

Intel® Tiger Lake Processor, 12~24V DC in, 2\*DDR4 DRAM, expandable system with cableless and fanless design

### Features

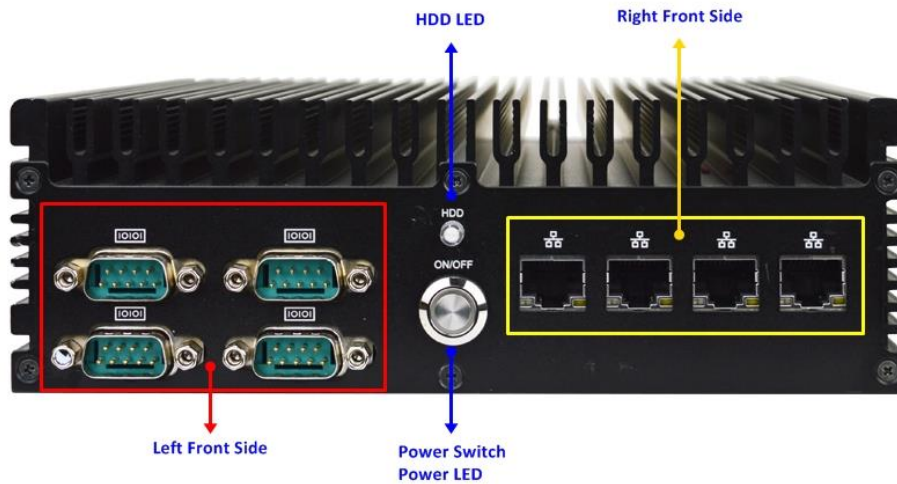
With the development of IOT, industrial automation needs faster and more stable equipment, so Intel Tiger Lake processor is used as the core.

In response to different installation occasions and different interface requirements, by choosing different expansion cards, the needs of most users can be met.

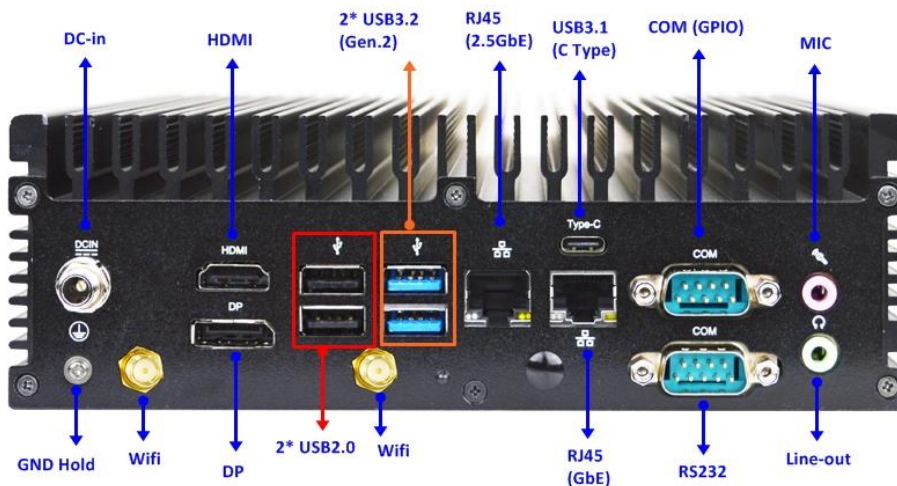


intel. FC CE RoHS COMPLIANT

### Front I/O



### Rear I/O



## Specifications

### Model

Please refer to HBJC38AZ02 Series Product List on Page 4~7

### BIOS

AMI Flash ROM

### Network

- 1\* Intel i219LM GbE
- 1\* Intel i225V 2.5GbE

### Storage

- 1 \* 2.5" SATA HDD (6 Gb/s)
- 1 \* M.2-2242/2280 M-Key (SATA/PCIe Gen4 x4 Interface support NVMe)

### Rear Panel I/O

- 2\* USB 2.0
- 2\* USB 3.2 (Gen.2)
- 1\* USB3.1(C Type)
- 1\* HDMI
- 1\* DP
- 2\* RJ45 (2.5Gbps/1.0Gbps)
- 1\* Line-out, 1\* MIC
- 2\* COM (TOP: co-lay GPIO; Bottom: Support RS232)
- 1\* DC Jack (Lock Type)
- 3\* Antenna holes (Optional)

### Internal Connector

1\* SIM Card slot

### Compliance

CE, FCC, LVD, RoHS

### Temperature

- Operating Temperature: -20 ~ 50° C (Under the condition of using M.2 interface SSD)
- Operating Temperature: 0 ~ 50° C (Under the condition of using 2.5" SATA HDD)  
(The test environment is closed and windless)
- Storage Temperature: -20 ~ 70° C
- Humidity: Between 40% and 60%, non-condensing

### OS Support

Windows 11, Linux

### Warranty

2 Years limited warranty

\* Specifications subject to change without notice, not responsible for typographical errors. Does not include HDD or OS.

### CPU / Chipset

Intel® Tiger lake-UP3 SoC Processor (i5-1145G7E/Default)

### Memory

2\* DDR4 3200MHz SO-DIMM up to 64GB

### Graphics

- Intel® HD Graphics, shared memory
- 2\* DP (Max Resolution: 4096x2304@60Hz)
- 1\* HDMI 2.0 (Max Resolution: 4096x2160@60Hz)
- Support Triple Displays

### Expansion

- 1\* M.2-2230 E-Key (USB2.0/PCIEx1 for WiFi support CNVi)
- 1\* M.2-3042/3052 B-Key (USB3.1/USB2.0/PCIe x1 for 4G&5G expansion)

### Front Panel I/O

- 1\* Power Button + LED
- 1\* HDD LED
- COM (By Model)
- Intel LAN (By Model)
- GPIO (8-bits IN & 8-bits OUT /By Model)
- USB3.0 (By Model)

### Power Source

- M/B: DC12~24V input
- Adapter: AC100~240V input/DC19V\_90W output

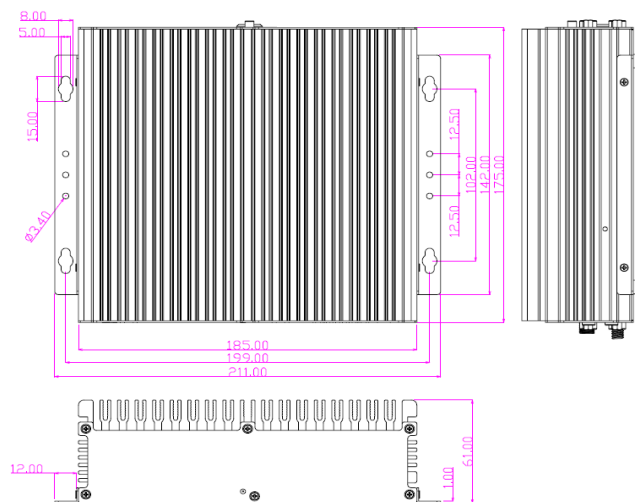
### Dimensions

System: 185 (W) x 175 (D) x 60 (H) mm

## Standard Accessories

Part Number	Description
HBJC38AZ02 SERIES	Intel® Tiger lake-UP3 SoC Processor
L01AS064-F	Adapter DC19V_90W
Change according to shipping area	Power core
LCSCHBJC3XX-F	Barebone Screw Pack
HCS370MWM01B-2-F	Wall mount kits
HCS3XXDINRAILPS-F	DIN RAIL CLIP kits
J05-ANT-GX57245-F	Antenna2G4/5G 2.8dBi (WiFi model only)
HNSCOMWFCB375NF-F	WIFI AC+BT5.0 AW-CB375NF M.2 2230 (WiFi model only)
JADPIE1LAN4	4 ports LAN Expansion Card
JADPIE1COM4	4 ports COM Expansion Card
JADPIE1U304	4 ports USB3.0 Expansion Card
JADPIE1G16I	16 bits GPIO Expansion Card (Support Isolated)

## Mechanical Drawings (Unit=mm)



## Part Number Rules

### Left Front Side:

0: Non-expansion card  
L: LAN expansion card  
C: COM expansion card  
U: USB expansion card  
G: GPIO expansion card

I: M.2 ac Wifi card  
N.A: Non-Wifi

B: Standard  
XX: OEM Code

**HBJC38A Z02 X - X X X XX**

Barebone  
Model

MB Model
















### CPU Model

0: 6305E	3: i7: 1185G7E
1: i3-1115G4E	4: i3-1115GRE
2: i5-1145G7E	5: i5-1135G7
















### Right Front Side:

0: Non-expansion card  
L: LAN expansion card  
C: COM expansion card  
U: USB expansion card  
G: GPIO expansion card
















## HBJC38AZ02-0XXB Series Product List / CPU : 6305E

Front IO Picture	BB Model	Front-IO illustrate	Rear-IO
	HBCJ38AZ02-000B (non-WiFi) HBCJ38AZ02I-000B (WiFi)	No expansion card installed	
	HBCJ38AZ02-00LB (non-WiFi) HBCJ38AZ02I-00LB (WiFi)	4 * LAN	
	HBCJ38AZ02-00GB (non-WiFi) HBCJ38AZ02I-00GB (WiFi)	1 * 16 bits GPIO	
	HBCJ38AZ02-00UB (non-WiFi) HBCJ38AZ02I-00UB (WiFi)	4 * USB 3.0	
	HBCJ38AZ02-0C0B (non-WiFi) HBCJ38AZ02I-0C0B (WiFi)	4 * COM (RS232/422/485)	
	HBCJ38AZ02-0CLB (non-WiFi) HBCJ38AZ02I-0CLB (WiFi)	4 * COM (RS232/422/485) 4 * LAN	
	HBCJ38AZ02-0CUB (non-WiFi) HBCJ38AZ02I-0CUB (WiFi)	4 * COM (RS232/422/485) 4 * USB 3.0	
	HBCJ38AZ02-0CGB (non-WiFi) HBCJ38AZ02I-0CGB (WiFi)	4 * COM (RS232/422/485) 1 * 16 bits GPIO	5 * USB 2 * COM 2 * LAN
	HBCJ38AZ02-0LGB (non-WiFi) HBCJ38AZ02I-0LGB (WiFi)	4 * LAN 1 * 16 bits GPIO	
	HBCJ38AZ02-0LUB (non-WiFi) HBCJ38AZ02I-0LUB (WiFi)	4 * LAN 4 * USB 3.0	
	HBCJ38AZ02-0GUB (non-WiFi) HBCJ38AZ02I-0GUB (WiFi)	1 * 16 bits GPIO 4 * USB 3.0	
	HBCJ38AZ02-0CCB (non-WiFi) HBCJ38AZ02I-0CCB (WiFi)	8 * COM(RS232/422/485)	
	HBCJ38AZ02-0LLB (non-WiFi) HBCJ38AZ02I-0LLB (WiFi)	8 * LAN	
	HBCJ38AZ02-0UUB (non-WiFi) HBCJ38AZ02I-0UUB (WiFi)	8 * USB 3.0	
	HBCJ38AZ02-0GGB (non-WiFi) HBCJ38AZ02I-0GGB (WiFi)	2* 16 bits GPIO	















## HBJC38AZ02-1XXB Series Product List / CPU : i3-1115G4

Front IO Picture	BB Model	Front-IO illustrate	Rear-IO
	HBCJ38AZ02-100B (non-WiFi) HBCJ38AZ02I-100B (WiFi)	No expansion card installed	
	HBCJ38AZ02-10LB (non-WiFi) HBCJ38AZ02I-10LB (WiFi)	4 * LAN	
	HBCJ38AZ02-10GB (non-WiFi) HBCJ38AZ02I-10GB (WiFi)	1 * 16 bits GPIO	
	HBCJ38AZ02-10UB (non-WiFi) HBCJ38AZ02I-10UB (WiFi)	4 * USB 3.0	
	HBCJ38AZ02-1C0B (non-WiFi) HBCJ38AZ02I-1C0B (WiFi)	4 * COM (RS232/422/485)	
	HBCJ38AZ02-1CLB (non-WiFi) HBCJ38AZ02I-1CLB (WiFi)	4 * COM (RS232/422/485) 4 * LAN	
	HBCJ38AZ02-1CUB (non-WiFi) HBCJ38AZ02I-1CUB (WiFi)	4 * COM (RS232/422/485) 4 * USB 3.0	
	HBCJ38AZ02-1CGB (non-WiFi) HBCJ38AZ02I-1CGB (WiFi)	4 * COM (RS232/422/485) 1 * 16 bits GPIO	5 * USB 2 * COM 2 * LAN
	HBCJ38AZ02-1LGB (non-WiFi) HBCJ38AZ02I-1LGB (WiFi)	4 * LAN 1 * 16 bits GPIO	
	HBCJ38AZ02-1LUB (non-WiFi) HBCJ38AZ02I-1LUB (WiFi)	4 * LAN 4 * USB 3.0	
	HBCJ38AZ02-1GUB (non-WiFi) HBCJ38AZ02I-1GUB (WiFi)	1 * 16 bits GPIO 4 * USB 3.0	
	HBCJ38AZ02-1CCB (non-WiFi) HBCJ38AZ02I-1CCB (WiFi)	8 * COM (RS232/422/485)	
	HBCJ38AZ02-1LLB (non-WiFi) HBCJ38AZ02I-1LLB (WiFi)	8 * LAN	
	HBCJ38AZ02-1UUB (non-WiFi) HBCJ38AZ02I-1UUB (WiFi)	8 * USB 3.0	
	HBCJ38AZ02-1GGB (non-WiFi) HBCJ38AZ02I-1GGB (WiFi)	2* 16 bits GPIO	

## HB38AZ02-2XXB Series Product List / CPU : i5-1145G7

Front IO Picture	BB Model	Front-IO illustrate	Rear-IO
	HBCJ38AZ02-200B (non-WiFi) HBCJ38AZ02I-200B (WiFi)	No expansion card installed	5 * USB 2 * COM 2 * LAN
	HBCJ38AZ02-20LB (non-WiFi) HBCJ38AZ02I-20LB (WiFi)	4 * LAN	
	HBCJ38AZ02-20GB (non-WiFi) HBCJ38AZ02I-20GB (WiFi)	1 * 16 bits GPIO	
	HBCJ38AZ02-20UB (non-WiFi) HBCJ38AZ02I-20UB (WiFi)	4 * USB 3.0	
	HBCJ38AZ02-2C0B (non-WiFi) HBCJ38AZ02I-2C0B (WiFi)	4 * COM (RS232/422/485)	
	HBCJ38AZ02-2CLB (non-WiFi) HBCJ38AZ02I-2CLB (WiFi)	4 * COM (RS232/422/485) 4 * LAN	
	HBCJ38AZ02-2CUB (non-WiFi) HBCJ38AZ02I-2CUB (WiFi)	4 * COM (RS232/422/485) 4 * USB 3.0	
	HBCJ38AZ02-2CGB (non-WiFi) HBCJ38AZ02I-2CGB (WiFi)	4 * COM (RS232/422/485) 1 * 16 bits GPIO	
	HBCJ38AZ02-2LGB (non-WiFi) HBCJ38AZ02I-2LGB (WiFi)	4 * LAN 1 * 16 bits GPIO	
	HBCJ38AZ02-2LUB (non-WiFi) HBCJ38AZ02I-2LUB (WiFi)	4 * LAN 4 * USB 3.0	
	HBCJ38AZ02-2GUB (non-WiFi) HBCJ38AZ02I-2GUB (WiFi)	1 * 16 bits GPIO 4 * USB 3.0	
	HBCJ38AZ02-2CCB (non-WiFi) HBCJ38AZ02I-2CCB (WiFi)	8 * COM (RS232/422/485)	
	HBCJ38AZ02-2LLB (non-WiFi) HBCJ38AZ02I-2LLB (WiFi)	8 * LAN	
	HBCJ38AZ02-2UUB (non-WiFi) HBCJ38AZ02I-2UUB (WiFi)	8 * USB 3.0	
	HBCJ38AZ02-2GGB (non-WiFi) HBCJ38AZ02I-2GGB (WiFi)	2* 16 bits GPIO	

## HB38AZ02-3XXB Series Product List / CPU : i7-1185G7

Front IO Picture	BB Model	Front-IO illustrate	Rear-IO
	HBCJ38AZ02-300B (non-WiFi) HBCJ38AZ02I-300B (WiFi)	No expansion card installed	
	HBCJ38AZ02-30LB (non-WiFi) HBCJ38AZ02I-30LB (WiFi)	4 * LAN	
	HBCJ38AZ02-30GB (non-WiFi) HBCJ38AZ02I-30GB (WiFi)	1 * 16 bits GPIO	
	HBCJ38AZ02-30UB (non-WiFi) HBCJ38AZ02I-30UB (WiFi)	4 * USB 3.0	
	HBCJ38AZ02-3C0B (non-WiFi) HBCJ38AZ02I-3C0B (WiFi)	4 * COM (RS232/422/485)	
	HBCJ38AZ02-3CLB (non-WiFi) HBCJ38AZ02I-3CLB (WiFi)	4 * COM (RS232/422/485) 4 * LAN	
	HBCJ38AZ02-3CUB (non-WiFi) HBCJ38AZ02I-3CUB (WiFi)	4 * COM (RS232/422/485) 4 * USB	
	HBCJ38AZ02-3CGB (non-WiFi) HBCJ38AZ02I-3CGB (WiFi)	4 * COM (RS232/422/485) 1 * 16 bits GPIO	5 * USB 2 * COM 2 * LAN
	HBCJ38AZ02-3LGB (non-WiFi) HBCJ38AZ02I-3LGB (WiFi)	4 * LAN 1 * 16 bits GPIO	
	HBCJ38AZ02-3LUB (non-WiFi) HBCJ38AZ02I-3LUB (WiFi)	4 * LAN 4 * USB 3.0	
	HBCJ38AZ02-3GUB (non-WiFi) HBCJ38AZ02I-3GUB (WiFi)	1 * 16 bits GPIO 4 * USB 3.0	
	HBCJ38AZ02-3CCB (non-WiFi) HBCJ38AZ02I-3CCB (WiFi)	8 * COM (RS232/422/485)	
	HBCJ38AZ02-3LLB (non-WiFi) HBCJ38AZ02I-3LLB (WiFi)	8 * LAN	
	HBCJ38AZ02-3UUB (non-WiFi) HBCJ38AZ02I-3UUB (WiFi)	8 * USB 3.0	
	HBCJ38AZ02-3GGB (non-WiFi) HBCJ38AZ02I-3GGB (WiFi)	2 * 16 bits GPIO	



## JADPIE1U304

**Dimension:** 64.51 x 74 mm

**Chipset:** RENESAS uPD720201K8-701-BAC

**Feature:**

1. Support 4 \* USB 3.0 ports
2. Support PCIe 2.0 interface

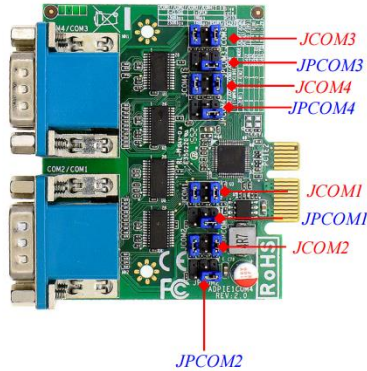
**Interface:**

PCIe x1 Interface, supports PCIe 2.0 (5GT/S) rate





# Expansion CARD / COM



## ADPIE1COM4

### Dimension

64.5 \* 74 mm

### Chipset

FT81504 PCIe Gen 1.1 TO 4 UART

### Feature

1. Support 4 UART (COM) ports with 2.5KV isolation protection
2. COM1~4 support RS4232/22/485 function

### Interface

PCIe 1.1 (2.5GT/S) rate

### Application

1. Industrial Equipment
2. POS Machine
3. Machine to Machine (M2M) communications

### Connectors, Jumper Settings & Pin Definition :

JCOM1 : Select RS232/RS422/RS485 for COM1 port

JCOM2 : Select RS232/RS422/RS485 for COM2 port

JCOM3 : Select RS232/RS422/RS485 for COM3 port

JCOM4 : Select RS232/RS422/RS485 for COM4 port

### Jumper Settings:

JPCOM1→COM1 Port Pin-9/ JPCOM2→COM2 Port Pin-9/

JPCOM3→COM3 Port Pin-9/JPCOM4→COM4 Port Pin-9



2-4 Closed:  
Pin9= RING  
(Default);



3-4 Closed:  
Pin9=+5V;



4-6 Closed:  
Pin9=+12V.

JCOM1/JCOM2/JCOM3/JCOM4 PIN (1-2) & PIN(3-4)			
1-2	3-4	Settings	Mode
CLOSE	OPEN		RS232
CLOSE	CLOSE		RS422
OPEN	CLOSE		RS485-RX
OPEN	OPEN		RS485-TX

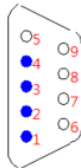
JCOM1/JCOM2/JCOM3/JCOM4 (5-6)		
SLEW RATE		MODE
5-6 (CLOSE)	5-6 (OPEN)	
250 Kbps	1M bps	RS232
250 Kbps	10 Mbps	RS485/RS422

RS232



Pin No.	Pin Definition	Pin No.	Pin Definition
1	DCD#	6	DSR#
2	SIN	7	RTS#
3	SOUT	8	CTS#
4	DTR#	9	RI#/+12V/+5V
5	GND		

RS422



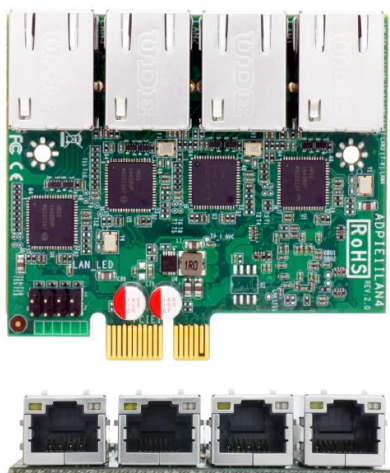
Pin No.	Pin Definition	Pin No.	Pin Definition
1	TX-(B)	6	NC
2	TX+(A)	7	NC
3	RX+(A)	8	NC
4	RX-(B)	9	NC
5	GND		

RS485



Pin No.	Pin Definition	Pin No.	Pin Definition
1	D-(B)	6	NC
2	D+(A)	7	NC
3	NC	8	NC
4	NC	9	NC
5	GND		

## Expansion CARD / LAN



### Feature :

1. PCIe1 interface supports any of Motherboard with PCIe slot
2. 4 \* Intel i211AT, PCIe GbE LAN
3. Support Wake on LAN S1/S3/S4/S5

### Application :

1. VPN
2. UTM
3. Network bandwidth controller
4. Mail spam
5. Virus spam

### Product Specifications

#### Form Factor

Dimensions	- 74 mm x 64.5 mm
Interface	- PCIe1 ( Gold Finger ) to 4 * PCIe GbE LAN ( RJ45 port )

#### Switch Controller

Chipset	- Pericom PI7C9X2G608GP, PCI Express Gen 2 Switch
---------	---

#### Ethernet Controller

Chipset	- Intel i211AT, PCIe GbE LAN
Connector	- 4 * RJ45

## Expansion CARD / GPIO

### JADPIE1G16I



**Dimension:** 64.51 x 74 mm

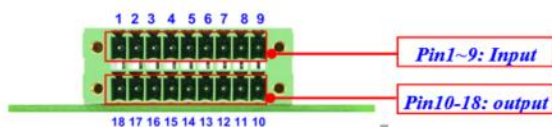
**Chipset:** FINTEK F81504U

#### Feature:

1. Support Isolated 8-bits IN / 8-bits OUT GPIO (Isolation Protection 2,500VDC)
2. Support PCIe 2.0 interface

#### Interface:

PCIe x1 Interface, supports PCIe 2.0 (5GT/S) rate



16-bits GPIO Pin define: **Pin1~9 : Input ; Pin 10~18: Output.**

Pin	1	2	3	4	5	6	7	8	9
Pin define	P COM	GPIO0	GPIO1	GPIO2	GPIO3	GPIO4	GPIO5	GPIO6	GPIO7
Pin	18	17	16	15	14	13	12	11	10
Pin define	GPIO10	GPIO11	GPIO12	GPIO13	GPIO14	GPIO15	GPIO16	GPIO17	E GND