



GP SERIES

Industrial AI & Machine Vision Computer





01 | GP Series Introduction

02 | Embedded Computer Specification

03 | GPU Expansion Box Specification

Dual GPU, Double Power

Industrial AI & Machine Vision Computer



14th/13th/12th

Gen Processor

Powered by 14/13/12th Generation Intel® Core™ Processor with Intel® R680E Chipset.

Dual

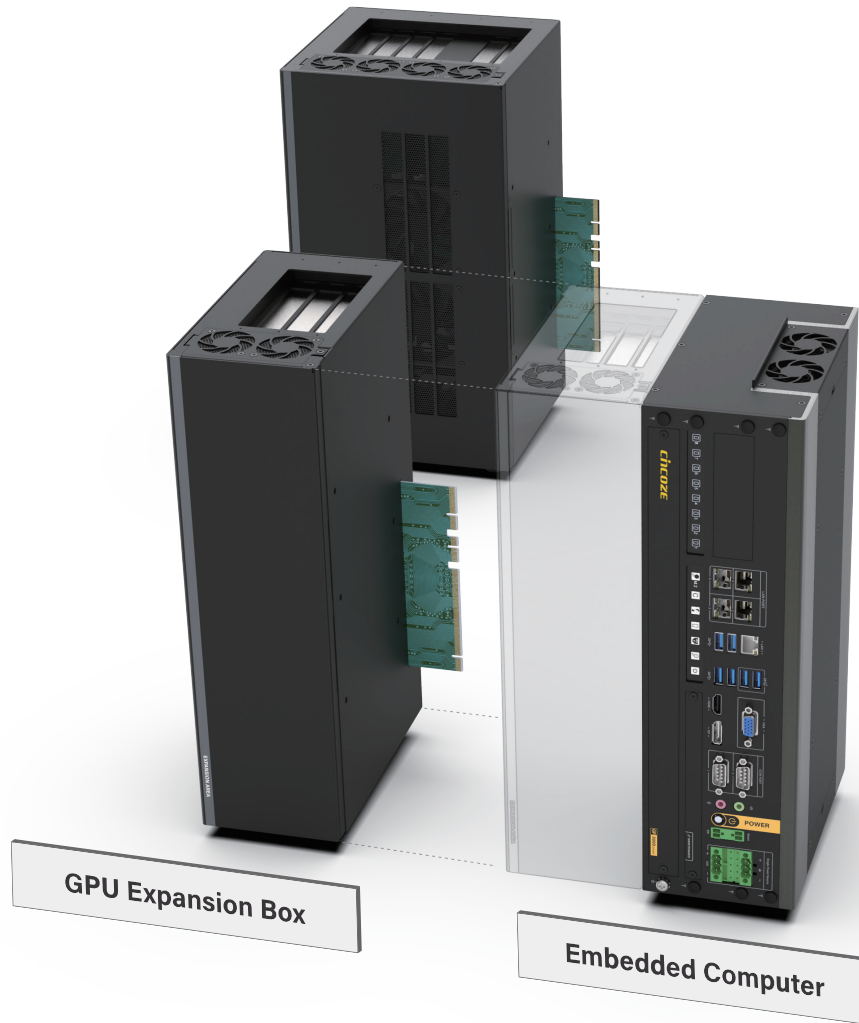
Full-length GPU

Support Maximum Dual 300W Nvidia / AMD GPU Cards (@48VDC) Expansion Up to 328mm in Length.

720W

Power Budget

Offer 720W Total System Power Budget (@24VDC) for High-end CPU&GPU Computing.



Scalable Design

Patent No. I779496

Extremely powerful. And scalable. That's what the GP Series GPU computing system brings to the table. Its crowning achievement is the GPU expansion design. The GP Series is the core processing unit, and a selectable GPU Expansion Box (GEB) connects externally and supports up to dual high-end GPU cards. The GP Series is a smart and high-performance GPU computing system.

Multiple Expansion Options

Expansion is one of the primary advantages of the GP Series. In addition to expanding the number of high-end GPU cards through the GEB, the expansion unit also provides multiple PCIe slots for other applications through high-speed I/O card or frame grabber card, etc. Easily customize the GP Series to meet the application needs of different markets.

Upgrade Flexibility

Flexibility for future upgrades is a further advantage. Whether to increase the number of GPU cards or upgrade, there is no need to replace the embedded computer, replace the GEB. This approach dramatically reduces the upgrade cost and retains flexibility for future upgrades.

Configuration Guide

STEP 1

Select an Embedded Computer



Embedded Computer

STEP 2

Select a GPU Expansion Box



GPU Expansion Box

STEP 3

Configure Your GPU Computer !



Embedded GPU Computer

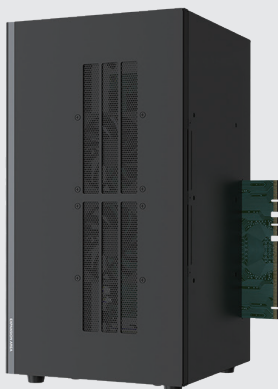
Overview

Embedded Computer

**GP Series**

- High Performance Standalone Computer
- Support Cincoze' Innovative CMI & CFM Module Expansion
- Scalable Design by Adding Versatile GPU Expansion Box

GPU Expansion Box

**GEB Series**

- Offer Various Combination of PCIe Slots for Add-on Cards Expansion
- Support Up to Dual 250W Full-length GPU Cards
- Intelligent Cooling Design for High-end GPU Card Thermal Optimization

Mounting Type

Desktop Mount



- Design for GP Series
- With Standard Desktop Mount Bracket

Flat Mount



- Design for All GP Series:
 - GP Series
 - GP Series/GEB Series
- With Standard Wall Mount Bracket

Wall Mount



- Design for All GP Series:
 - GP Series
 - GP Series/GEB Series
- With Standard Wall Mount Bracket

19" Rack Mount



- Design for All GP Series:
 - GP Series
 - GP Series/GEB Series
- With optional mounting kit:
 - RM01-R10 / RM02-R10 / RM03-R10

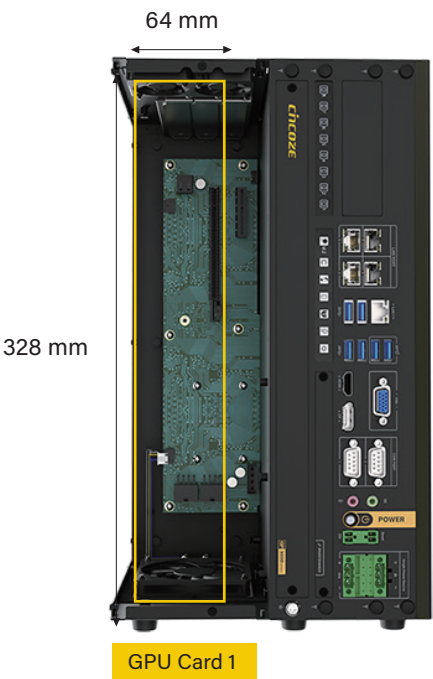
GPU Card Dimension Guide

GPU Card Maximum Dimension

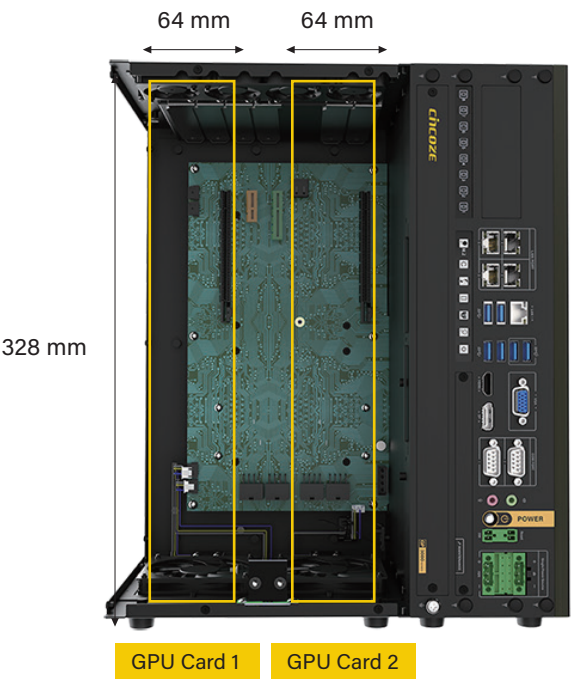


System Overview

GP Series/GEB-33 Series



GP Series/GEB-36 Series



Power Supply Cabling Guide

GP Series supports dual power connectors which are designed for single power source only. Dual power connect must be used at the same time due to 15A current limitation at each power connector.



Item List



1 x Power Cord



1 x Power Supply



2 x Power Cable

Selection Guide

Embedded Computer



Model Name	GP-3000	GP-3100
CPU	9 th /8 th Gen Intel® Xeon®/Core™	14 th /13 th /12 th Gen Intel® Core™/Pentium®/Celeron®
Chipset	C246	R680E
Memory	2 x DDR4 SO-DIMM	2 x DDR5 SO-DIMM
2.5" Storage	4	4
Display	1 x VGA , 1 x HDMI , 1 x DP	1 x VGA , 1 x HDMI , 1 x DP
LAN	5	5
USB	2 x USB 3.2 Gen2 , 4 x USB 3.2 Gen1	6 x USB 3.2 Gen1
COM	2x RS-232/422/485	2x RS-232/422/485
Remote Function	1 x Remote Power On/Off , 1 x Remote Reset	1 x Remote Power On/Off , 1 x Remote Power LED
Mini PCIe	2	--
M.2	1 x M.2 Key M Type 2280 , 1 x M.2 Key E Type 2230	1 x M.2 Key M Type 2280 , 1 x M.2 Key E Type 2230 1 x M.2 Key B Type 2280 , 1 x M.2 Key B Type 3052/3042
Power Input	9 - 48V	9 - 48V
Dimension (W x D x H)	105 x 195 x 370 mm	105 x 195 x 370 mm
EMC	CE / FCC / ICES-003 / EN50121-3-2 / E-mark	CE / FCC / ICES-003 / EN50121-3-2 / E-mark
Safety	EN62368-1	UL / cUL / CB / IEC / EN 62368-1

GPU Expansion Box



Model Name	GEB-3301	GEB-3601
PCIe x 16	1	2 (PCIe x 8 Lanes)
PCIe x 4	1	1
PCIe x 1	-	1
Internal USB	1 x USB 2.0	1 x USB 2.0
GPU Card Power	2 x 8 Pin Power Connector	4 x 8 Pin Power Connector
Dimension (W x D x H)	104 x 195 x 360 mm	200 x 195 x 360 mm
Safety	UL / cUL / CB / IEC / EN 62368-1	UL / cUL / CB / IEC / EN 62368-1

GP-3000 Configuration Matrix



Model No.	GP-3000	GP-3000/GEB-3301	GP-3000/GEB-3601
GP-3000 	✓	✓	✓
GEB-3301 		✓	
GEB-3601 			✓

Specifications

Weight Information	8 kg	11.2 kg	13.2 kg
Dimension (W x D x H)	105 x 195 x 370 mm	209 x 195 x 370 mm	305 x 195 x 370 mm
Operating Temperature	-40°C to 70°C (Please see page 17 for more information)		
Storage Temperature	-40°C to 85°C		
Relative Humidity	95% RH @ 70°C (Non-condensing)		
Mounting	Wall / Desktop / 19" Rack Mount / Flat Mount / Tower stand (Please see page 6 for more information)		
Shock	MIL-STD-810G		
Vibration	MIL-STD-810G		
EMC	CE, FCC, ICES-003 Class A, EN50121-3-2 (Railway), E-mark		

GP-3100 Configuration Matrix



Model No.	GP-3100	GP-3100/GEB-3301	GP-3100/GEB-3601
GP-3100 	✓	✓	✓
GEB-3301 		✓	
GEB-3601 			✓

Specifications

Weight Information	7.7 kg	10.9 kg	12.9 kg
Dimension (W x D x H)	105 x 195 x 370 mm	209 x 195 x 370 mm	305 x 195 x 370 mm
Operating Temperature	-40°C to 70°C (Please see page 30 for more information)		
Storage Temperature	-40°C to 70°C		
Relative Humidity	95% RH @ 70°C (Non-condensing)		
Mounting	Wall / Desktop / 19" Rack Mount / Flat Mount / Tower stand (Please see page 6 for more information)		
Shock	MIL-STD-810H		
Vibration	MIL-STD-810H		
EMC	CE, FCC, ICES-003 Class A, EN50121-3-2 (Railway), E-mark		



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GP-3000

Dual Full-length GPU Expandable Computer



Overview

 **CONTACT**

GP-3000. A flagship GPU edge computing computer of Cincoze. Its crowning feature is an exclusive GPU Expansion Box that provides expansion for up to two high-end GPU cards and creating a high-performance industrial-grade GPU computing computer.

Extreme Computing Performance

The GP-3000's extreme computing power starts with an 8th or 9th generation Intel® Xeon® or Core™ i3/i5/i7 (Coffee Lake and Coffee Lake-R) CPU, Intel® C246 chipset, and supports two sets of DDR4-2666 ECC/non-ECC SO-DIMM up to 64 GB and can support up to two 300 W high-end GPU cards (@48VDC), making it easy to meet and exceed high-efficiency application requirements. A precision heat dissipation and cooling design quickly wick away heat, keeping the focus squarely on the breathtaking performance of the GP-3000.

Rich Application Functions

The GP-3000 redefines the standard for high-end GPU computers, with high-speed I/O and multiple functions. In addition to the standard five LAN ports and six USB 3.2 ports, the GP-3000 uses Cincoze's exclusive CMI and CFM modular design, which offers expansion modules with eight Gigabit PoE, two USB 3.2, or dual 10 Gb/s LAN ports. Storage options include high-speed M.2 NVMe storage slots and four hot-swappable 2.5" HDD/SSD trays accessible through the front maintenance panel. Together, they meet large-capacity machine vision storage requirements and improve hard disk accessibility for convenient removal and replacement. The IGN module (power ignition sensing) can monitor the on-board battery voltage and set a delayed shutdown time to avoid damage to the system due to unstable current when starting or turning off the engine. This combination of diverse functions provides the flexibility to meet the requirements of different market applications.

Strong and Reliable

In the pursuit of ever-higher standards, the GP-3000 has passed the MIL-STD-810G certification designed and promulgated by the US Department of Defense to qualify military equipment. The GP-3000 features 9~48 VDC power input, is built for -40 to 70°C temperature operation. The GP-3000 has E-mark and EN50155 (EN50121-3-2 only) certifications, so it is capable of withstanding the rigors of rail and vehicle applications as well as other harsh environments.

Key Features

- Supports 9th/8th Gen Intel® Xeon®/Core™ Processor (35W / 65W / 80W)
- 2 x DDR4 SO-DIMM Sockets, Supports ECC/non ECC type up to 2666 MHz, 64GB
- 4 x 2.5" Hot Swappable SATA III HDD/SSD Bays (Max Height 15 mm)
- 1 x M.2 M Key Socket (NVMe), 1 x M.2 E Key Socket (CNVi)
- 2 x Front Accessible SIM Card Slots for Signal Redundancy
- CMI Technology for Various I/O Module Expansions
- CFM Technology for Power Ignition Sensing & PoE Function
- Versatile Mounting Methods (Tower Stand / Desktop / 19" Rack / Flat / Wall Mount)
- Military Standard Shock & Vibration Proof

Certifications



Cutting-Edge Performance

The GP-3000 is powered by the excellent performance of 8th / 9th generation Intel® Xeon® / Core™ processors. Supports two DDR4 SO-DIMM ECC/Non-ECC memory, up to 128GB. Through the exclusive GPU Expansion Box (GEB) design can flexibly expand up to dual high-end GPU cards. And GP-3000 offers 720W system power budget for high-end GPU Computing applications.



Futureproof Scalability

Upgrades are now easy. In addition to GPU expansion through the GEBs, the GP-3000 also retains flexibility for future upgrades. Whether adding or upgrading GPU cards, the core system remains, and only the GBE is changed. Upgrades become easier, and the expansion possibilities become almost endless.

Mount Anywhere

The GP-3000 supports multiple mounting options for various environment. Mounting options include a wall mount, desktop mount, Face-up mount, and 19" rack mount. Simple.



Specifications

Model Name	GP-3000
System	
Processor	9th Generation Intel Coffee Lake-R S Series CPU: - Intel® Xeon® E-2278GE 8 Cores Up to 4.7 GHz, TDP 80W - Intel® Xeon® E-2278GEL 8 Cores Up to 3.9 GHz, TDP 35W - Intel® Core™ i7-9700E 8 Cores Up to 4.4 GHz, TDP 65W - Intel® Core™ i5-9500E 6 Cores Up to 4.2 GHz, TDP 65W - Intel® Core™ i3-9100E 4 Cores Up to 3.7 GHz, TDP 65W - Intel® Core™ i7-9700TE 8 Cores Up to 3.8 GHz, TDP 35W - Intel® Core™ i5-9500TE 6 Cores Up to 3.6 GHz, TDP 35W - Intel® Core™ i3-9100TE 4 Cores Up to 3.2 GHz, TDP 35W 8th Generation Intel Coffee Lake S Series CPU: - Intel® Xeon® E-2176G 6 Cores up to 4.7 GHz, TDP 80W - Intel® Xeon® E-2124G 4 Cores up to 4.5 GHz, TDP 71W - Intel® Core™ i7-8700 6 Cores up to 4.6 GHz, TDP 65W - Intel® Core™ i5-8500 6 Cores, up to 4.1 GHz, TDP 65W - Intel® Core™ i3-8100 4 Cores 3.6 GHz, TDP 65W - Intel® Core™ i7-8700T 6 Cores up to 4.0 GHz, TDP 35W - Intel® Core™ i5-8500T 6 Cores up to 3.5 GHz, TDP 35W - Intel® Core™ i3-8100T 4 Cores 3.1 GHz, TDP 35W - Intel® Pentium® G5400 2 Cores 3.7 GHz, TDP 58W - Intel® Pentium® G5400T 2 Cores 3.1 GHz, TDP 35W - Intel® Celeron® G4900 2 Cores 3.1 GHz, TDP 54W - Intel® Celeron® G4900T 2 Cores 2.9 GHz, TDP 35W
Chipset	Intel® C246
BIOS	AMI BIOS
Memory	2x DDR4 2666/2400 MHz SO-DIMM Sockets * Xeon/i7/i5: Up to DDR4 2666MHz * i3/Pentium/Celeron: Up to DDR4 2400MHz - Supports ECC / non-ECC Type Up to 64GB
Graphics	
Graphics Engine	- Integrated Intel® UHD Graphics (Xeon/i7/i5/i3: UHD 630; Pentium/Celeron: UHD 610) - Supports Triple Independent Display (VGA/DisplayPort/HDMI®)
Audio	
Audio Codec	Realtek® ALC888, High Definition Audio
I/O	
DisplayPort	1x DisplayPort Connector (4096 x 2304 @ 60Hz, According to CPU Specifications) * Verified maximum resolution: 3840x2160.
HDMI®	1x HDMI® Connector (4096 x 2160 @30Hz)
VGA	1x VGA Connector (1920 x 1200 @30Hz)
LAN	5x GbE LAN, RJ45 - GbE1: Intel® I219-LM - GbE2: Intel® I210 - GbE3: Intel® I210 - GbE4: Intel® I210 - GbE5: Intel® I210
COM	2x RS-232/422/485 with Auto Flow Control (Supports 5V/12V), DB9
USB	2x 10Gbps USB 3.2 Gen2, Type A 4x 5Gbps USB 3.2 Gen1, Type A
Line-out	1x Line-out, Phone Jack 3.5mm
Mic-in	1x Mic-in, Phone Jack 3.5mm
Power On/Off Switch Button	1x ATX Power On/Off Button

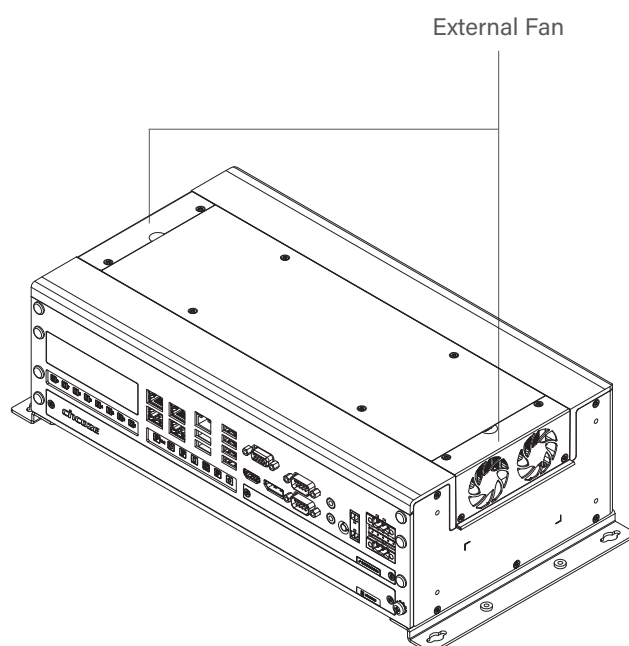
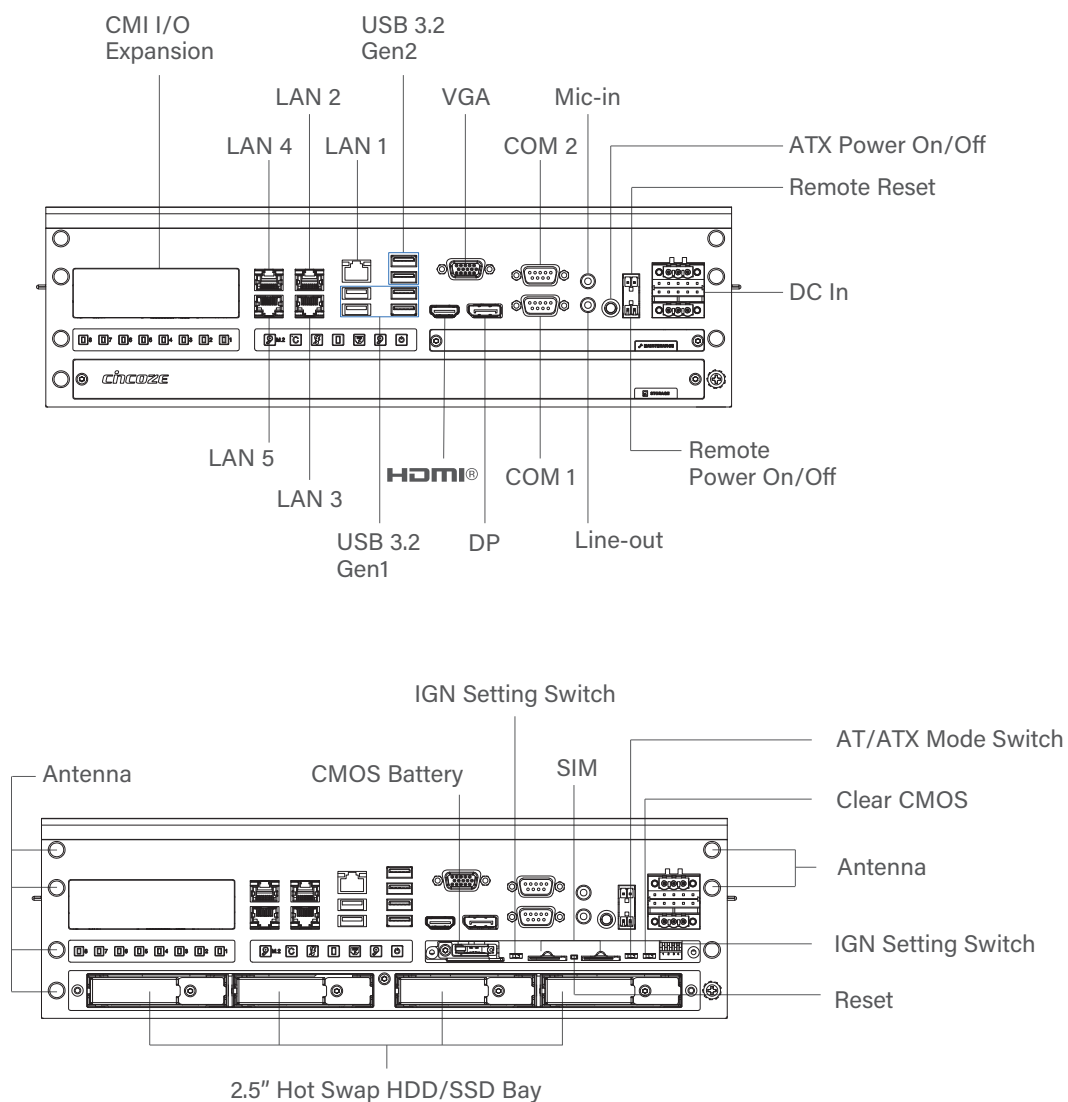
CMOS Switch	1x Clear CMOS Switch
Remote Power On/Off Connector	1x Remote Power On/Off Connector, 2-Pin Terminal Block
Terminal Block	1x Remote Reset, 2-pin Terminal Block
AT/ATX Mode Switch	1x AT/ATX Mode Switch
Reset Button	1x Reset Button
Storage	
SSD / HDD	4x 2.5" Front Accessible SATA HDD/SSD Bay (SATA 3.0), Supports Up to 15mm in Height
M.2	1x M.2 Key M 2280 Socket, Supports PCIe x4 NVMe SSD or SATA SSD (Gen3)
RAID	Supports RAID 0 / 1 / 5 / 10
Expansion	
PCIe	- Optional GPU Expansion Box - 1 x PCIe x 16 Slot (PCIe x 16 Signal) for GPU Card + 1 x PCIe x 4 Slot (Max. 25W) - 2 x PCIe x 16 Slot (PCIe x 8 Signal) for GPU Card + 1 x PCIe x 4 Slot (Max. 25W) + 1 x PCIe x 1 Slot (Max. 25W) * Single-GPU configuration: 300 W @ 24 VDC * Dual-GPU configuration: 500 W @ 24 VDC or 600 W @ 48 VDC (each GPU ≤ 300 W) * GPU Card Dimension (W x D x H): 138 x 328 x 64 mm
Mini-PCIe Socket	2x Full-size Mini-PCIe Socket
M.2	1x M.2 Key E 2230 Socket, Supports Intel CNVi Module 1x M.2 Key M 2280 Socket, Support NVMe/SATA SSD
Universal Bracket	1x Universal Bracket
SIM Socket	2x SIM Socket
Antenna Holes	7x Antenna Holes
CMI (Combined Multiple I/O) Interface	- CMI Interface 1 x High Speed CMI (Combined Multiple I/O) Interface 1 x Low Speed CMI (Combined Multiple I/O) Interface - CMI Module - Optional Modules: 4x GbE LAN, RJ45 4x GbE LAN, M12 A-Coded 4x GbE LAN, M12 X-Coded 2x 10GbE LAN, RJ45 2x RS-232/422/485 with Auto Flow Control (Supports 5V/12V), DB9 16x Optical Isolated DIO(8DI, 8DO), 2x 10 Pin Terminal Block 1x CFM IGN Interface - CFM-IGN01: Ignition Sensing Function
CFM (Control Function Module) Interface	- CFM Interface 1x CFM(Control Function Module) IGN Interface 1x CFM(Control Function Module) PoE Interface - CFM Module - Optional Module 1x Power Ignition Sensing Module with Delay Time Management and Selectable 12V/24V 1x PoE Function Module Supports Up to 4x PoE+ with Individual port 25.5W
MEC Module	- Optional Modules: 2x 5Gbps USB 3.2 Gen1, Type A
Other Function	
Fan Kits	2x Fan Kits (Air-flow isolated from the electronics)
Instant Reboot	Support 0.2 sec. Instant Reboot Technology
CMOS Battery	SuperCap Integrated for CMOS Battery Maintenance-free Operation
WatchDog Timer	Software Programmable Supports 256 Levels System Reset

Power Requirement																					
Power Type	▪ AT / ATX																				
Total Power Budget	▪ 720W @24VDC (with GEB-3601-R10)																				
Power Supply Voltage	▪ 9~48VDC, Single Power Source																				
Connector Type	▪ 2x 3-pin Terminal Block, Each Terminal Block Current Limitation is 15A																				
Power Supply	▪ Optional AC/DC or DC/DC 24V 480W Power Supply ▪ Optional AC/DC or DC/DC 24V 1000W Power Supply																				
Physical																					
Dimension (W x D x H)	▪ 105 x 195 x 370 mm ▪ 209 x 195 x 370 mm (with GEB-3301) ▪ 305 x 195 x 370 mm (with GEB-3601)																				
Weight	▪ 8 kg ▪ 11.2 kg (with GEB-3301) ▪ 13.2 kg (with GEB-3601)																				
Construction	▪ Extruded Aluminum with Heavy Duty Metal																				
Mounting	▪ Versatile Mounting Methods (Tower Stand / Desktop / 19"Rack / Flat / Wall Mount)																				
Physical Design	▪ Unibody Chassis ▪ Jumper-less Design																				
Protection																					
Reverse Power Input Protection	▪ Yes																				
Over Voltage Protection	▪ Protection Range: 51~58V ▪ Protection Type: shut down operating voltage, re-power on at the preset level to recover																				
Over Current Protection	▪ 30A																				
Operating System																					
Windows	▪ Windows® 10																				
Linux	▪ Supports by Project																				
Environment																					
Operating Temperature	<table><tr><th>CPU \ GPU</th><th>Non-GPU</th><th>1 x 250W GPU</th><th>1 x 300W GPU</th><th>2 x 250W GPU</th></tr><tr><td>35W</td><td>-40°C to 70°C</td><td>-40°C to 40°C</td><td>-40°C to 35°C</td><td>-40°C to 35°C</td></tr><tr><td>65W</td><td>-40°C to 60°C</td><td>-40°C to 40°C</td><td>-40°C to 35°C</td><td>-40°C to 35°C</td></tr><tr><td>80W</td><td>-40°C to 50°C</td><td>-40°C to 40°C</td><td>-40°C to 35°C</td><td>-40°C to 35°C</td></tr></table> * With extended temperature peripherals; Ambient with air flow * According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14 * 100% CPU and GPU without thermal throttling	CPU \ GPU	Non-GPU	1 x 250W GPU	1 x 300W GPU	2 x 250W GPU	35W	-40°C to 70°C	-40°C to 40°C	-40°C to 35°C	-40°C to 35°C	65W	-40°C to 60°C	-40°C to 40°C	-40°C to 35°C	-40°C to 35°C	80W	-40°C to 50°C	-40°C to 40°C	-40°C to 35°C	-40°C to 35°C
CPU \ GPU	Non-GPU	1 x 250W GPU	1 x 300W GPU	2 x 250W GPU																	
35W	-40°C to 70°C	-40°C to 40°C	-40°C to 35°C	-40°C to 35°C																	
65W	-40°C to 60°C	-40°C to 40°C	-40°C to 35°C	-40°C to 35°C																	
80W	-40°C to 50°C	-40°C to 40°C	-40°C to 35°C	-40°C to 35°C																	
Storage Temperature	▪ -40°C to 85°C																				
Relative Humidity	▪ 95% RH @ 70°C (Non-condensing)																				
Shock	▪ MIL-STD-810G																				
Vibration	▪ MIL-STD-810G																				
MTBF	▪ 441,283hr																				
Fire Protection	▪ Fire Protection: EN 45545-2																				

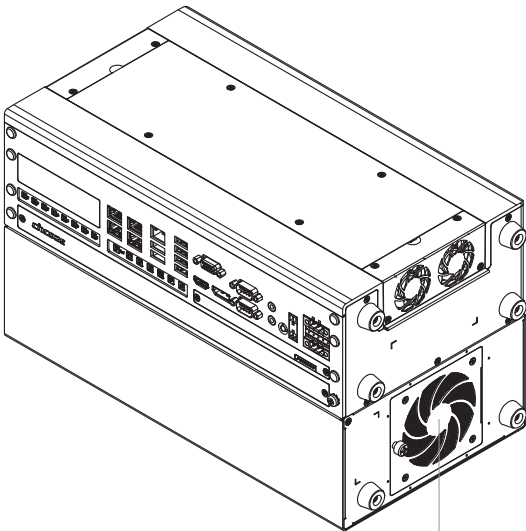
EMC	• CE, UKCA, FCC, ICES-003 Class A • EN 50155 (EN 50121-3-2 Only) • E-mark
EMI	• CISPR 32 Conducted & Radiated: Class A • EN/BS EN 50121-3-2 Conducted & Radiated: Class A • EN/BS EN IEC 61000-3-2 Harmonic current emissions: Class A • EN/BS EN61000-3-3 Voltage fluctuations & flicker • FCC 47 CFR Part 15B, ICES-003 Conducted & Radiated: Class A
EMS	• EN/IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV • EN/IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 20 V/m • EN/IEC 61000-4-4 EFT: AC Power: 2 kV; Signal: 2 kV • EN/IEC 61000-4-5 Surges: AC Power: 2 kV • EN/IEC 61000-4-6 CS: 10V • EN/IEC 61000-4-8 PFMF: 50 Hz, 1A/m • EN/IEC 61000-4-11 Voltage Dips & Voltage Interruptions: 0.5 cycles at 50 Hz
Safety	• LVD IEC/EN 62368-1

The terms HDMI, HDMI High-Definition Multimedia Interface, HDMI Trade dress and the HDMI Logos are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

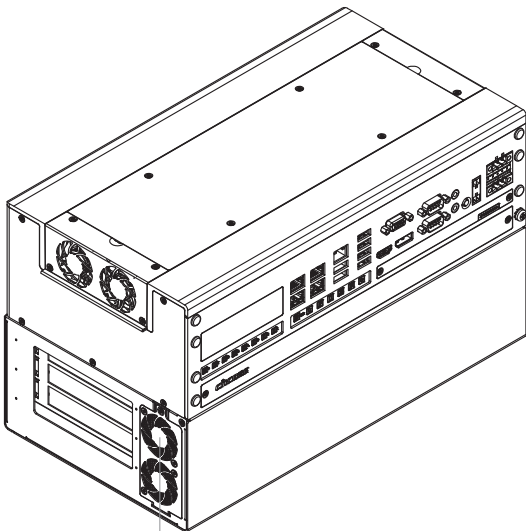
GP-3000 External Layout



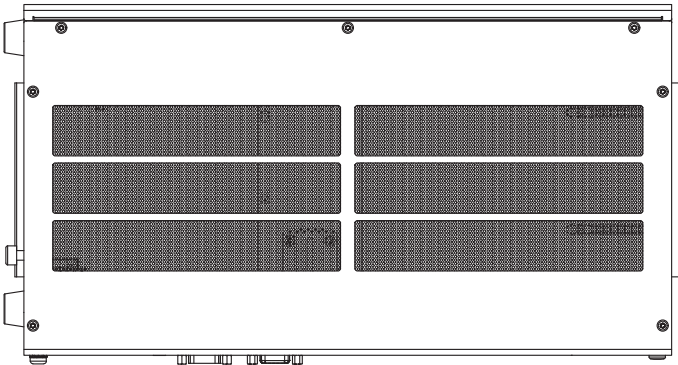
GP-3000/GEB-3301 External Layout



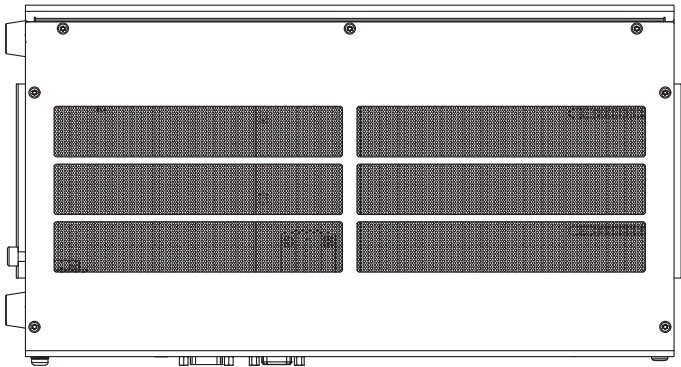
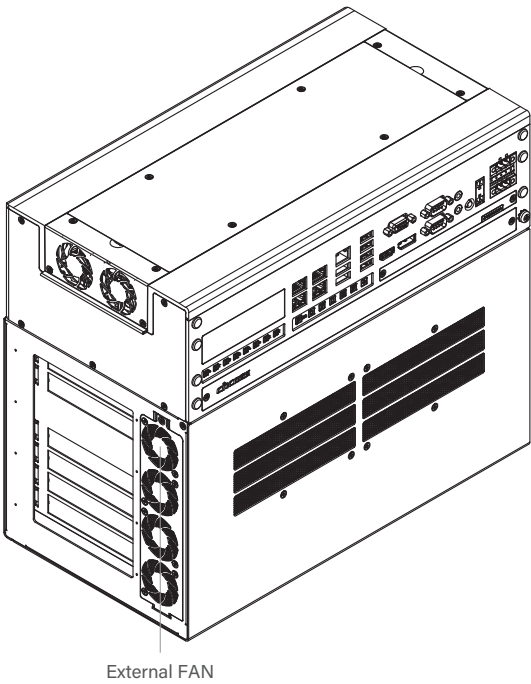
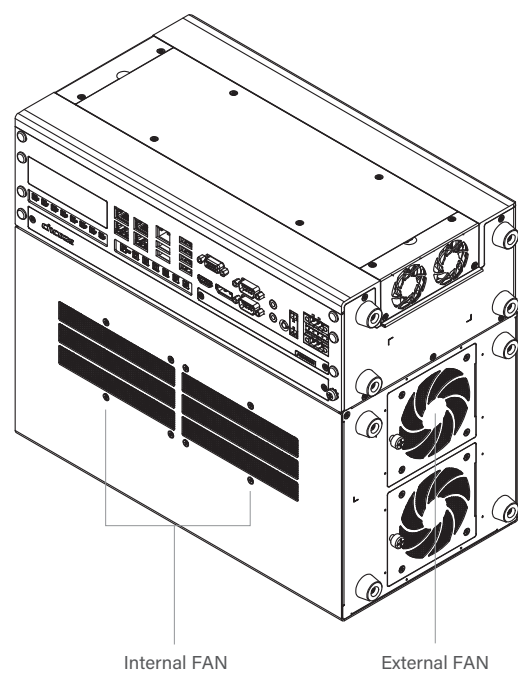
External FAN



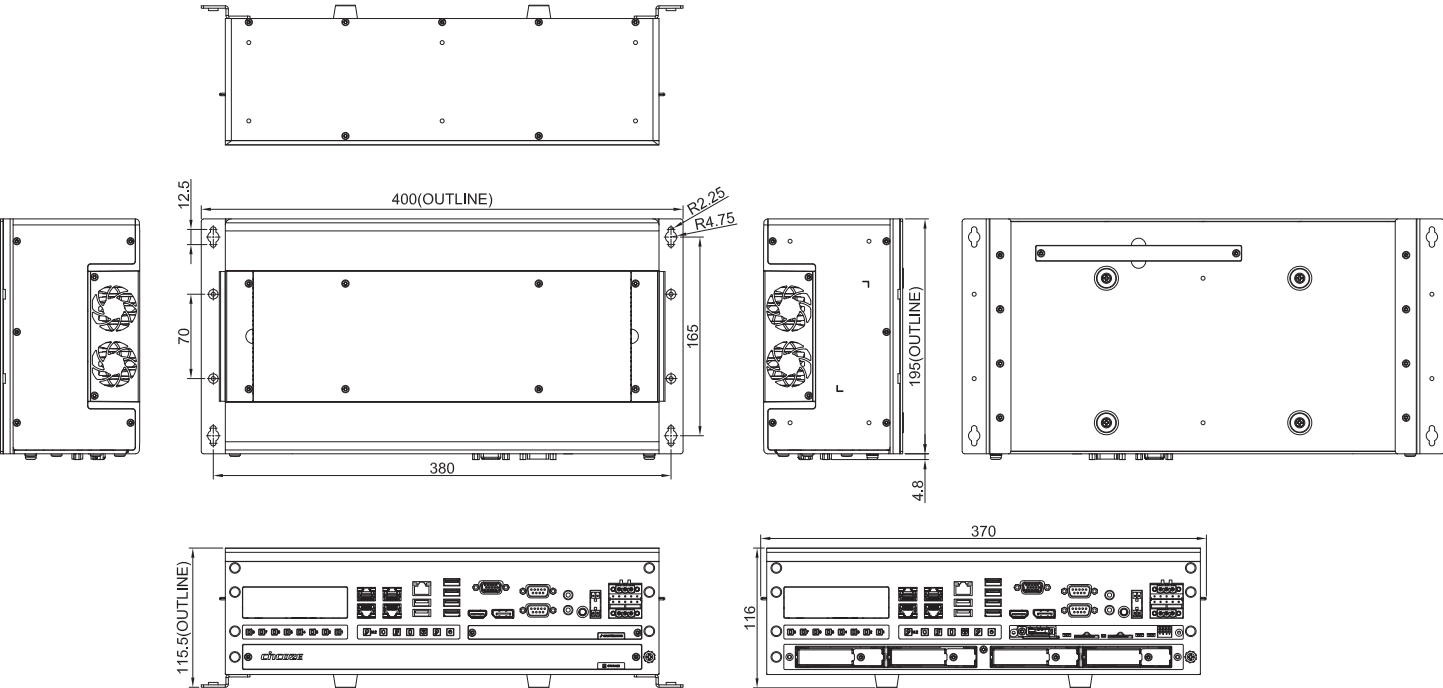
External FAN



GP-3000/GEB-3601 External Layout

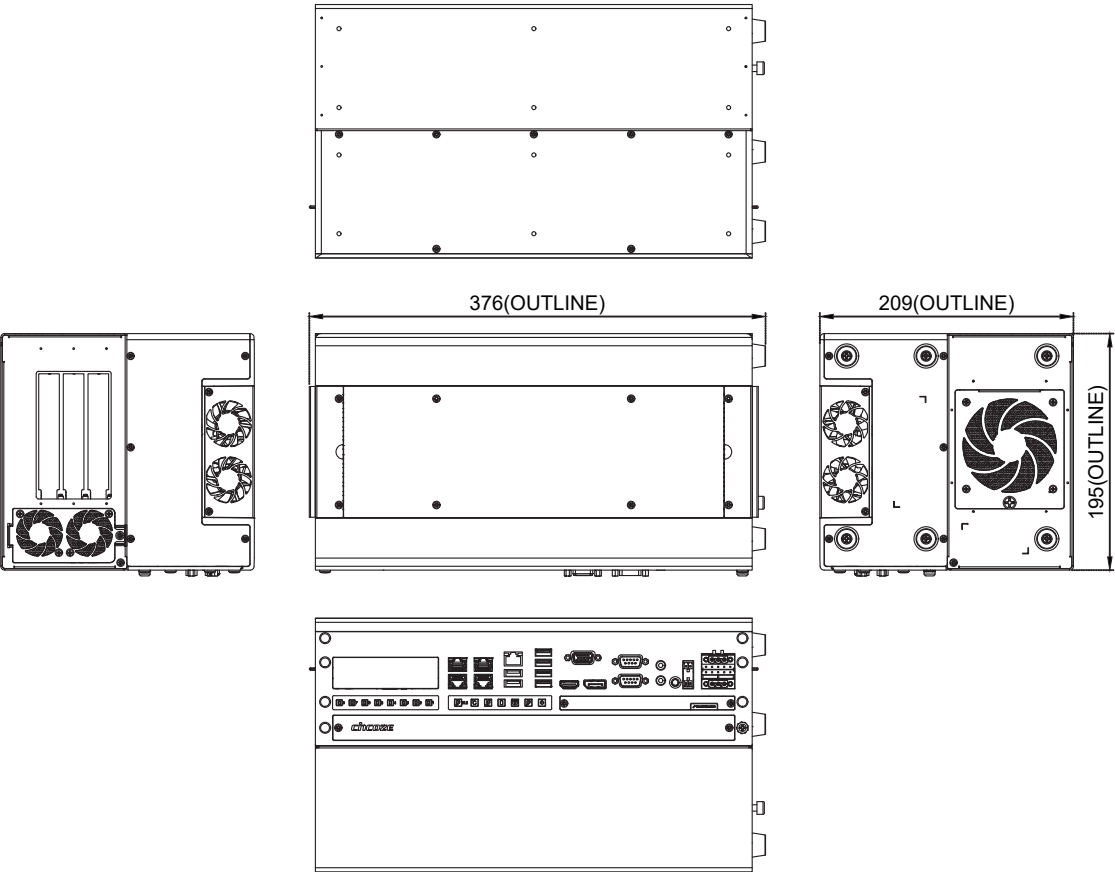


GP-3000 Dimensions



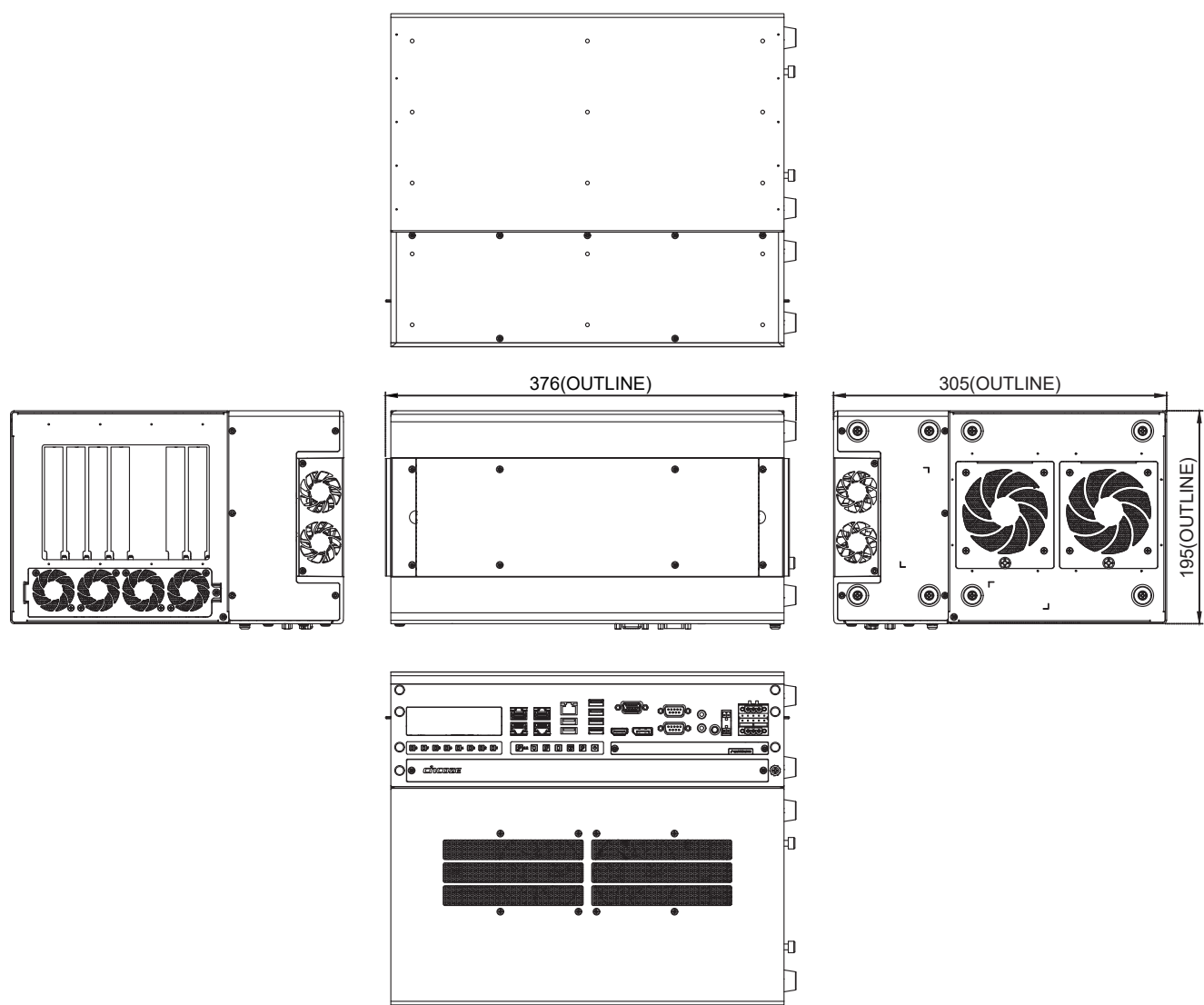
Unit: mm

GP-3000/GEB-3301 Dimensions



Unit: mm

GP-3000/GEB-3601 Dimensions



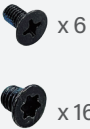
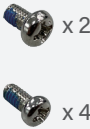
Unit: mm

Ordering Information

Available Models

GP-3000-R10 	9th/8th Gen Intel® Xeon®/Core™ GPU Computer, Supports Dual Full-length GPU Expansion
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Package Checklist

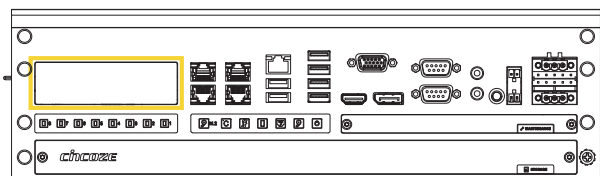
	Wall Mount Bracket
	1 x Desktop Mount Kit
	CPU Heatsink and Thermal Pad Kit
 x 6  x 2  x 16  x 4	4 x Screw Pack
	1 x Rubber Foot Kit
	2 x Power Terminal Block Connector
	2 x Remote Function Terminal Block Connector

Optional Module

Available Models

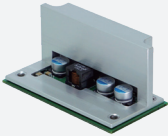
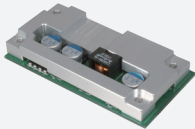
GEB-3301-R10 	GPU Expansion Box with 1x PCIe x16 and 1x PCIe x4 Slots
GEB-3601-R10 	GPU Expansion Box with 2x PCIe x16 (Signal PCIe x8), 1x PCIe x4 and 1x PCIe x1 Slots

Available Models



Model No.	Description
CMI-LAN01-R12/UB1412 	CMI Module with 4x Intel I210 GbE LAN, RJ45 Port / 1x Universal Bracket with 4x RJ45 Cutout for GP-3000 Series
CMI-M12LAN01-R12/UB1410 	CMI Module with M12 A-Coded Connector, 4x Intel I210 GbE LAN / 1x Universal Bracket with 4x M12 Cutout for GP-3000 Series
CMI-XM12LAN01-R10/UB1410 	CMI Module with M12 X-Coded Connector, 4x Intel I210 GbE LAN Ports / Universal Bracket with 4x M12 Cutout for GP-3000 Series
CMI-2P5GLAN02-R10/UB1412 	CMI Module with 4x Intel 2.5GbE LAN, RJ45 Port / 1x Universal Bracket with 4x RJ45 Cutout for GP-3000 Series
CMI-10GLAN02-R10/UB1428 	CMI Module with 2x Intel X550 10GbE LAN, RJ45 Port / 1x Universal Bracket with 2x RJ45 Cutout for GP-3000 Series
CMI-10GXM12LAN02-R10/UB1437-R10 	CMI Module with 2x Intel 10GbE LAN, M12 X-Coded Connector / Universal Bracket with 2x M12 X-coded Cutout
CMI-CAN01-R10/UB1438-R10 	CMI Module with 2x CAN FD Ports / Universal Bracket with 2x DB9 and 1x Switch Cutout for CMI-CAN Expansion
CMI-COM04-R10/UB1403 	CMI Module with 2x RS232/422/485 Ports (Support 5V/12V) / 1x Universal Bracket with 2x DB9 Cutout for GP-3000 Series
CMI-DIO04-R11/UB1418 	CMI Module with 16DIO (8in 8out) / 1x Universal Bracket with DIO Cutout for GP-3000 Series
MEC-USB-M102-30/UB1414 	Mini-PCIe Module with 2x USB 3.2 Gen1 Ports, 1x30 cm cable, 1x Universal Bracket with 2x USB Cutout

Accessories - Function Module

CFM-PoE07-R10 	CFM Module with PoE Function, Individual Port 25.5W (Enable PoE function for CMI-LAN01-R12, CMI-M12LAN01-R12, CMI-XM12LAN01-R10)
CFM-PoE01 	CFM Module with PoE Function, Individual Port 25.5W (Enable PoE function for onboard LAN 2 to LAN 5)
CFM-IGN03-R11 	CFM Module with Power Ignition Sensing Function, 12V/24V Selectable

Mounting Kit

RM01-R10 	19" Rack Mount Kit for GP-3000
RM02-R10 	19" Rack Mount Kit for GP-3000/GEB-33 Series
RM03-R10 	19" Rack Mount Kit for GP-3000/GEB-36 Series

Power Supply / Power Cord / Power Cable

	Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug and Tubes, Level VI
	Adapter AC/DC 24V 15A 360W with 3pin Terminal Block Plug and TUBES, Level VI
	Railway Single Output DC-DC Converter 200W / DC 24V
	DIN Rail Power Supply 480W 24V, SDR-480-24
	Power Supply 1000W 24V, HEP-1000-24
	1.8M US Power Cord, Stripped and Tinned End with Tube
	1.8M EU Power Cord, Stripped and Tinned End with Tube
	1M Power Cable with 3-Pin Terminal Block Plug, Stripped and Tinned End with Tube

Compatible GPU List

Model	Architecture	Dimesion (D x W mm)	Slot	Power Consumption
RTX PRO 6000 Blackwell Max-Q Workstation Edition	Blackwell	266.7 x 111.8	dual slot	300W
RTX PRO 5000 Blackwell	Blackwell	266.7 x 111.8	dual slot	300W
RTX PRO 4500 Blackwell	Blackwell	241.3 x 111.8	dual slot	200W
RTX PRO 4000 Blackwell	Blackwell	266.7 x 111.8	single slot	140W
RTX PRO 4000 SFF Blackwell	Blackwell	167.6 x 68.6	dual slot	70W
RTX PRO 2000 Blackwell	Blackwell	167.6 x 68.6	dual slot	70W
RTX 6000	Ada Lovelace	266.7 x 111.8	dual slot	300W
RTX 5000	Ada Lovelace	266.7 x 111.8	dual slot	250W
RTX 4500	Ada Lovelace	266.7 x 111.8	dual slot	210W
A800 40GB Active	Ampere	266.7 x 111.8	single slot	130W
RTX A6000	Ampere	266.7 x 111.8	dual slot	70W
RTX A5500	Ampere	266.7 x 111.8	dual slot	230W
RTX A5000	Ampere	266.7 x 111.8	dual slot	230W
RTX A4500	Ampere	266.7 x 111.8	dual slot	200W
RTX A4000	Ampere	241.3 x 111.8	single slot	140W
RTX A2000 RTX A2000 12GB	Ampere	167.6 x 68.6	dual slot	70W

**An optional GPU expansion box is required for GPU usage.

GP-3100

14/13/12th Gen Intel® Core™ Modular GPU Computer, Supports Dual Full-length GPU Expansion



THE INDUSTRIAL GPU COMPUTER WITH ADVANCED PCIe EXPANDABILITY

GP-3100 supports dual full-length GPUs in a scalable design

Overview

 **CONTACT**

The GP-3100 is a high-performance GPU computer for industrial AI and machine vision applications. It supports an Intel® Core™ processor, up to two 300W full-length GPU cards (@48VDC), high-capacity storage, and high-speed I/O. Three patented features, designed for specific customer needs, improve expansion, heat dissipation, and overall stability, making the GP-3100 an ideal choice for complex Edge AI applications.

Key Features

- 14/13/12th Gen. Core™ i9/i7/i5/i3 Processors (max 65 W TDP)
- 2 x DDR5 SO-DIMM Sockets, Supports ECC/non ECC type Memory, Up to 5600MHz, 96GB
- 4x 2.5GbE LAN and optional 2x 10GbE LAN
- 1x M.2 Key E Type 2230 Socket For Wireless/Bluetooth/Storage/Intel CNVi Module Expansion
- 1x M.2 Key B Type 3052/3042 Socket For 5G/GNSS/ Storage/Add-on card Expansion
- 1x M.2 Key B Type 2280 Socket For GNSS/Add-on card Expansion
- 1x M.2 Key M Type 2280 Socket For Storage/Add-on Card Expansion
- 4x 2.5" Hot Swappable SATA III HDD/SSD Bays (Max Height 15 mm)
- Optional CMI & CFM Modules for I/O Expansion & Power Ignition Sensing Function
- Versatile Mounting Methods (Tower Stand / Desktop / 19" Rack / Flat / Wall Mount)
- Wide Operating Temperature -40°C to 70°C (-40°F to 158°F)

Certifications



MIL-STD-810H



EN 50121-3-2



EN 45545



EN 62368-1



Ultimate CPU + GPU performance

Equipped with a 14th generation Intel® Core™ (Raptor Lake-S Refresh) processor, the GP-3100 is capable of three times the computing performance of its predecessor. The GP-3100 supports up to two 300W high-end GPU cards (@48VDC) and 5600MHz DDR5 memory with ECC for a complete AI computing solution.

14th Intel® Raptor Lake-S Refresh

14th Core i9-14900 (65W)

+3X 

14th Core i9-14900T (35W)

9th Xeon E-2278GE (80W)



Scalable and upgradeable GPU expansion box

The dual-patented GPU expansion box (GEB) supports up to two 328mm high-end full-length GPU cards and includes multiple built-in PCIe slots for flexible use with high-speed I/O or frame grabber cards. The patented adjustable 3D GPU Card Mounting Bracket is designed for high-vibration environments and can firmly lock all GPU cards. For flexible future upgrades, the GEB can be replaced to add a higher-end GPU card or an expansion card.

Patent No.: I779496, I763318

Comprehensive cooling design

To solve the power consumption and thermal challenges, the GP-3100's mechanical structure and isolated external smart fan kits on both sides of the chassis effectively dissipate heat under full workloads in extreme conditions.

Patent No.: I778522





Rich modular design and expandability

AI applications need high-speed transmission and high-capacity storage, so the GP-3100 has 4x 2.5GbE LAN, 6x USB 3.2, 4x front-accessible 2.5" HDD/SSD, and NVMe SSD. Rich scalability capabilities include exclusive modular technology (CMI and CFM) and an M.2 slot that supports CAN bus and other modules to meet various application needs.

International standards and certifications

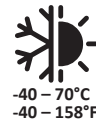
Rugged design passes or complies with multiple industrial standards and certifications, including MIL-STD-810H US military shock resistance, E-mark, and EN 50155 (EN 50121-3-2 only), to ensure high reliability in various application environments.



MIL-STD-810H



EN 50121-3-2



-40 – 70°C
-40 – 158°F



Specifications

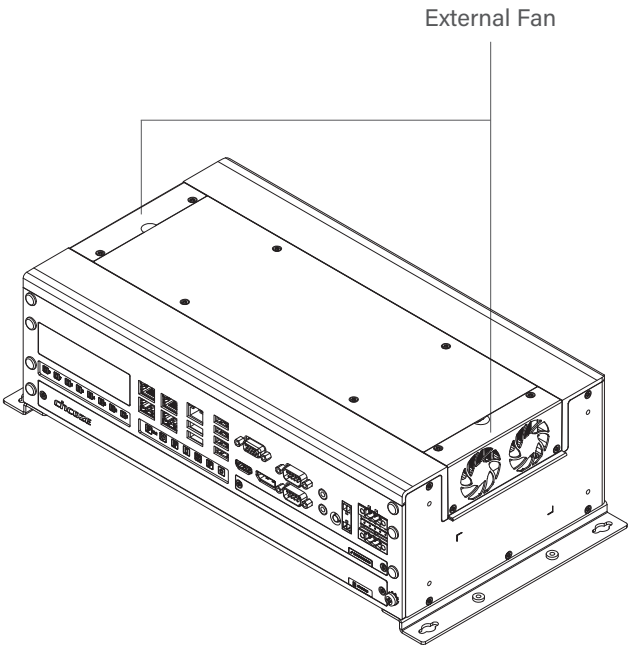
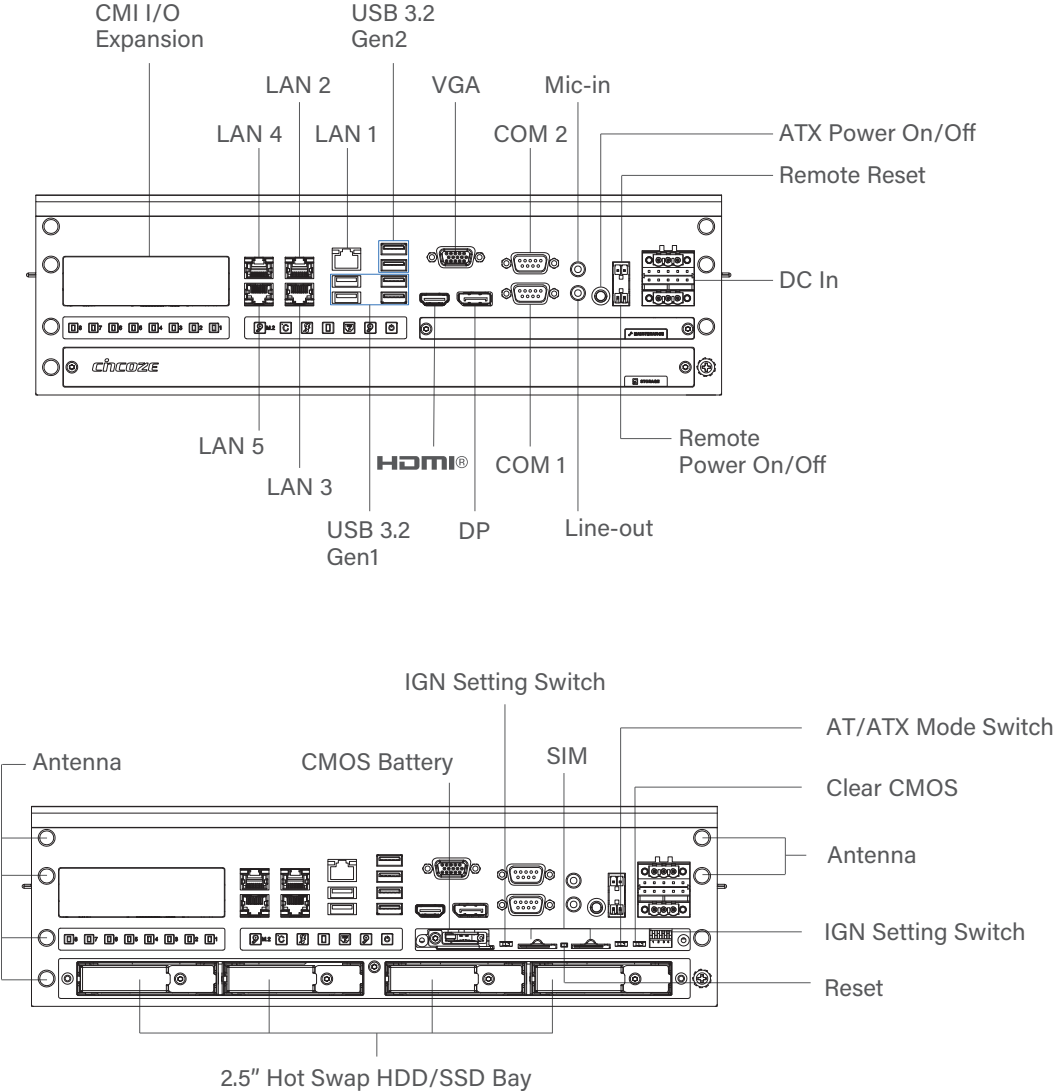
Model Name	GP-3100
System	
Processor	14th Generation Intel® Raptor Lake-S Refresh Series CPU: - Intel® Core™ i9-14900 24 Cores Up to 5.8 GHz, TDP 65W - Intel® Core™ i7-14700 20 Cores Up to 5.4 GHz, TDP 65W - Intel® Core™ i5-14500 14 Cores Up to 5.0 GHz, TDP 65W - Intel® Core™ i5-14400 10 Cores Up to 4.7 GHz, TDP 65W - Intel® Core™ i3-14100 4 Cores Up to 4.7 GHz, TDP 60W - Intel® Core™ i9-14901E 8 Cores Up to 5.6 GHz, TDP 65W - Intel® Core™ i7-14701E 8 Cores Up to 5.4 GHz, TDP 65W - Intel® Core™ i5-14501E 6 Cores Up to 5.2 GHz, TDP 65W - Intel® Core™ i5-14401E 6 Cores Up to 4.7 GHz, TDP 65W - Intel® Core™ i9-14900T 24 Cores Up to 5.5 GHz, TDP 35W - Intel® Core™ i7-14700T 20 Cores Up to 5.2 GHz, TDP 35W - Intel® Core™ i5-14500T 14 Cores Up to 4.8 GHz, TDP 35W - Intel® Core™ i5-14400T 10 Cores Up to 4.5 GHz, TDP 35W - Intel® Core™ i3-14100T 4 Cores Up to 4.4 GHz, TDP 35W - Intel® Core™ i9-14901TE 8 Cores Up to 5.5 GHz, TDP 45W - Intel® Core™ i7-14701TE 8 Cores Up to 5.2 GHz, TDP 45W - Intel® Core™ i5-14501TE 6 Cores Up to 5.1 GHz, TDP 45W - Intel® Core™ i5-14401TE 6 Cores Up to 4.5 GHz, TDP 45W - Intel® Processor 300 2 Cores Up to 3.9 GHz, TDP 46W - Intel® Processor 300T 2 Cores Up to 3.4 GHz, TDP 35W 13th Generation Intel® Raptor Lake-S Series CPU: - Intel® Core™ i9-13900E 24 Cores Up to 5.2 Ghz, TDP 65W - Intel® Core™ i7-13700E 16 Cores Up to 5.1 Ghz, TDP 65W - Intel® Core™ i5-13500E 14 Cores Up to 4.6 Ghz, TDP 65W - Intel® Core™ i5-13400E 10 Cores Up to 4.6 Ghz, TDP 65W - Intel® Core™ i3-13100E 4 Cores Up to 4.4 Ghz, TDP 65W - Intel® Core™ i9-13900TE 24 Cores Up to 5.0 Ghz, TDP 35W - Intel® Core™ i7-13700TE 16 Cores Up to 4.8 Ghz, TDP 35W - Intel® Core™ i5-13500TE 14 Cores Up to 4.5 Ghz, TDP 35W - Intel® Core™ i3-13100TE 4 Cores Up to 4.1 Ghz, TDP 35W 12th Generation Intel® Alder Lake-S Series CPU: - Intel® Core™ i9-12900E 16 Cores Up to 5 GHz, TDP 65W - Intel® Core™ i7-12700E 12 Cores Up to 4.8 GHz, TDP 65W - Intel® Core™ i5-12500E 6 Cores Up to 4.5 GHz, TDP 65W - Intel® Core™ i3-12100E 4 Cores Up to 4.2 GHz, TDP 60W - Intel® Core™ i9-12900TE 16 Cores Up to 4.8 GHz, TDP 35W - Intel® Core™ i7-12700TE 12 Cores Up to 4.7 GHz, TDP 35W - Intel® Core™ i5-12500TE 6 Cores Up to 4.3 GHz, TDP 35W - Intel® Core™ i3-12100TE 4 Cores Up to 4.0 GHz, TDP 35W - Intel® Pentium® G7400E 2 Cores Up to 3.6 GHz, TDP 46W - Intel® Pentium® G7400TE 2 Cores Up to 3.0 GHz, TDP 35W - Intel® Celeron® G6900E 2 Cores Up to 3.0 GHz, TDP 46W - Intel® Celeron® G6900TE 2 Cores Up to 2.4 GHz, TDP 35W
Chipset	Intel R680E Chipset
Memory	2x DDR5 SO-DIMM sockets, support Un-buffered and ECC Type memory, up to 96GB. - Core™ i9/i7: Support 5600/4800 MHz with Single Rank memory and 5200/4800 MHz with Dual Rank memory. - Core™ i5/i3/Pentium®/Celeron®/Intel® Processor: Support 4800 MHz.
BIOS	AMI BIOS
Graphics	
Graphics Engine	- Integrated Intel® UHD Graphics 770: Core™ i9/i7/i5 - Integrated Intel® UHD Graphics 730: Core™ i3 - Integrated Intel® UHD Graphics 710: Pentium®/Celeron®
Maximum Display Output	Supports Triple Independent Display
HDMI	1x HDMI Connector (3840 x 2160@30Hz) * Verified maximum resolution: 3840x2160@30Hz
DP	1x DisplayPort Connector (4096 x 2304@60Hz) * Verified maximum DP resolution: 3840x2160@60Hz
VGA	1x VGA Connector (1920 x 1200@60Hz)

Audio	
Audio Codec	• Realtek® ALC888, High Definition Audio
Line-out	• 1x Line-out, Phone Jack 3.5mm
Mic-in	• 1x Mic-in, Phone Jack 3.5mm
I/O	
LAN	• 4x 2.5GbE LAN, RJ45 (Intel I225) • 1x 1GbE LAN, RJ45 (Intel I219)
COM	• 2x RS-232/422/485 with Auto Flow Control (Supports 5V/12V), DB9
USB	• 6x USB 3.2 Gen1x1 (5Gbps), Type A
Storage / Expansion	
2.5" SSD/HDD	• 4x 2.5" Front Accessible SATA HDD/SSD Bay Supporting HotSwap Function (SATA 3.0) (Up to 15mm in Height)
M.2 M Key Socket	• 1x M.2 Key M Type 2280 Socket (PCIe Gen 4x4 / SATA), Support Storage/Add-on Card Expansion
M.2 E Key Socket	• 1x M.2 Key E Type 2230 Socket (PCIe Gen 3x2 / USB2.0), Support Wireless/Bluetooth/Storage/ Intel CNVi Module Expansion
M.2 B Key Socket	• 1x M.2 Key B Type 3052/3042 Socket (PCIe Gen 3x2 / USB3.2 Gen 2x1 / SATA), Support 5G/GNSS/ Storage/Add-on card Expansion • 1x M.2 Key B Type 2280 Socket (PCIe Gen 3x1 / USB2.0), Support GNSS/Add-on card Expansion
PCIe	• Optional GPU Expansion Box - 1 x PCIe x 16 Slot (PCIe x 16 Signal) for GPU Card + 1 x PCIe x 4 Slot (Max. 25W) - 2 x PCIe x 16 Slot (PCIe x 8 Signal) for GPU Card + 1 x PCIe x 4 Slot (Max. 25W) + 1 x PCIe x 1 Slot (Max. 25W) * Single-GPU configuration: 300 W @ 24 VDC * Dual-GPU configuration: 500 W @ 24 VDC or 600 W @ 48 VDC (each GPU ≤ 300 W) * GPU Card Dimension (W x D x H): 138 x 328 x 64 mm
CMI (Combined Multiple I/O) Interface	• 1x High Speed CMI Interface for optional CMI Module Expansion • 1x Low Speed CMI Interface for optional CMI Module Expansion
CFM (Control Function Module) Interface	• 1x CFM IGN Interface for optional CFM-IGN Module Expansion • 1x CFM PoE Interface for optional CFM-PoE Module Expansion
Other Function	
RAID	• Support RAID 0/1/5/10
FAN	• 2x Fan Kits (Air-flow isolated from the electronics)
Power Ignition Sensing	• Support Power Ignition Sensing Function with Delay Time Management and Selectable 12V/24V (With Optional CFM Module)
Clear CMOS Switch	• 1x Clear CMOS Switch
Reset Button	• 1x Reset Button
Instant Reboot	• Support 0.2sec Instant Reboot Technology
Watchdog Timer	• Software Programmable Supports 256 Levels System Reset
Antenna Holes	• 7x Antenna Holes
Power	
Power Button	• 1x ATX Power On/Off Button
Power Input Voltage	• 9-48VDC, Single Power Input
Connector	• 2x 3-pin Terminal Block, Each Terminal Block Current Limitation is 15A - Dual power connect must be used at the same time due to 15A current limitation at each power connector.
Power Mode Switch	• 1x AT/ATX Mode Switch
Remote Power On/Off	• 1x Remote Power On/Off, 2-pin Terminal Block
Remote Power LED	• 1x Remote Power LED, 2-pin Terminal Block

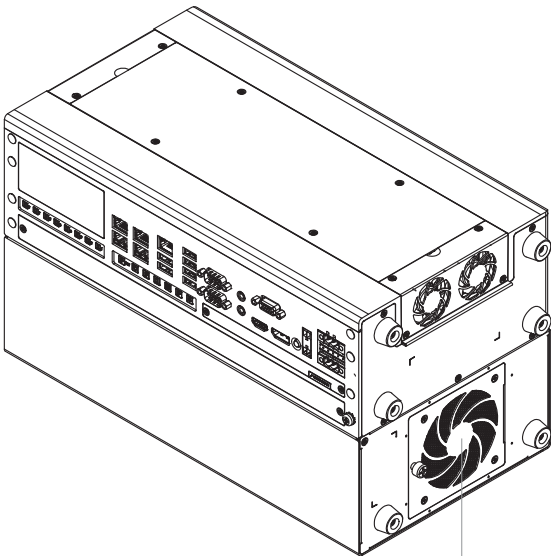
Max. Power Consumption	35W CPU: 201.05W 65W CPU: 306.48W - Test conducted with CPU, 1x RAM, and 1x storage - 100% load during burn-in testing.
Inrush Current (Peak)	35W CPU: 9.221 A@24V 65W CPU: 8.976 A@24V
Physical	
Dimension (W x D x H)	105 x 195 x 370 mm 209 x 195 x 370 mm (with GEB-3301) 305 x 195 x 370 mm (with GEB-3601)
Weight Information	7.7 kg 10.9 kg (with GEB-3301) 12.9 kg (with GEB-3601)
Mechanical Construction	Extruded Aluminum with Heavy Duty Metal
Mounting	Versatile Mounting Methods (Tower Stand / Desktop / 19"Rack / Flat / Wall Mount)
Physical Design	- Jumper-less Design - Unibody Design
Reliability & Protection	
Reverse Power Input Protection	Yes
Over Voltage Protection	- Protection Range: 51~58V - Protection Type: shut down operating voltage, re-power on at the preset level to recover
Over Current Protection	30A
CMOS Battery Backup	SuperCap Integrated for CMOS Battery Maintenance-free Operation
MTBF	432,065 Hours - Database: Telcordia SR-332 Issue3, Method 1, Case 3
Operating System	
Windows	Windows®11, Windows®10
Linux	Ubuntu Desktop 22.04 LTS
Environment	
Operating Temperature	35W TDP Processor: -40°C to 70°C (-40°F to 158°F) 45W TDP Processor: -40°C to 60°C (-40°F to 140°F) 65W TDP Processor: -40°C to 60°C (-40°F to 140°F) * PassMark BurnInTest: 100% CPU, 2D/3D Graphics (without thermal throttling) * With extended temperature peripherals; Ambient with air flow * According to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Relative Humidity	95%RH @ 70°C (non-Condensing)
Shock	MIL-STD-810H
Vibration	MIL-STD-810H
EMC	- CE, UKCA, FCC, ICES-003 Class A - EN 50155 (EN 50121-3-2 Only) - E-mark
EMI	- CISPR 32 Conducted & Radiated: Class A - EN/BS EN 50121-3-2 Conducted & Radiated: Class A - EN/BS EN IEC 61000-3-2 Harmonic current emissions: Class A - EN/BS EN 61000-3-3 Voltage fluctuations & flicker - FCC 47 CFR Part 15B, ICES-003 Conducted & Radiated: Class A

EMS	▪ EN/IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV ▪ EN/IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 20 V/m ▪ EN/IEC 61000-4-4 EFT: AC Power: 2 kV; Signal: 2 kV ▪ EN/IEC 61000-4-5 Surges: AC Power: 2 kV ▪ EN/IEC 61000-4-6 CS: 10V ▪ EN/IEC 61000-4-8 PFMF: 50 Hz, 1A/m ▪ EN/IEC 61000-4-11 Voltage Dips & Voltage Interruptions: 0.5 cycles at 50 Hz
Fire Protection	▪ EN 45545-2
Safety	▪ UL, cUL , CB, IEC, EN 62368-1

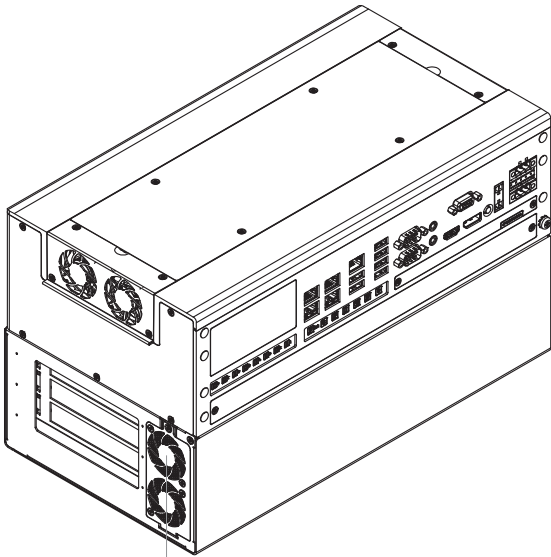
GP-3100 External Layout



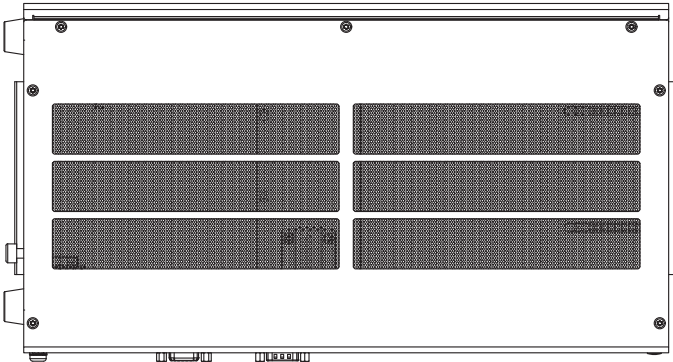
GP-3100/GEB-3301 External Layout



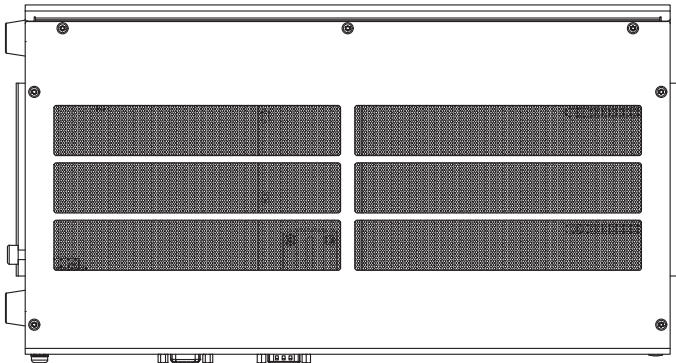
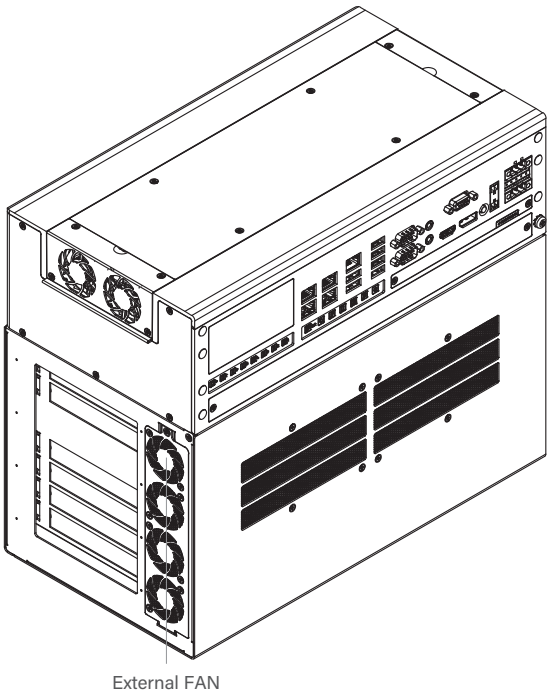
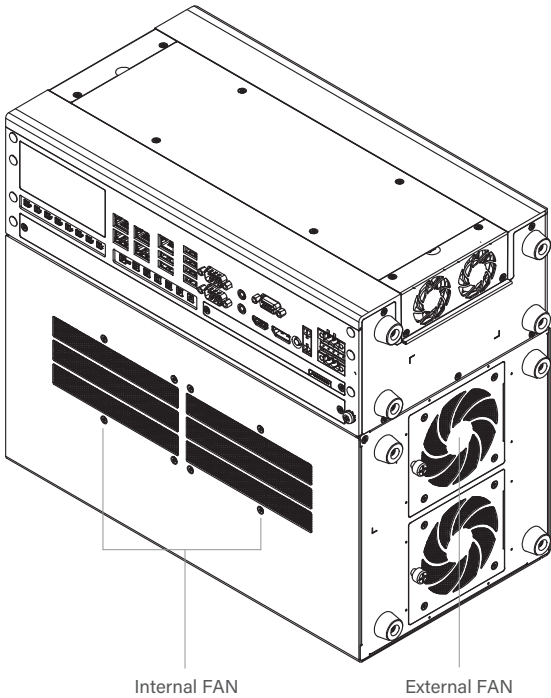
External FAN



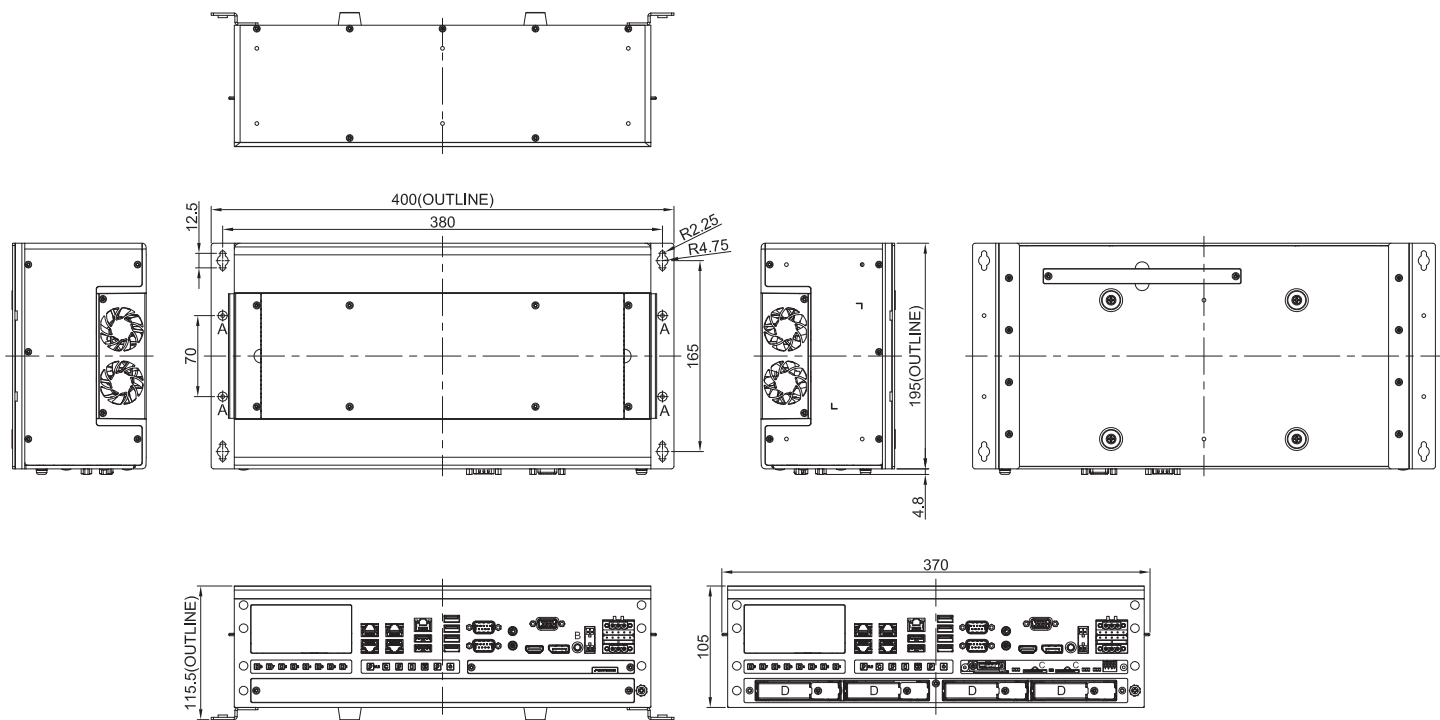
External FAN



GP-3100/GEB-3601 External Layout

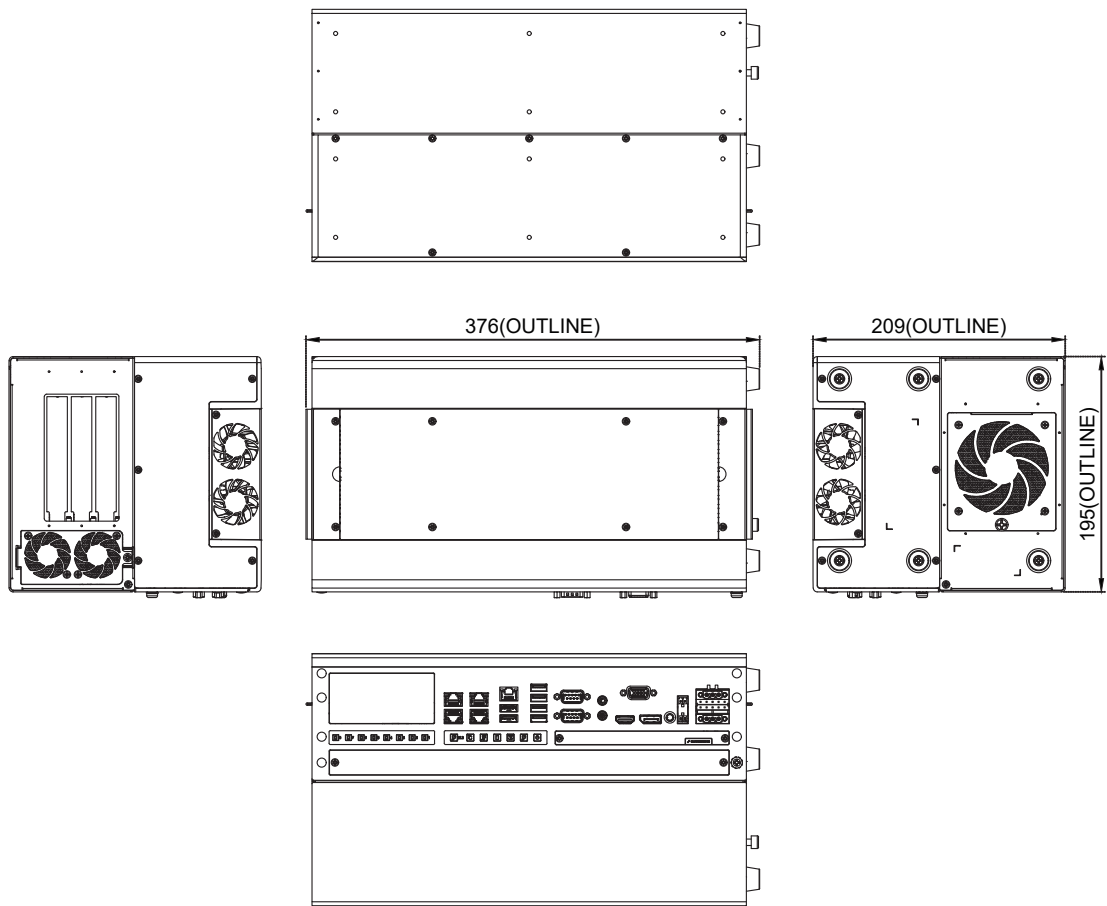


GP-3100 Dimensions



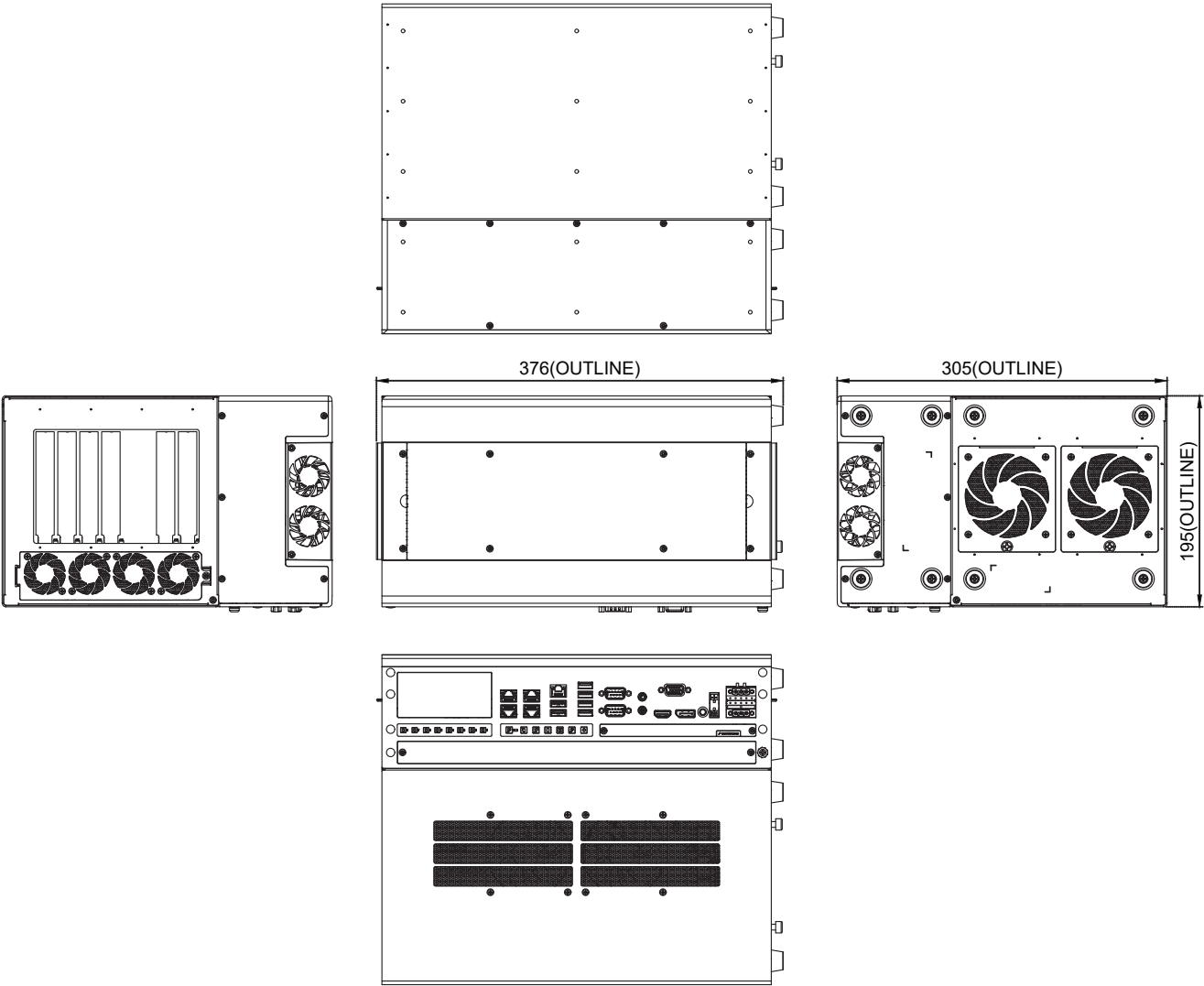
Unit: mm

GP-3100/GEB-3301 Dimensions



Unit: mm

GP-3100/GEB-3601 Dimensions



Unit: mm

Ordering Information

Available Models

Model No.	Description
GP-3100-R10	14/13/12th Gen Intel® Core™ Modular GPU Computer, Supports Dual Full-length GPU Expansion

Optional GPU Expansion Box

Model No.	Description
GEB-3301-R10	GPU Expansion Box with 1x PCIe16 and 1x PCIe x4 Slots
GEB-3601-R10	GPU Expansion Box with 2x PCIe16 (PCIe8 Signal),1x PCIe x4, and 1x PCIe x1 Slot

Package Checklist

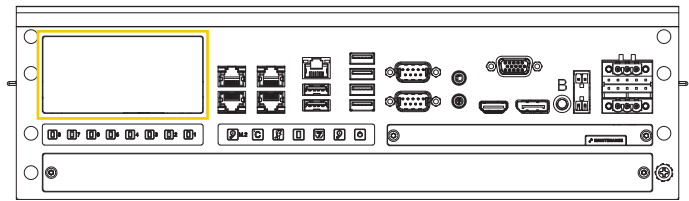
• GP-3100 GPU Computer x1	• Wall Mount Bracket x1
• Desktop Mount Kit x1	• Rubber Foot Kit x1
• CPU Heatsink and Thermal Pad Kit x1	• Power Terminal Block Connector x2
• Screw Pack x4	• Remote Function Terminal Block Connector x2
• M.2 Key B Type 3052 to 3042 Adapter Bracket x1	

Optional Modules and Accessories

Model No.	Description
CMI-LAN01-R12	CMI Module with 4x Intel® I210 GbE LAN, RJ45 Port
CMI-M12LAN01-R12	CMI Module with M12 A-Coded Connector, 4x Intel I210 GbE LAN Ports
CMI-XM12LAN01-R10	CMI Module with M12 X-Coded Connector, 4x Intel I210 GbE LAN Ports
CMI-2P5GLAN02-R10	CMI Module with 4x Intel 2.5GbE LAN, RJ45 Port
CMI-10GLAN02-R10	CMI Module with 2x Intel® X550 10GbE LAN, RJ45 Port
CMI-10GXM12LAN02-R10	CMI Module with 2x Intel 10GbE LAN, M12 X-Coded Connector
CMI-CAN01-R10	CMI Module with 2x CAN FD Ports
CMI-DIO04-R11	CMI Module with 16DIO (8in 8out)
CMI-COM04-R10	CMI Module with 2x RS232/422/485 (Support 5V/12V)
CFM-PoE01	CFM Module with PoE Control Function, Individual Port 25.5W (Enable PoE function for onboard LAN 2 to LAN 5)
CFM-PoE07-R10	CFM Module with PoE Control Function, Individual Port 25.5W (Enable PoE function for CMI-LAN Module) *Due to the height of the CFM-PoE07 module, the M.2 I/O expansion is not available when the CFM-PoE07 is installed.
CFM-IGN03-R11	CFM Module with Power Ignition Sensing Function, 12V/24V Selectable
UB1812-R10	Universal Bracket with 4x RJ45 Cutout
UB1828-R10	Universal Bracket with 2x RJ45 Cutout
UB1810-R10	Universal Bracket with 4x M12 Cutout

UB1830-R10	Universal Bracket with 4x M12 X-Coded Cutout
UB1818-R10	Universal Bracket with DIO Cutout
UB1803-R10	Universal Bracket with 2x DB9 Cutout
UB1837-R10	Universal Bracket with 2x M12 X-coded Cutout
UB1838-R10	Universal Bracket with 2x DB9 and 1x Switch Cutout for CMI-CAN Expansion
RM01-R10	19" Rack Mount Kit for GP-3000
RM02-R10	19" Rack Mount Kit for GP-3000/GEB-33 Series
RM03-R10	19" Rack Mount Kit for GP-3000/GEB-36 Series
GST220A24-CIN	Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug 5.0mm Pitch, with TUBES, Level VI
GST360A24-CIN	Adapter AC/DC 24V 15A 360W with 3pin Terminal Block Plug 5.0mm Pitch, with TUBES, Level VI
SDR-480-24	DIN Rail Power Supply 480W 24V, SDR-480-24
HEP-1000-24	Power Supply 1000W 24V, HEP-1000-24
US Power Cord	1.8M US Power Cord, Stripped and Tinned End with Tube
EU Power Cord	1.8M EU Power Cord, Stripped and Tinned End with Tube
Power Cable	1M Power Cable with 3-Pin Terminal Block Plug, Stripped and Tinned End with Tube

Optional Module Configuration



Model No.	Description
CMI-LAN01-R12/UB1812	CMI Module with 4x Intel I210 GbE LAN, RJ45 Port / 1x Universal Bracket with 4x RJ45 Cutout
CMI-M12LAN01-R12/UB1810	CMI Module with M12 A-Coded Connector, 4x Intel I210 GbE LAN / 1x Universal Bracket with 4x M12 Cutout
CMI-XM12LAN01-R10/UB1830	CMI Module with M12 X-Coded Connector, 4x Intel I210 GbE LAN Ports / 1x Universal Bracket with 4x M12 X-coded Cutout
CMI-2P5GLAN02-R10 / UB1812	CMI Module with 4x Intel 2.5GbE LAN, RJ45 Port / 1x Universal Bracket with 4x RJ45 Cutout
CMI-10GLAN02-R10/UB1828	CMI Module with 2x Intel X550 10GbE LAN, RJ45 Port / 1x Universal Bracket with 2x RJ45 Cutout
CMI-10GXM12LAN02-R10/UB1837-R10	CMI Module with 2x Intel 10GbE LAN, M12 X-Coded Connector / Universal Bracket with 2x M12 X-coded Cutout
CMI-CAN01-R10 / UB1838-R10	CMI Module with 2x CAN FD Ports / Universal Bracket with 2x DB9 and 1x Switch Cutout for CMI-CAN Expansion
CMI-COM04-R10/UB1803	CMI Module with 2x RS232/422/485 Ports (Support 5V/12V) / 1x Universal Bracket with 2x DB9 Cutout

CMI-DIO04-R11/UB1818 	CMI Module with 16DIO (8in 8out) / 1x Universal Bracket with DIO Cutout
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Compatible GPU List

Model	Architecture	Dimesion (D x W mm)	Slot	Power Consumption
RTX PRO 6000 Blackwell Max-Q Workstation Edition	Blackwell	266.7 x 111.8	dual slot	300W
RTX PRO 5000 Blackwell	Blackwell	266.7 x 111.8	dual slot	300W
RTX PRO 4500 Blackwell	Blackwell	241.3 x 111.8	dual slot	200W
RTX PRO 4000 Blackwell	Blackwell	266.7 x 111.8	single slot	140W
RTX PRO 4000 SFF Blackwell	Blackwell	167.6 x 68.6	dual slot	70W
RTX PRO 2000 Blackwell	Blackwell	167.6 x 68.6	dual slot	70W
RTX 6000	Ada Lovelace	266.7 x 111.8	dual slot	300W
RTX 5000	Ada Lovelace	266.7 x 111.8	dual slot	250W
RTX 4500	Ada Lovelace	266.7 x 111.8	dual slot	210W
A800 40GB Active	Ampere	266.7 x 111.8	single slot	130W
RTX A6000	Ampere	266.7 x 111.8	dual slot	70W
RTX A5500	Ampere	266.7 x 111.8	dual slot	230W
RTX A5000	Ampere	266.7 x 111.8	dual slot	230W
RTX A4500	Ampere	266.7 x 111.8	dual slot	200W
RTX A4000	Ampere	241.3 x 111.8	single slot	140W
RTX A2000 RTX A2000 12GB	Ampere	167.6 x 68.6	dual slot	70W

**An optional GPU expansion box is required for GPU usage.



- 01 | GP Series Introduction
- 02 | Embedded Computer Specification
- 03 | GPU Expansion Box Specification

GEB-3301

GPU Expansion Box with 1 x PCIe x16 and 1 x PCIe x4 Slots



Key Features

- Supports NVIDIA RTX 30 Series GPU Card
 - Support 1 x PCIe x16 Slot for full-length GPU card Expansion
 - Support 1 x PCIe x4 Slot for Add-on card Expansion
 - Intelligent Cooling Design for High Performance GPU Card
 - Military Standard Shock & Vibration Proof
 - Designed with adjustable GPU card retainer
- (TW Patent Certificate No: I763318)
(US Patent Certificate No: US 11,470,738 B2)

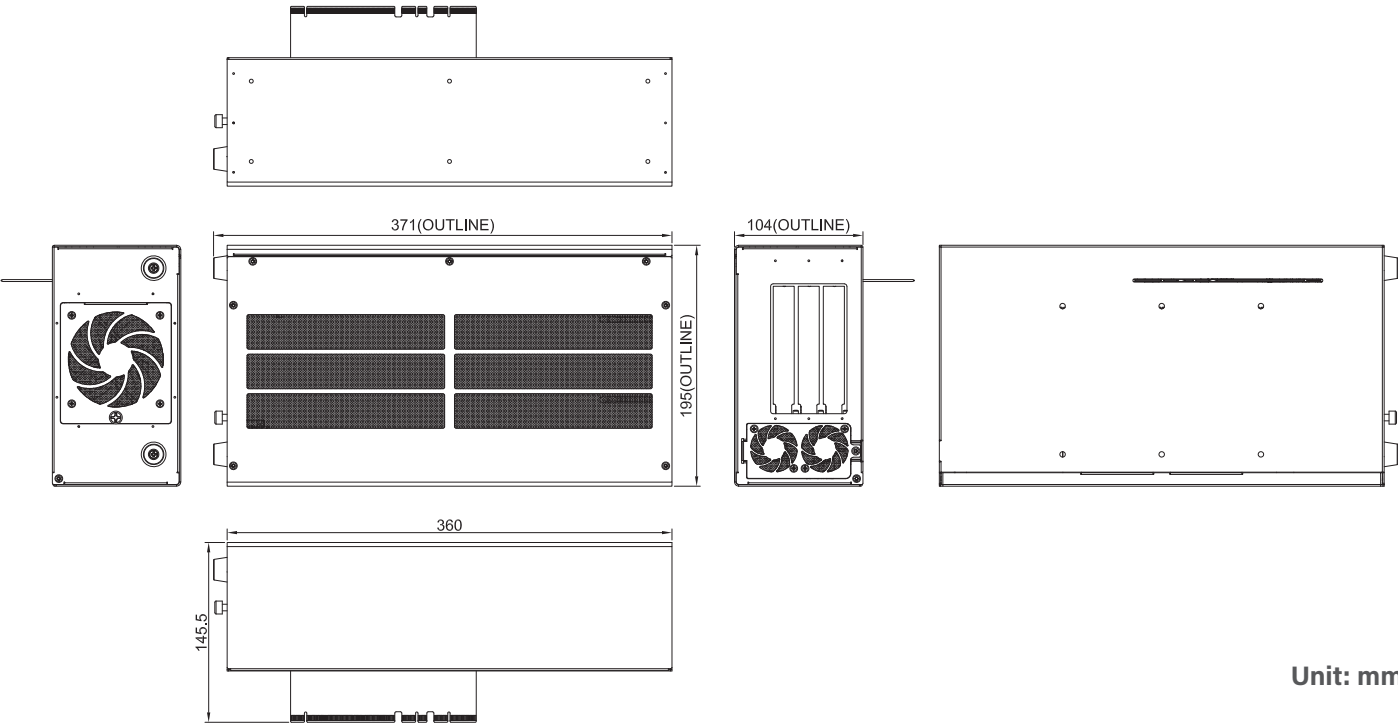
Certifications



Specifications

Expansion Slot	• 1 x PCIe x 16 Slot (PCIe x 16 Signal) for GPU Card • 1 x PCIe x 4 Slot (Max. 25W) * Single-GPU configuration: 300 W @ 24 VDC
GPU Card Dimension	• Card Length : 328mm • Card Height : 64mm (Standard Triple-Deck) • Card Width : 138mm
Internal USB	• 1 x USB 2.0, Type A
Internal Power Connector	• 2 x 8-Pin Connector for GPU Card
Weight Information	• 3.2 kg
Dimension (W x D x H)	• 104 x 195 x 360 mm
MTBF	• 2,713,254 hr
Shock	• MIL-STD-810H * Test with system (w/ GP series)
Vibration	• MIL-STD-810H * Test with system (w/ GP series)
EMC	• CE, UKCA, FCC, ICES-003 Class A * Test with system (w/ GP series)
EMI	• CISPR 32 Conducted & Radiated: Class A • EN/BS EN 50121-3-2 Conducted & Radiated: Class A • EN/BS EN IEC 61000-3-2 Harmonic current emissions: Class A • EN/BS EN 61000-3-3 Voltage fluctuations & flicker • FCC 47 CFR Part 15B, ICES-003 Conducted & Radiated: Class A
EMS	• EN/IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV • EN/IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 20 V/m • EN/IEC 61000-4-4 EFT: AC Power: 2 kV; Signal: 2 kV • EN/IEC 61000-4-5 Surges: AC Power: 2 kV • EN/IEC 61000-4-6 CS: 10V • EN/IEC 61000-4-8 PFMF: 50 Hz, 1A/m • EN/IEC 61000-4-11 Voltage Dips & Voltage Interruptions: 0.5 cycles at 50 Hz
Safety	• UL, cUL, CB, IEC, EN62368-1
Railway	• EMC: - EN 50155: 2021 Clause 4.4.6, 13.4.9 - EN 50121-1: 2017 - EN 50121-3-2: 2016 + A1: 2019 * Test with system (w/ GP series)
In-Vehicle	• E-mark * Test with system (w/ GP series)

Dimensions



Ordering Information

Available Models

GEB-3301-R10 	GPU Expansion Box with 1 x PCIe x 16 and 1 x PCIe x 4 Slots
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Package Checklist

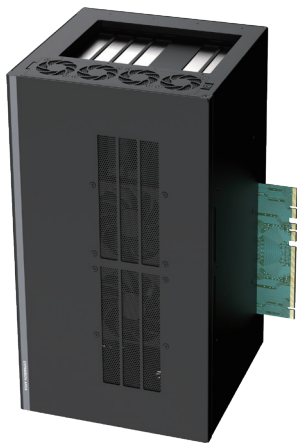
	Wall Mount Bracket
	2 x 8 Pin to 6+2 Pin GPU Power Cable
	2 x Screw Pack
	1 x GPU Card Retainer Screw Pack
	1 x Rubber Foot Kit
	2 x Sponge

Compatible GPU List

Model	Architecture	Dimesion (D x W mm)	Slot	Power Consumption
RTX PRO 6000 Blackwell Max-Q Workstation Edition	Blackwell	266.7 x 111.8	dual slot	300W
RTX PRO 5000 Blackwell	Blackwell	266.7 x 111.8	dual slot	300W
RTX PRO 4500 Blackwell	Blackwell	241.3 x 111.8	dual slot	200W
RTX PRO 4000 Blackwell	Blackwell	266.7 x 111.8	single slot	140W
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RTX PRO 2000 Blackwell	Blackwell	167.6 x 68.6	dual slot	70W
RTX 6000	Ada Lovelace	266.7 x 111.8	dual slot	300W
RTX 5000	Ada Lovelace	266.7 x 111.8	dual slot	250W
RTX 4500	Ada Lovelace	266.7 x 111.8	dual slot	210W
A800 40GB Active	Ampere	266.7 x 111.8	single slot	130W
RTX A6000	Ampere	266.7 x 111.8	dual slot	70W
RTX A5500	Ampere	266.7 x 111.8	dual slot	230W
RTX A5000	Ampere	266.7 x 111.8	dual slot	230W
RTX A4500	Ampere	266.7 x 111.8	dual slot	200W
RTX A4000	Ampere	241.3 x 111.8	single slot	140W
RTX A2000 RTX A2000 12GB	Ampere	167.6 x 68.6	dual slot	70W

**An optional GPU expansion box is required for GPU usage.

GEB-3601



GPU Expansion Box with 2 x PCIe x16 (Signal PCIe x8),
1 x PCIe x4 and 1 x PCIe x1 Slots

Key Features

- Supports NVIDIA RTX 30 Series GPU Card
- Supports 2 x PCIe x16 Slots for full-length GPU cards Expansion
- Supports 1 x PCIe x4 Slot and 1 x PCIe x1 slot for Add-on cards
- Intelligent Cooling Design for High Performance GPU Card
- Military Standard Shock & Vibration Proof
- Designed with adjustable GPU card retainer
(TW Patent Certificate No: I763318)
(US Patent Certificate No: US 11,470,738 B2)

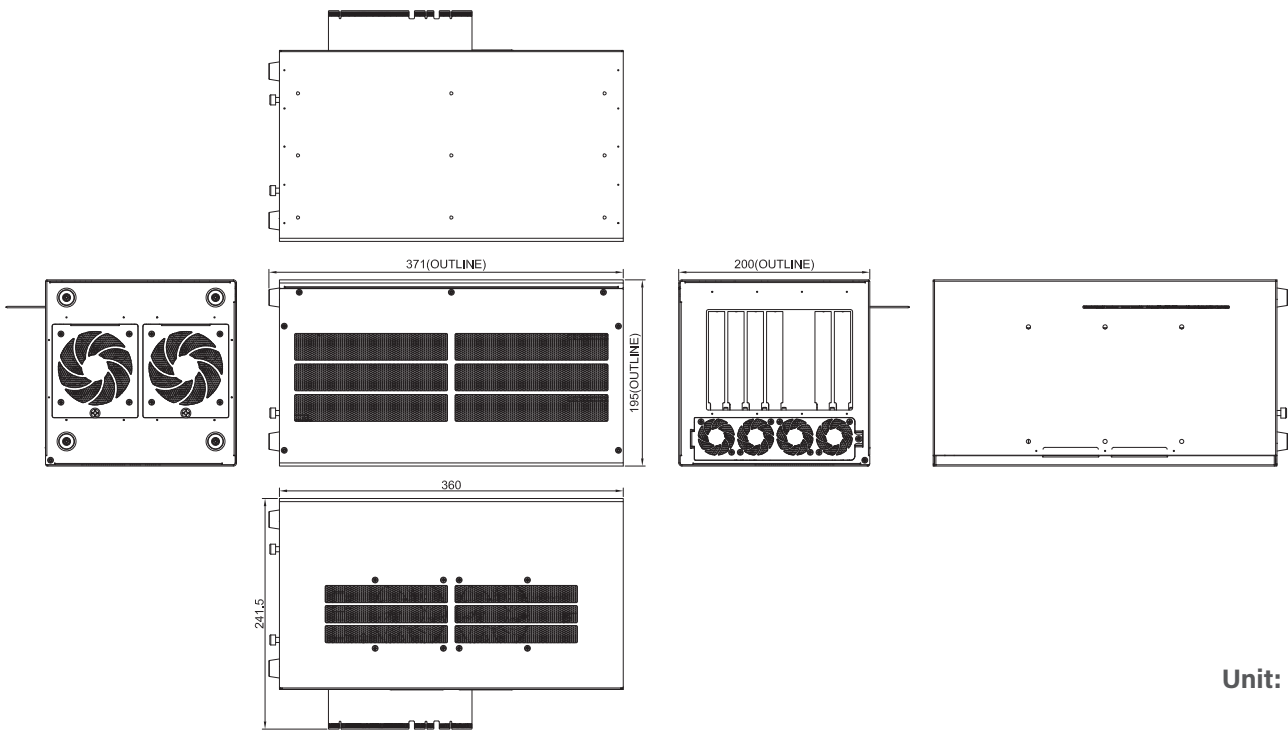
Certifications



Specifications

Expansion Slot	• 2 x PCIe x 16 Slot (PCIe x 8 Signal) for GPU Card • 1 x PCIe x 4 Slot (Max. 25W) • 1 x PCIe x 1 Slot (Max. 25W) * Single-GPU configuration: 300 W @ 24 VDC * Dual-GPU configuration: 500 W @ 24 VDC or 600 W @ 48 VDC (each GPU ≤ 300 W)
GPU Card Dimension	• Card Length: 328mm • Card Height: 64mm (Standard Triple-Deck) • Card Width: 138mm
Internal USB	• 1 x USB2.0, Type A
Internal Power Connector	• 4 x 8-Pin Connector for GPU Card
Weight Information	• 5.2 kg
Dimension (W x D x H)	• 200 x 195 x 360 mm
MTBF	• 1,661,177 hr
Shock	• MIL-STD-810H * Test with system (w/ GP series)
Vibration	• MIL-STD-810H * Test with system (w/ GP series)
EMC	• CE, UKCA, FCC, ICES-003 Class A * Test with system (w/ GP series)
EMI	• CISPR 32 Conducted & Radiated: Class A • EN/BS EN 50121-3-2 Conducted & Radiated: Class A • EN/BS EN IEC 61000-3-2 Harmonic current emissions: Class A • EN/BS EN 61000-3-3 Voltage fluctuations & flicker • FCC 47 CFR Part 15B, ICES-003 Conducted & Radiated: Class A
EMS	• EN/IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV • EN/IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 20 V/m • EN/IEC 61000-4-4 EFT: AC Power: 2 kV; Signal: 2 kV • EN/IEC 61000-4-5 Surges: AC Power: 2 kV • EN/IEC 61000-4-6 CS: 10V • EN/IEC 61000-4-8 PFMF: 50 Hz, 1A/m • EN/IEC 61000-4-11 Voltage Dips & Voltage Interruptions: 0.5 cycles at 50 Hz
Safety	• UL, cUL, CB, IEC, EN62368-1
Railway	• EMC: - EN 50155: 2021 Clause 4.4.6, 13.4.9 - EN 50121-1 : 2017 - EN 50121-3-2: 2016 + A1: 2019 * Test with system (w/ GP series)
In-Vehicle	• E-mark * Test with system (w/ GP series)

Dimensions

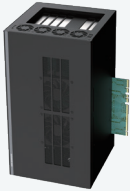


Unit: mm

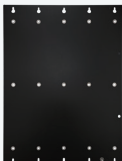
Unit: mm

Ordering Information

Available Models

GEB-3601-R10 	GPU Expansion Box with 2 x PCIe x 16 (Signal PCIe x 8), 1 x PCIe x 4 and 1 x PCIe x 1 Slots
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Package Checklist

	Wall Mount Bracket
	4 x 8 Pin to 6+2 Pin GPU Power Cable
 x 9 x 6	2 x Screw Pack
 x 2 x 2 x 4 x 4	1 x GPU Card Retainer Screw Pack
	1 x Rubber Foot Kit
	4 x Sponge

Compatible GPU List

Model	Architecture	Dimesion (D x W mm)	Slot	Power Consumption
RTX PRO 6000 Blackwell Max-Q Workstation Edition	Blackwell	266.7 x 111.8	dual slot	300W
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