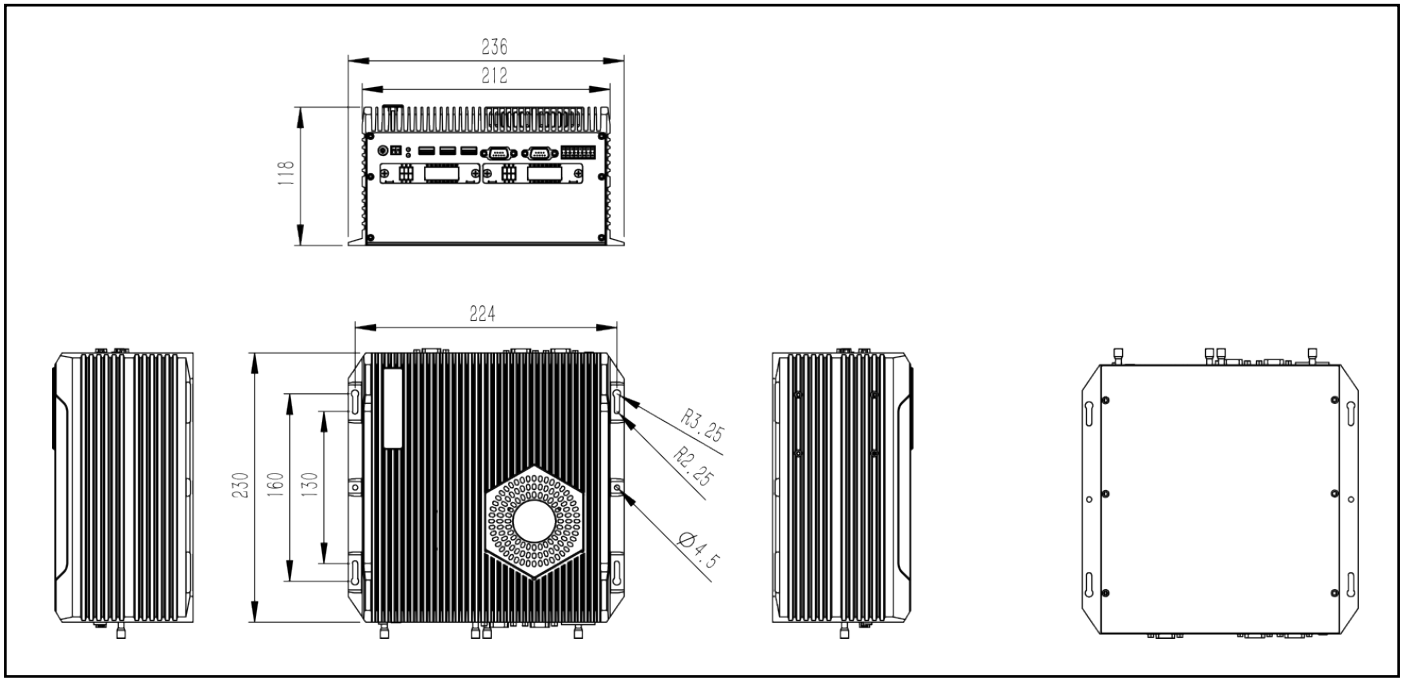
I/O Port





A : Power
B : Power Sw
C : PWR Poilct lamp
D : USB 3.0
E : COM (RS-232)
F : GPIO
G : Daughter Card
H : SPK+MIC
I : COM (RS-232/422)
J : USB 3.1 / LAN
K : HDMI/VGA
L : DisplayPort
M : DC 19-36 IN
N : Expansion
O : LTP

Dimensions



Classis with Fan and Fanless



Fan Design



Fanless Design

Applications



Factory Automation



Machine Control



Machine Vision