

# 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, 65 W
  - 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<br>Support Wake-on-LAN and PXE, Support TSN |
| Audio Codec    | Realtek ALC888S                                                                        |
| System Memory  | 2x 262-Pin DDR5 4800/5600MHz SODIMM.<br>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,<br>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<br>(PCIe x2, Support AI Module/NVMe Storage)<br>(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)<br>1x 7mm 2.5" SATA HDD Bay (Hot-swappable)<br>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)<br>1x USB 3.2 Gen 1 (5 Gbps, 1x Internal), 2x USB 2.0 (Internal)                                                                    |
| Others                | 5x WiFi Antenna Holes<br>1x Power Switch, 1x AT/ATX Switch, 1x Remote Power On/Off<br>1x PC/Car Mode Switch, 1x Delay Time Switch<br>1x Removable CMOS Battery |

### Operating System

|         |               |
|---------|---------------|
| Windows | Windows 10/11 |
| Linux   | Linux kernel  |

### Power

|                        |                                                                                      |
|------------------------|--------------------------------------------------------------------------------------|
| Power Adapter          | Optional AC/DC 24V/9.2A, 220W<br>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)<br>OCP (Over Current Protection)<br>Reverse Protection |

### Environment

|                       |                                                                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature | -25°C to 70°C (35W CPU)<br>-25°C to 60°C (65W CPU)<br>(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<br>With HDD: 1 Grms (5 - 500 Hz, 0.5 hr/axis)<br>With SSD: 5 Grms (5 - 500 Hz, 0.5 hr/axis)<br>Designed to comply with MIL-STD-810G Method 514.7 Procedure I |
| Shock                 | IEC60068-2-27:2008<br>With SSD: 50G half-sin 11ms<br>Designed to comply with MIL-STD-810G Method 516.7 Procedure I                                                              |

### Physical

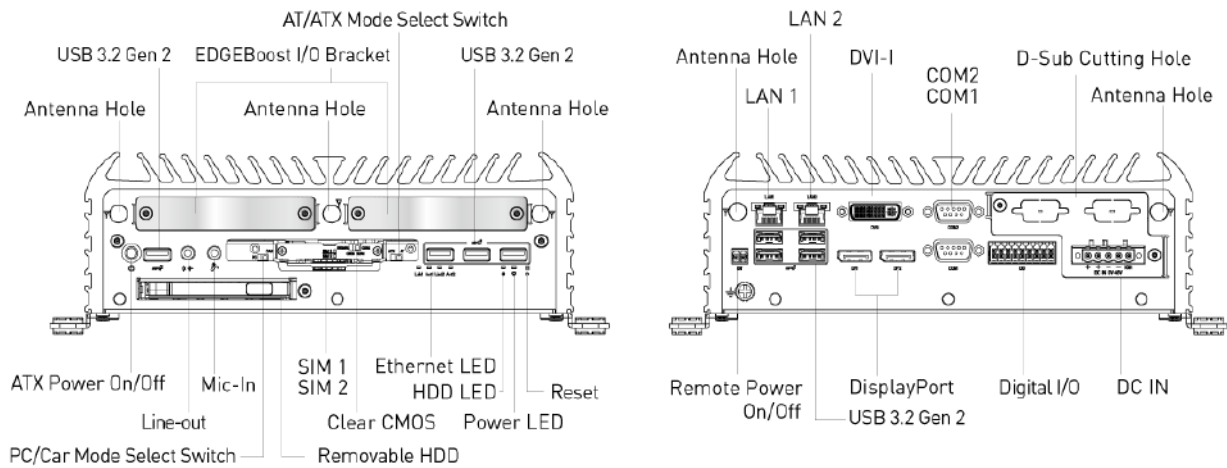
|                  |                                         |
|------------------|-----------------------------------------|
| Dimensions       | 240 (W) x 261 (D) x 79 (H) mm           |
| Weights          | 4.5 kg                                  |
| Construction     | Extruded Aluminum with Heavy 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.

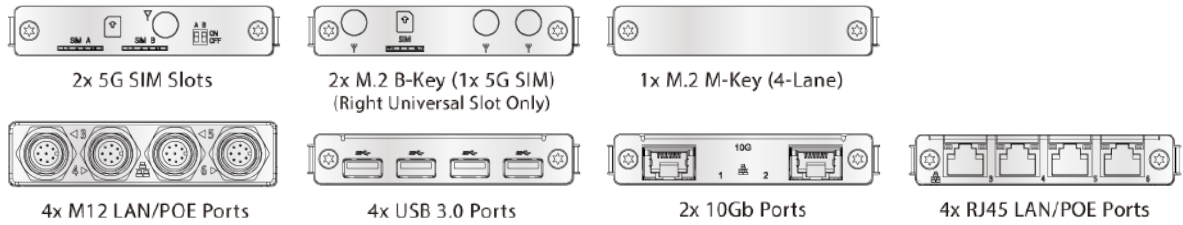
\*\* 65W CPUS may experience thermal throttling depending on extreme application workloads; this is also due to an increase in the physical CPU cores from the Intel silicon (up to 24 cores). Please note, this does not indicate system malfunction or problems in the fanless design. Please consult our embedded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

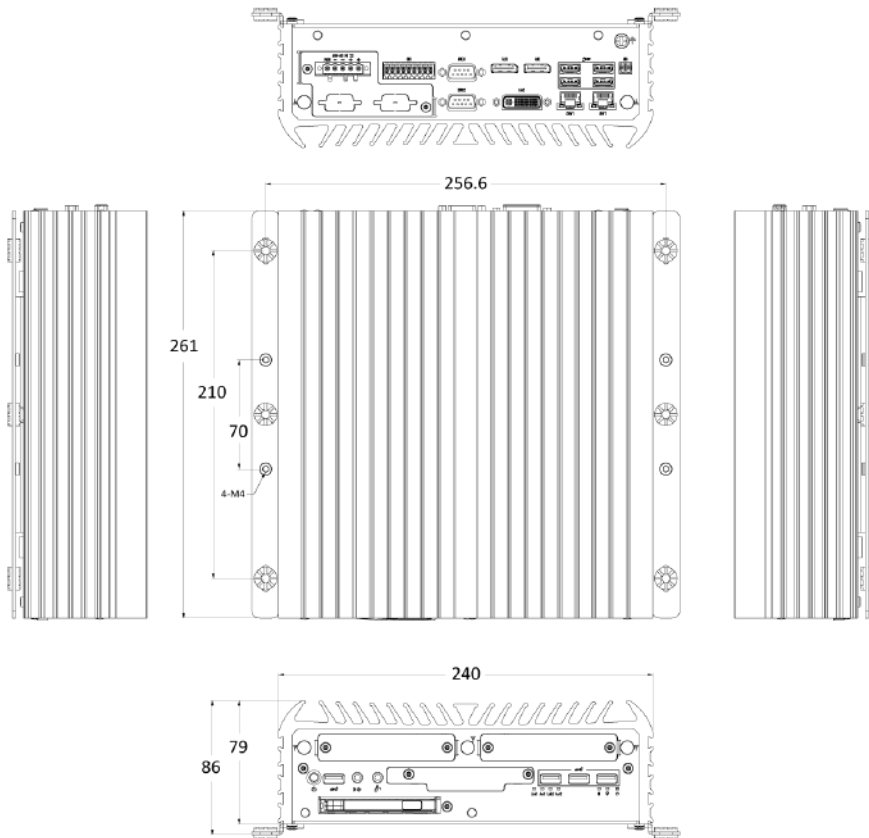


## Available EDGEBoost I/O



## 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     |