



AI EDGE INFERENCE COMPUTER

RCO-6000-RPL-4NS

AI Edge Industrial Computer with LGA 1700 for Intel® Core™ (Series 2) / 14th / 13th / 12th Gen Processors & R680E PCH, 4x U.2 15mm NVMe, Software RAID

Features

- Intel® Core™ Processors (BTL, Series 2) / 14th / 13th / 12th Gen RPL/ADL Series, LGA1700
- Intel® R680E Chipset
- 2x DDR5 4800/5600 MT/s SODIMM. Max. up to 96GB
- Triple Independent Display: 2x DisplayPort, 1x DVI-I
- 2x Intel® 2.5 GbE supporting Wake-on-LAN and PXE
- 1x Full-size Mini PCIe for communication or expansion modules, 2x SIM socket
- 4x 15mm Hot-swappable U.2 NVMe SSD Module with RAID 0, 1, 5, 10
- 1x 9mm 2.5" SATA SSD (Internal), 1x 7mm 2.5" SATA SSD (Hot-swap)
- 1x M.2 (E Key, PCIe x1, USB 2.0, 2230)
- 1x M.2 (B Key, 2242/3042/3052, PCIe x2, Support AI Module/NVMe Storage, PCIe x1 & USB 3.2 Gen1, Support 4G/5G)
- 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 up to 60°C
- TPM 2.0 Supported

Specifications

System

Processor

Standard

13th Gen Intel® Core™ Processors (Raptor Lake-S)

- Intel® Core™ i7-13700TE, 35W

- Intel® Core™ i5-13500TE, 35W

12th Gen Intel® Core™ Processors (Alder Lake-S)

- Intel® Core™ i7-12700TE, 35W

- Intel® Core™ i5-12500TE, 35W

Project Based

- Intel® Core™ 3 / 5 / 7 (Series 2, Bartlett Lake-S, 45W)

- 14th Gen Intel® Core™ i3 / i5 / i7 / i9 (Raptor Lake-S Refresh, 35W~65W)

- 13th Gen Intel® Core™ i3 / i5 / i7 / i9 (Raptor Lake-S, 35W~65W)

- 12th Gen Intel® Core™ i3 / i5 / i7 / i9 (Alder Lake-S, 35W~65W)

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 4800/5600 MT/s SODIMM. Max. up to 96GB
(ECC and Non-ECC)

Graphics Intel® UHD Graphics 770/710

BIOS AMI 256Mbit SPI BIOS

Watchdog Software Programmable Supports 1~255 sec. System Reset

AI Accelerator Supports 3x Hailo-8™ modules

TPM TPM 2.0

Display

Display Port 2x DisplayPort 1.4a, Support resolution 5120 x 3200,
Up to 7680 x 4320

DVI 1x DVI-I, support resolution 1920 x 1200

VGA Yes (by optional split cable)

Multiple Display Triple Display

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)

NVMe 2x Removable Cannister Bricks with 2.5" 4 Bay U.2 NVMe
SSD
(Support H=15mm) with Software RAID 0, 1, 5, 10

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)
4x 15mm 2.5" NVMe SSD Bay (Hot-swappable)
Support RAID 0, 1, 5, 10

Expansion

M.2 1x M.2 (E Key, PCIe x1, USB 2.0, 2230)

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 10/11

Linux Linux kernel

Power

Power Adapter Optional AC/DC 24V/9.2A, 220W
Optional AC/DC 24V/11.67A, 280W (GPU/Card Expansion)
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 NVMe EDGEboost Node

Power Connector 5-pin Terminal Block
4-pin Terminal Block for NVMe EDGEBoost Node
(12V requires 4-pin terminal block)

Power Protection OVP (Over Voltage Protection)
OCP (Over Current Protection)
Reverse Protection

Environment

Operating Temperature -25°C to 60°C

Storage Temperature -30°C to 85°C

Relative Humidity 10% to 95% (non-condensing)

Certification UL 62368 Ed. 3, CE, FCC Class A

Vibration With HDD: 1 Grms (5 - 500 Hz, 0.5 hr/axis)
With SSD: 3 Grms (5 - 500 Hz, 0.5 hr/axis)

Shock With SSD: 50G half-sin 11ms

Physical

Dimensions 240 (W) x 261 (D) x 166.9 (H) mm

Weights 10 ~ 11 kg

Construction Extruded Aluminum with Heavy Duty Metal

Mounting Options Wall Mounting

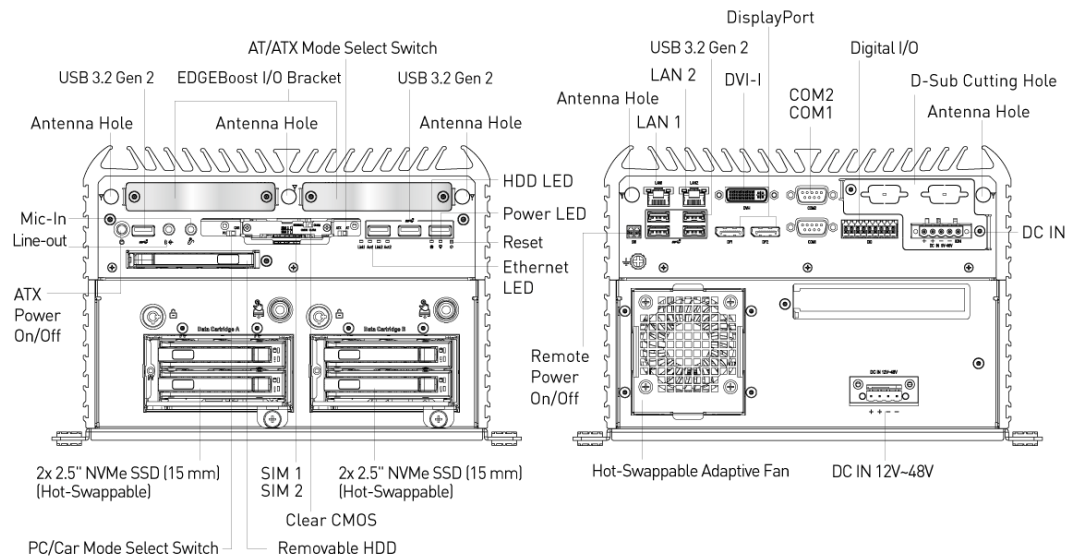
* Processor Base Power: 35W, 45W, 60W, 65W (CPU-dependent); View appendix for complete supported processors table.

** For 12/13/14th Gen Intel CPUs configured to run at 65W, operating temperatures will be limited to 45°C.

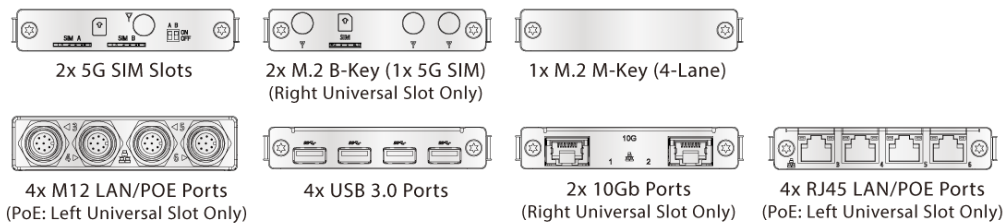
*** 65W CPUS may experience thermal throttling depending on extreme application workloads; this is also due to an increase in the physical CPU cores from the Intel silicon (up to 24 cores). Please note, this does not indicate system malfunction or problems in the fanless design. Please consult our embedded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

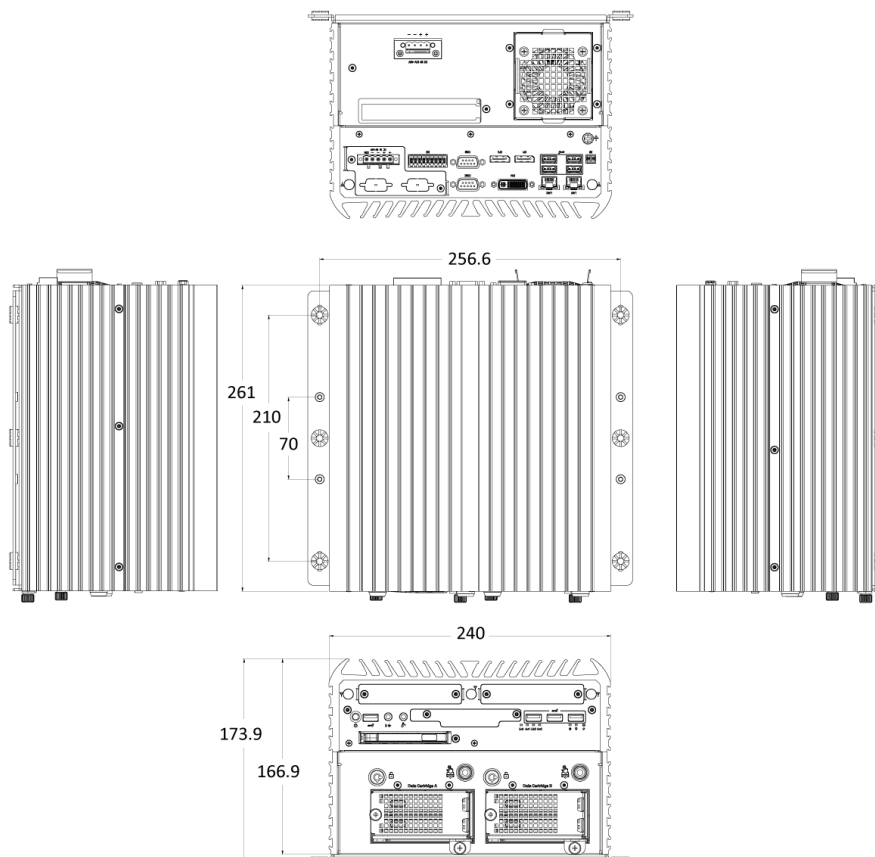


Available EDGEBoost I/O



Dimension

Unit: mm



Compatible GPU AVL

Model	RAM	CUDA Cores	TDP	TOPS/TFLOPS	Displays	System Interface	Form Factor
NVIDIA T1000	8G	896	50W	5.3 TFLOPS	4x mDP	PCIe 3.0 x16	2.7" H x 6.1" L, Low-Profile Single Slot
NVIDIA RTX A1000	8G	2304	50W	6.74 TFLOPS	4x mDP	PCIe 4.0 x8	2.7" H x 6.4" L, Single slot
NVIDIA RTX A2000	12G	3328	70W	7.99 TFLOPS	4x mDP	PCIe 4.0 x16	2.7" H x 6.6" L, Low Profile, Dual Slot
NVIDIA RTX 2000 ADA	16G	2816	70W	12 TFLOPS	4x mDP	PCIe 4.0 x8	2.7" H x 6.6" L, Dual slot
NVIDIA RTX 4000 SFF ADA	20G	6144	70W	19.2 TFLOPS	4x mDP	PCIe 4.0 x16	2.7" H x 6.6" L, Low Profile, Dual Slot

Available Models

Model No.	Description
RCO-6000-RPL-4NS-P	AI Edge Inference Computer with LGA 1700 for Intel® Core™ (Series 2) / 14th / 13th / 12th Gen Processors & R680E PCH, 2x LAN, 4x U.2 15mm NVMe, Software RAID

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
999930	Power Cord, 3-pin US Type, 180cm
1-TPCD00002	Power Cord, European Type, 180cm
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm

Packing List

1x RCO-6000-RPL-4NS
1x Wall Mount Kit
1x Accessory Kit
1x DVI to VGA Adapter

Exports And Tariff Codes

ECCN	5A992.c
HTS	8471.50.0150
ScheduleB	84.71

Compliances and Standards

Vibration	With HDD: 1 Grms (5 - 500 Hz, 0.5 hr/axis) With SSD: 3 Grms (5 - 500 Hz, 0.5 hr/axis) IEC60068-2-64:2008 Designed to comply with MIL-STD-810H Method 514.8 Procedure I
Shock	With SSD: 50G half-sin 11ms IEC60068-2-27:2008 Designed to comply with MIL-STD-810H Method 516.8 Procedure I
Operating Temperature	-25°C to 60°C IEC60068-2-1:2007 (Cold test procedure) IEC60068-2-2:2007 (Dry heat test procedure) IEC60068-2-3:2007 (Damp heat, steady state, test procedure) IEC60068-2-14:2009 (Wide temperature range thermal shock)
EMC	- FCC Class A - CE - ICES-003 - UKCA - Industrial EMC Compliance - EN 61000-4-2: 2009 - EN IEC 61000-4-3: 2020 - EN 61000-4-4: 2012 - EN 61000-4-5: 2014 +A1: 2017 - EN 61000-4-6: 2014
Safety	- UL Safety: UL62368-1, 3rd Ed., (cULus) - Test procedure: CB Scheme - Standard: IEC 62368-1:2018

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