



# 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 -30°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.



# Specification

## Mother Board Specification

<b>Model</b>	I610-BI
<b>Chipset</b>	H670
<b>CPU</b>	Celeron G Series / Pentium Gold Series / Core Gen 12-14th-i3/i5/i7/ i9
<b>RAM</b>	2*DDR4 RAM Slots, Up to 64GB
<b>Storage</b>	1*MSATA SSD Slot , 1*M.2 PCIE SSD Slot , 1*SATA SSD Slots
<b>Display</b>	1*HDMI: Resolution up to 4096*2304@60Hz 1*DP: Resolution up to 4096*2304@60Hz 1*VGA: Resolution up to 1920*1200@60Hz
<b>Expansion</b>	1*Mini PCIE Slot + 1*M.2 Slot, Support 4G/5G and WIFI module 1*PCIE 16X+1*PCIE 1X or 2*PCI
<b>Ethernet</b>	2*Intel i211V LAN Chip (10 / 100 / 1000 Mbps, RJ-45 Type)
<b>USB</b>	4*USB 3.1 + 3*USB 3.0 (Type-A)
<b>COM</b>	4*RS-232 / 422 / 485 + 2*RS-232 (DB9 Type)
<b>Audio</b>	1*Line-In + 1*Line-Out
<b>GPIO</b>	14 ports GPIO (7*GPI+7*GPO, Phoenix terminal type)
<b>Daughter Card</b>	2*Daughter Card Slots, Support expansion I/O interfaces and functional slots

## Fittings Information

<b>RAM</b>	DDR4	4GB / 8GB / 16GB / 32GB
<b>Storage</b>	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
<b>GSM Module</b>	4G	4G+GPS
	5G	5G+GPS
<b>WIFI Module</b>	7260AN / 7260AC / AX210	
<b>GPU</b>	Power Consumption < 75W, Size small than 200mm	
<b>CAN BUS Module</b>	2*CAN BUS Ports	



# 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)



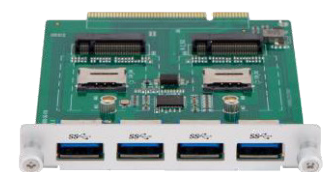
6-way COM



2.5-inch SSD



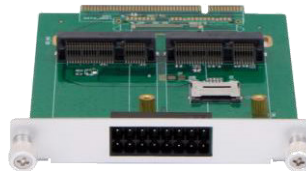
UPS power supply



4-channel USB



2-channel COM



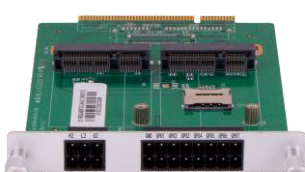
14 GPIO channels



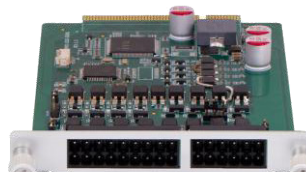
Dual Gigabit Ethernet ports



Four Gigabit Ethernet port



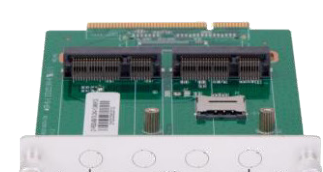
CAN+GPIO



DIDO



M.2 SSD



4G WIFI GPS



## Device Specification

BIOS	AMI UEFI BIOS
Power Input	DC 19-36V With Overvoltage Protection
	Support Auto-Start
	4 Pin Phoenix Terminal Type DC Plug
RTC	Support
Working Temperature	-20°C - 70°C , Support 24/7 Working
Storage Temperature	-30°C - 80°C
Humidity	90% (20±50°C)
Size	236mm*220mm*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

## 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 2*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
Celeron G6900	2	2	3.40 GHz	4 MB	UHD Graphics 710
Celeron G6900T	2	2	2.80 GHz	4 MB	UHD Graphics 710
Celeron G6900E	2	2	3.00 GHz	4 MB	UHD Graphics 710
Celeron G6900TE	2	2	2.40 GHz	4 MB	UHD Graphics 710
Pentium Gold G7400	2	4	3.70 GHz	6 MB	UHD Graphics 710
Pentium Gold G7400T	2	4	3.10 GHz	6 MB	UHD Graphics 710
Pentium Gold G7400E	2	4	3.60 GHz	6 MB	UHD Graphics 710
Pentium Gold G7400TE	2	4	3.00 GHz	6 MB	UHD Graphics 710
i3-12100	4	8	3.30-4.30 GHz	12 MB	UHD Graphics 730
i3-12100T	4	8	2.20-4.10 GHz	12 MB	UHD Graphics 730
i3-12300	4	8	3.50-4.40 GHz	12 MB	UHD Graphics 730
i3-12300T	4	8	2.30-4.20 GHz	12 MB	UHD Graphics 730
i5-12400	6	12	2.50-4.40 GHz	18 MB	UHD Graphics 730
i5-12400T	6	12	1.80-4.20 GHz	18 MB	UHD Graphics 730
i5-12500	6	12	3.00-4.60 GHz	18 MB	UHD Graphics 770
i5-12500T	6	12	2.00-4.40 GHz	18 MB	UHD Graphics 770
i5-12600	6	12	3.30-4.80 GHz	18 MB	UHD Graphics 770
i5-12600T	6	12	2.10-4.60 GHz	18 MB	UHD Graphics 770
i7-12700	12	20	2.10-4.90 GHz	25 MB	UHD Graphics 770
i7-12700T	12	20	1.40-4.70 GHz	25 MB	UHD Graphics 770
i7-12700K	12	20	3.60-5.00 GHz	25 MB	UHD Graphics 770
i7-12700TE	12	20	1.40-4.60 GHz	25 MB	UHD Graphics 770
i9-12900	16	24	2.40-5.40 GHz	30 MB	UHD Graphics 770
i9-12900T	16	24	1.40-5.90 GHz	30 MB	UHD Graphics 770



CPU	Core	Threads	Frequency	Cache	Graphics
i9-12900K	16	24	3.20-5.20 GHz	30 MB	UHD Graphics 770
i9-12900TE	16	24	1.10-4.80 GHz	30 MB	UHD Graphics 770
i9-12900KS	16	24	3.40-5.50 GHz	30 MB	UHD Graphics 770
i3-13100	4	8	3.40-4.50 GHz	12 MB	UHD Graphics 730
i3-13100T	4	8	2.50-4.20 GHz	12 MB	UHD Graphics 730
i3-13100E	4	8	3.30-4.40 GHz	12 MB	UHD Graphics 730
i3-13100TE	4	8	2.40-4.10 GHz	12 MB	UHD Graphics 730
i5-13400	10	16	2.50-4.60 GHz	20 MB	UHD Graphics 730
i5-13400T	10	16	1.30-4.40 GHz	20 MB	UHD Graphics 730
i5-13500	14	20	2.50-4.80 GHz	24 MB	UHD Graphics 770
i5-13500T	14	20	1.60-4.60 GHz	24 MB	UHD Graphics 770
i5-13600	14	20	2.70-5.00 GHz	24 MB	UHD Graphics 770
i5-13600T	14	20	1.80-4.80 GHz	24 MB	UHD Graphics 770
i7-13700	16	24	2.10-5.20 GHz	30 MB	UHD Graphics 770
i7-13700T	16	24	1.40-4.90 GHz	30 MB	UHD Graphics 770
i7-13700K	16	24	3.40-5.40 GHz	30 MB	UHD Graphics 770
i7-13700TE	16	24	1.10-4.80 GHz	30 MB	UHD Graphics 770
i9-13900	24	32	2.00-5.60 GHz	36 MB	UHD Graphics 770
i9-13900T	24	32	1.10-5.30 GHz	36 MB	UHD Graphics 770
i9-13900K	24	32	3.00-5.80 GHz	36 MB	UHD Graphics 770
i9-13900TE	24	32	1.00-5.00 GHz	36 MB	UHD Graphics 770
i9-13900KS	24	32	3.20-6.00 GHz	36 MB	UHD Graphics 770
i3-14100	4	8	3.50-4.70 GHz	12 MB	UHD Graphics 730
i3-14100T	4	8	2.70-4.40 GHz	12 MB	UHD Graphics 730
i5-14500	14	20	2.60-5.00 GHz	24 MB	UHD Graphics 770

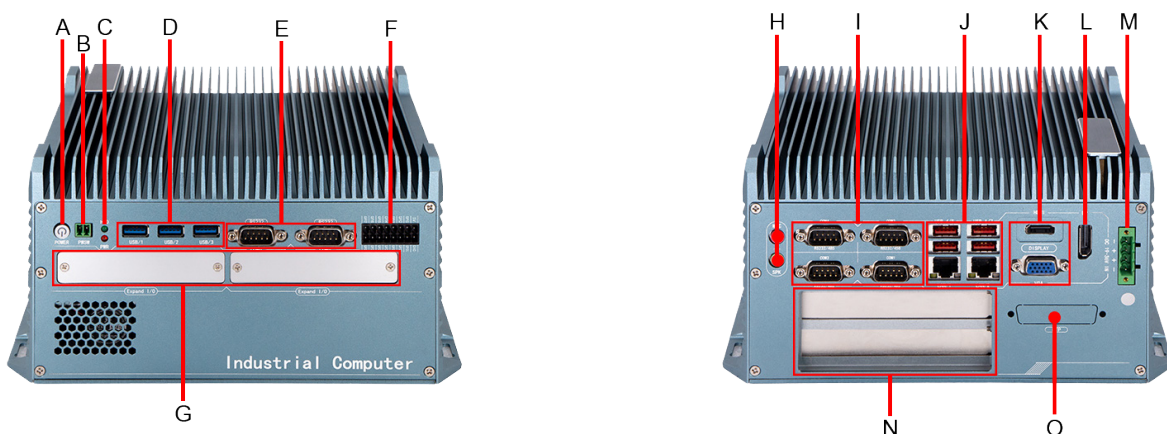


CPU	Core	Threads	Frequency	Cache	Graphics
i5-14500T	14	20	1.70-4.80 GHz	24 MB	UHD Graphics 770
i5-14600	14	20	2.70-5.20 GHz	24 MB	UHD Graphics 770
i5-14600T	14	20	1.80-5.10 GHz	24 MB	UHD Graphics 770
i7-14700	20	28	2.10-5.40 GHz	33 MB	UHD Graphics 770
i7-14700T	20	28	1.30-5.20 GHz	33 MB	UHD Graphics 770
i7-14700K	20	28	3.40-5.60 GHz	33 MB	UHD Graphics 770
i9-14900	24	32	2.00-5.80 GHz	36 MB	UHD Graphics 770
i9-14900T	24	32	1.10-5.50 GHz	36 MB	UHD Graphics 770
i9-14900K	24	32	3.20-6.00 GHz	36 MB	UHD Graphics 770

## 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

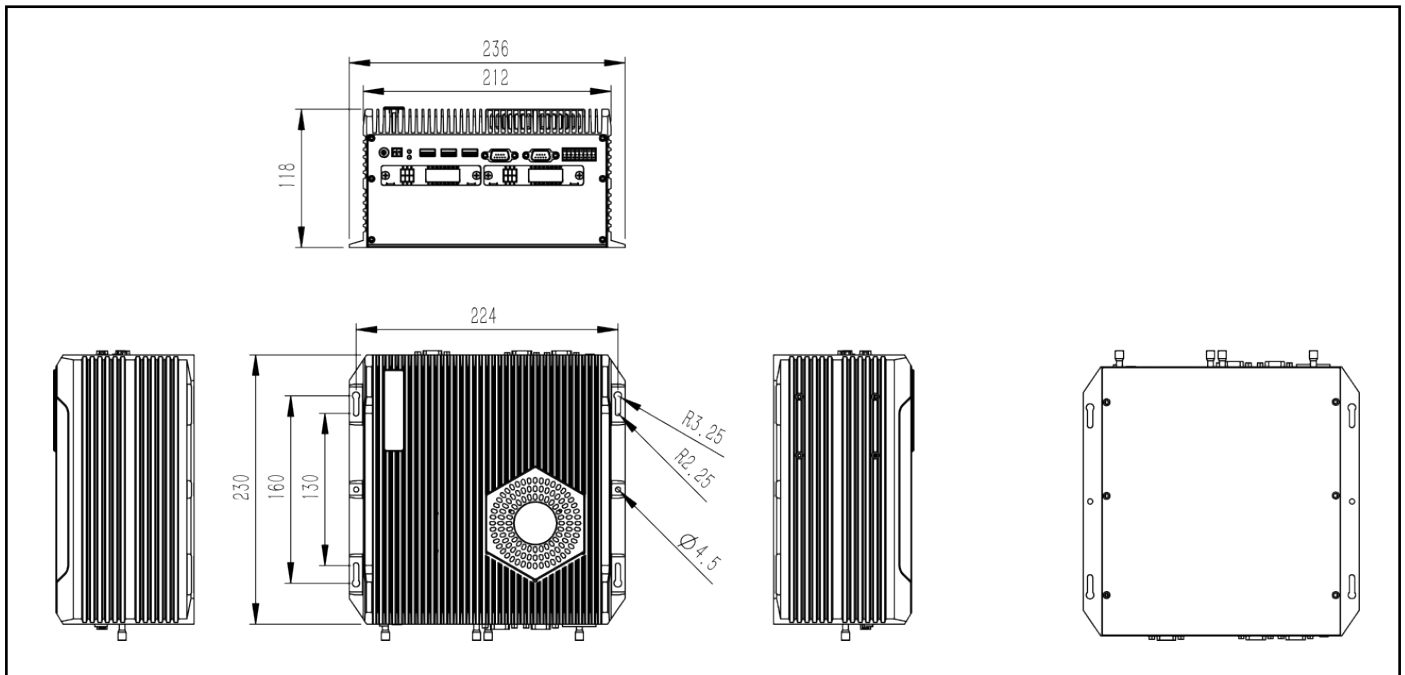
## I/O Port



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



## Dimensions



## Classis with Fan and Fanless



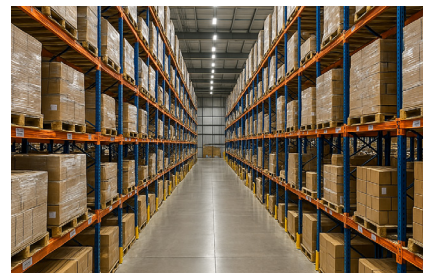
## Applications



Industrial Factory



Industrial Robot



WareHouse

