



AI EDGE INFERENCE COMPUTER

RCO-6000-RPL-A2000

AI Edge Inference Computer with LGA 1700 for Intel 12/13th Gen Processor and R680E PCH, RTX A2000 integrated

Features

- LGA 1700 socket for 12/13th Gen. Intel® ADL & RPL Processor (65W/35W TDP)
- Intel® R680E Chipset
- NVIDIA RTX A2000 12GB Graphics based on NVIDIA Ampere Architecture-Based CUDA Cores
- 2x DDR5 4800/5600MHz SODIMM. Max. up to 64GB
- 7 Display interface supported by 1x DVI-I, 2x DisplayPort, 4x Mini DisplayPort
- 2x Intel® 2.5 GbE supporting Wake-on-LAN and PXE
- 1x 9mm 2.5" SATA SSD (Internal), 1x 7mm 2.5" SATA SSD (Hot-swap), Support RAID 0, 1
- 1x M.2 (E Key, PCIe x1, USB 2.0, 2230, Support CNVi)
- 6x RS-232/422/485 (4x internal), 8x USB 3.2 Gen 2, 1x USB 3.2 Gen 1 (internal)
- 9 to 48VDC Wide Range Power Input Supporting AT/ATX Mode
- Wide Operating Temperature -25°C to 45°C (35W/65W CPU)
- Power ignition management
- TPM 2.0 Supported



Specifications

System	
Processor	
Support 12/13th Gen Intel® ADL & RPL Processor (LGA 1700, 65W/35W TDP)	
- Intel® Core™ i9-13900E/i9-12900E, up to 24 Cores, 36MB Cache, up to 5.2 GHz, 65W	
- Intel® Core™ i9-13900TE/i9-12900TE, up to 24 Cores, 36MB Cache, up to 5 GHz, 35W	
- Intel® Core™ i7-13700E/i7-12700E, up to 16 Core, 30MB Cache, up to 5.1 GHz, 65W	
- Intel® Core™ i7-13700TE/i7-12700TE, up to 16 Cores, 30MB cache, up to 4.8 GHz, 35W	
- Intel® Core™ i5-13500E/i5-12500E, up to 14 Cores, 24MB Cache, up to 4.6 GHz, 65 W	
- Intel® Core™ i5-13500TE/i5-12500TE, up to 14 Core, 24MB Cache, up to 4.5 GHz, 35W	
- Intel® Core™ i3-13100E/i3-12100E, up to 8 Cores, 12MB cache, up to 4.4 GHz, 60W	
- Intel® Core™ i3-12100TE/i3-12100TE, up to 4 Cores, 12MB Cache, up to 4.1 GHz, 35W	
- Intel® Pentium® G7400E, 2 Cores, 6MB Cache, 3.6 GHz, 46W	
- Intel® Pentium® G7400TE, 2 Cores, 6MB Cache, 3.0 GHz, 35W	
- Intel® Celeron® G6900E, 2 Cores, 4MB Cache, 3.0 GHz, 46W	
- Intel® Celeron® G6900TE, 2 Cores, 4MB Cache, 2.4 GHz, 35W	
System Chipset	Intel® R680E Express Chipset
LAN Chipset	2.5 GbE1: Intel I226, 2.5 GbE2: Intel I226 Support Wake-on-LAN and PXE, Support TSN
Audio Codec	Realtek ALC888S
System Memory	2x 262-Pin DDR5 4800/5600MHz SODIMM. Max. up to 64GB (ECC and Non-ECC)
Graphics	Intel® UHD Graphics 770/710 or NVIDIA RTX A2000 12GB integrated
BIOS	AMI 256Mbit SPI BIOS
Watchdog	Software Programmable Supports 1~255 sec. System Reset
TPM	TPM 2.0
Display	
Display Port	2x DisplayPort, Support resolution 5120 x 3200, Up to 7680 x 4320
DVI	1x DVI-I, support resolution 1920 x 1200
Mini DisplayPort	4x Mini DisplayPort, Support resolution 5120 x 2880, Up to 7680 x 4320
Multiple Display	7 Display interfaces
Storage	
M.2	1x M.2 B Key, 2242/3042/3052 (PCIe x2, Support AI Module/NVMe Storage) (PCIe x1 & USB 3.2 Gen1, Support 4G/5G)
mSATA	1x mSATA (Shared by 1x Mini PCI Express)
SIM Socket	2x External SIM socket (Mini PCIe/M.2 B Key attached)
SSD/HDD	1x 9mm 2.5" SATA HDD Bay (Internal) 1x 7mm 2.5" SATA HDD Bay (Hot-swappable) Support RAID 0, 1
Expansion	
M.2	1x M.2 (E Key, PCIe x1, USB 2.0, 2230, Support CNVi)
Mini PCIe	1x Full-size Mini PCIe (1x shared by 1x mSATA)
Expansion Modules	
2x EDGEBoost I/O Brackets:	
• 4-port GbE module with Intel® I350 Chipset, RJ-45/M12 connector (PoE optional)	
• 2-Port RJ45 10GbE with Intel X710 Chipset	
• 4-Port USB 3.0 (share PCIe Gen2 x1 bandwidth)	
• 1x M.2 B-Key, 2242 for AI/NVMe, 1x M.2 B-Key, 3042/3052 for 5G/AI/NVMe	
• 1x M.2 M-Key, PCIe x4 Lane, 2242/2260 for AI Module/NVMe	
• 1x M.2 for 5G (B Key, PCIe x1, USB 3.0, 3042/3052), 2x SIM socket, 1x SIM switch	
I/O	
Audio	1x Mic-in, 1x Line-out
CAN	2x CAN 2.0 A/B 2-pin Internal header

COM	2x RS-232/422/485 ; 4x RS-232/422/485 (Internal)
DIO	8 in / 8 out (Isolated)
EDGEBoost I/O Bracket	2x EDGEBoost I/O Bracket (By mini PCIe interface)
LAN	2x RJ45
USB	8x USB 3.2 Gen 2 (10 Gbps) 1x USB 3.2 Gen 1 (5 Gbps, 1x Internal), 2x USB 2.0 (Internal)
Others	5x WiFi Antenna Holes 1x Power Switch, 1x AT/ATX Switch, 1x Remote Power On/Off 1x PC/Car Mode Switch, 1x Delay Time Switch 1x Removable CMOS Battery

Operating System

Windows	Windows 10
Linux	Linux kernel

Power

Power Adapter	Optional AC/DC 24V/9.2A, 220W Optional AC/DC 24V/11.67A, 280W Optional AC/DC 24V/15A, 360W (i7/i9 CPU/GPU/Card Expansion)
Power Mode	AT, ATX
Power Ignition Sensing	Power Ignition Management
Power Supply Voltage	9~48VDC 12~48VDC for GPU/Card Expansion
Power Connector	5-pin Terminal Block 4-pin Terminal Block for GPU Expansion
Power Protection	OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection

Environment

Operating Temperature	-25°C to 45°C (35W/65W CPU) (Optional External Fan Kit: Recommended for i9 CPU)
Storage Temperature	-30°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Certification	CE, FCC Class A
Vibration	With SSD: 3 Grms, 5 - 500 Hz, 0.5 hr/axis With HDD: 1 Grms, 5 - 500 Hz, 0.5 hr/axis
Shock	With SSD: 20G, half sine, 11ms

Physical

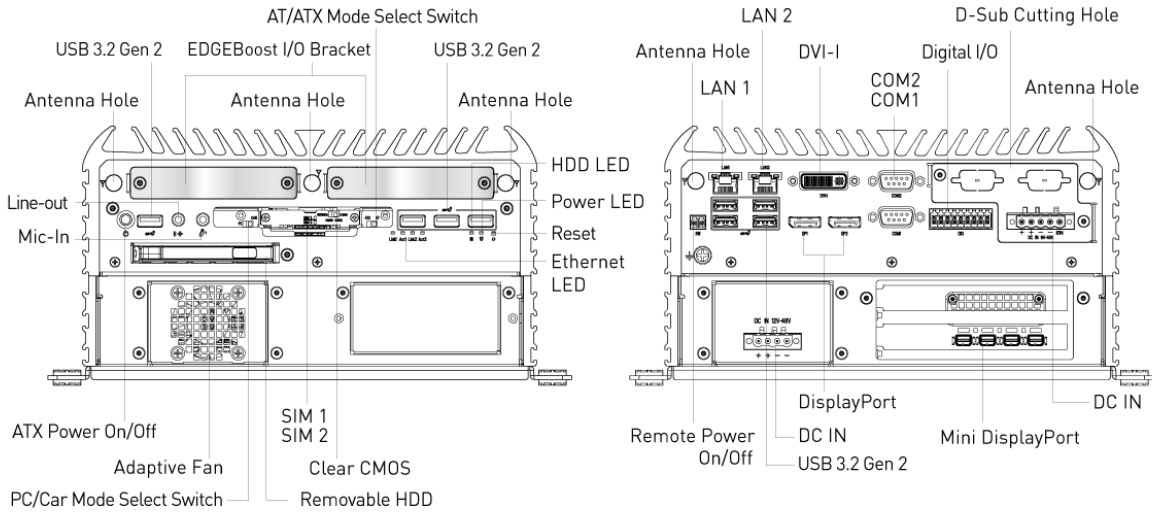
Dimensions	240 (W) x 261 (D) x 126.8 (H) mm
Weights	7 ~ 8.5 kg
Construction	Extruded Aluminum with Heavy Duty Metal
Mounting Options	Wall Mounting

* For 12/13th Gen Intel CPUs configured to run at 65W, operating temperatures will be limited to 45°C.

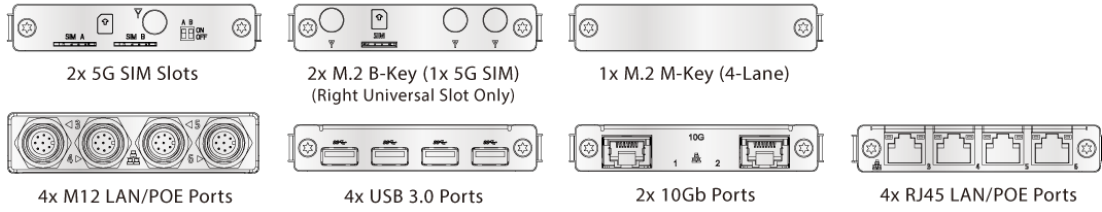
** 65W CPUS may experience thermal throttling depending on extreme application workloads; this is also due to an increase in the physical CPU cores from the Intel silicon (up to 24 cores). Please note, this does not indicate system malfunction or problems in the fanless design. Please consult our embedded engineers for the best configuration to match your application requirements.

*** All specifications and photos are subject to change without notice.

External I/O Mechanical Layout

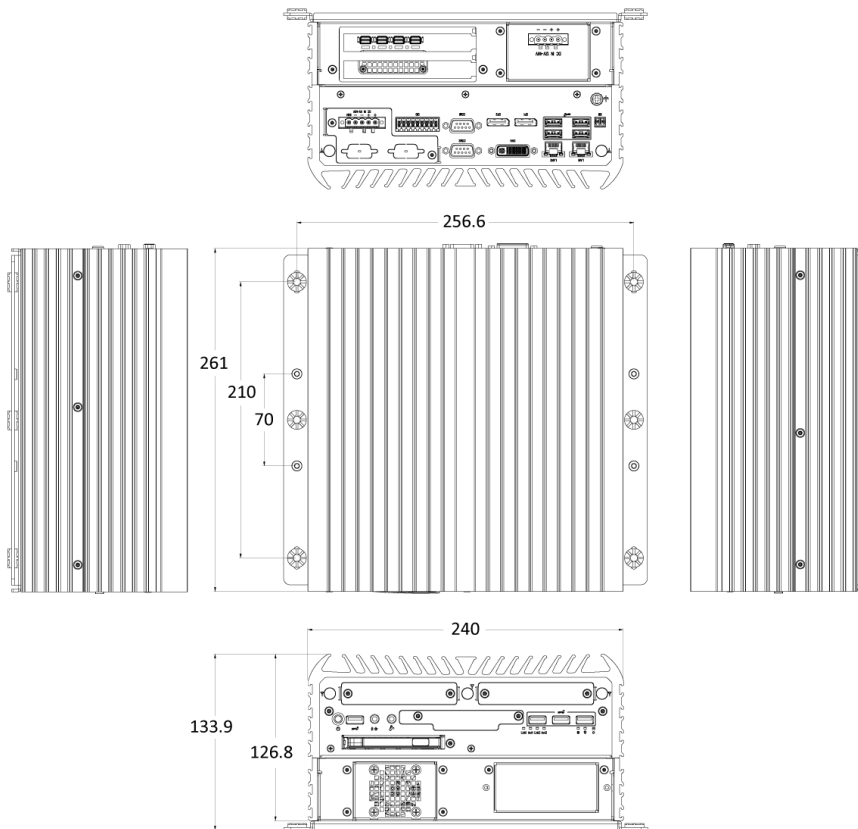


Available EDGEBoost I/O



Dimension

Unit: mm



Available Models

Model No.	Description
RCO-6000-RPL-A2000	GPU Computing System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, RTX A2000 integrated

Optional Accessories

Model No.	Description
1-E09A22102	Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug 5.0mm Pitch
1-E09A22801	Adapter AC/DC 24V/11.67A 280W with 3pin Terminal Block Plug 5.0mm Pitch
1-E09A36002	Adapter AC/DC 48V/7.5A 360W with 3pin Terminal Block Plug 5.0mm Pitch
SFICBL022	Power Cord, 3-pin US Type, 180cm
1-TPCD00002	Power Cord, European Type, 180cm
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm
3-RC6300EXFAN	External Double FAN KIT

Packing List

1x RCO-6000-RPL-A2000 Series Embedded System
1x Wall Mount Kit
1x Accessory Kit
1x DVI to VGA Adapter