



AI EDGE INFERENCE COMPUTER

# RCO-6000-RPL

Industrial Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU &amp; R680E PCH

## Features

- LGA 1700 socket for 12/13/14th Gen. Intel® ADL & RPL Processor (65W/35W TDP)
- Intel® R680E Chipset
- 2x DDR5 4800/5600MHz SODIMM. Max. up to 64GB
- 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
- 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)
- 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)
- 8x DI + 8x DO with isolation
- 9 to 48VDC Wide Range Power Input Supporting AT/ATX Mode
- Wide Operating Temperature -25°C to 70°C (35W CPU); -25°C to 60°C (65W CPU)
- TPM 2.0 Supported



## Specifications

System	
Processor	Support 12/13th/14th(Non-vPRO) Gen Intel® ADL & RPL Processor (LGA 1700, 65W/35W TDP)
	- Intel® Core™ i9-14900/i9-13900E/i9-12900E, 65W
	- Intel® Core™ i9-14900T/i9-13900TE/i9-12900TE, 35W
	- Intel® Core™ i7-14700/i7-13700E/i7-12700E, 65W
	- Intel® Core™ i7-14700T/i7-13700TE/i7-12700TE, 35W
	- Intel® Core™ i5-14500/i5-13500E/i5-12500E, 65W
	- Intel® Core™ i5-14500T/i5-13500TE/i5-12500TE, 35W
	- Intel® Core™ i3-13100E/i3-12100E, 60W
	- Intel® Core™ i3-14100T/i3-13100TE/i3-12100TE, 35W
	- Intel® Core™ 300T, 35W
	- Intel® Pentium® G7400E, 46W / G7400TE, 35W
	- Intel® Celeron® G6900E, 46W / G6900TE, 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
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
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)
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)
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

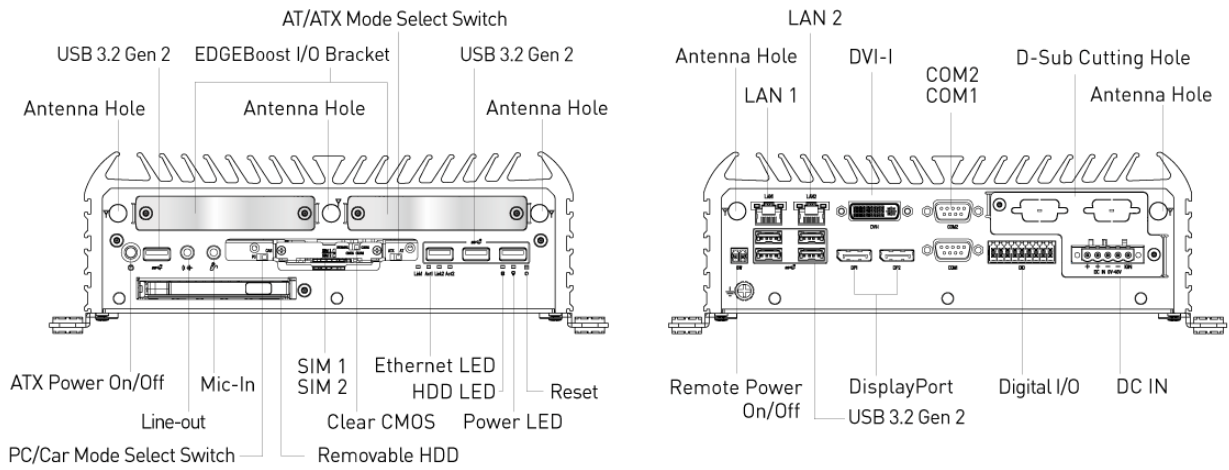
Power	
Power Adapter	Optional AC/DC 24V/9.2A, 220W Optional AC/DC 24V/15A, 360W (i7/i9 CPU)
Power Mode	AT, ATX
Power Ignition Sensing	Power Ignition Management
Power Supply Voltage	9~48VDC
Power Connector	5-pin Terminal Block
Power Protection	OVP (Over Voltage Protection) OCP (Over Current Protection)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

Environment	
Operating Temperature	-25°C to 70°C (35W CPU) -25°C to 60°C (65W CPU) (Optional External Fan Kit: Recommended for i9 CPU/65W)
Storage Temperature	-30°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Certification	UL 62368 Ed. 3, CE, FCC Class A
Vibration	IEC60068-2-64:2008 With HDD: 1 Grms (5 - 500 Hz, 0.5 hr/axis) With SSD: 5 Grms (5 - 500 Hz, 0.5 hr/axis) Designed to comply with MIL-STD-810G Method 514.7 Procedure I
Shock	IEC60068-2-27:2008 With SSD: 50G half-sin 11ms Designed to comply with MIL-STD-810G Method 516.7 Procedure I

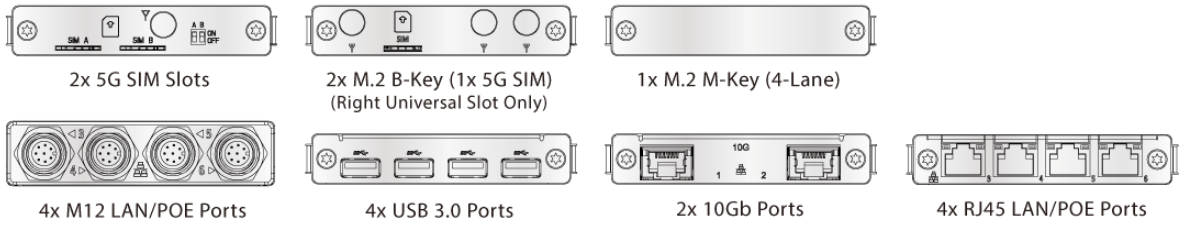
Physical	
Dimensions	240 (W) x 261 (D) x 79 (H) mm
Weights	4.5 kg
Construction	Extruded Aluminum with Heavy Duty Metal
Mounting Options	Wall Mounting

\* For 12/13/14th Gen Intel CPUs configured to run at 65W, operating temperatures will be limited to 60°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

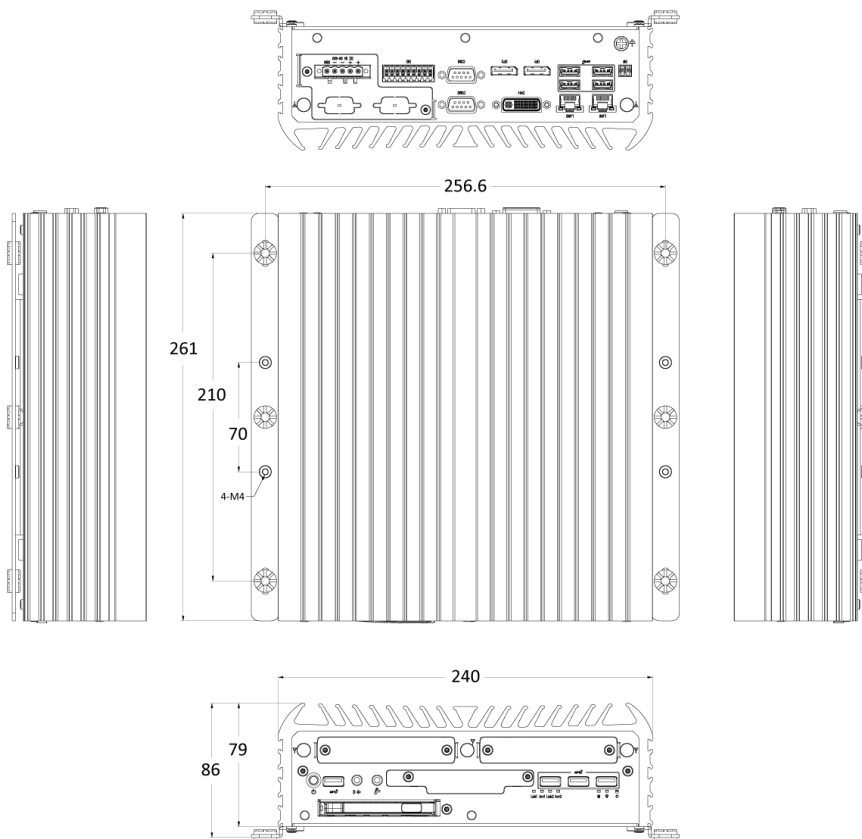


### Available EDGEBoost I/O



## Dimension

Unit: mm



## Available Models

Model No.	Description
RCO-6000-RPL	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN
RCO-6000-RPL-4L	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 6x LAN
RCO-6000-RPL-4LM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 4x M12 LAN
RCO-6000-RPL-4P	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 4x PoE
RCO-6000-RPL-4PM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 4x M12 PoE
RCO-6000-RPL-8L	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 10x LAN
RCO-6000-RPL-8LM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 8x M12 LAN
RCO-6000-RPL-8P	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 8x PoE
RCO-6000-RPL-8PM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 8x M12 PoE
RCO-6000-RPL-D10G	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 2x 10G LAN
RCO-6000-RPL-4U3	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 12x USB
RCO-6000-RPL-8U3	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 16x USB
RCO-6000-RPL-5G	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 5G Module
RCO-6000-RPL-2M2BK	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 3x M.2 B-Key
RCO-6000-RPL-M2MK	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 1x M.2 M-Key

## 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 Series Embedded System  
 1x Wall Mount Kit  
 1x Accessory Kit  
 1x DVI to VGA Adapter

## Compatible GPU AVL

Model Name	RAM	CUDA Cores	TDP	Display	Interface	Active Cooling	Slots
NVIDIA T1000	8G	896	50	4x mDP	PCIe 3.0 x16	Yes	1
NVIDIA RTX A2000	12G	3328	70	4x mDP	PCIe 4.0 x16	Yes	2
NVIDIA RTX 4000 SFF	20G	6144	70	4x mDP	PCIe 4.0 x16	Yes	2