



AI EDGE INFERENCE COMPUTER

# RCO-6000-RPL-2E16-2PWR

AI Edge Inference Computer with LGA 1700 for Intel 12/13/14th Gen Processor and R680E PCH, 2x PCIe, 2x Power input

**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 60°C (35W/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)   |
| PCIe      | • RCO-6000-RPL-2E16-2PWR :<br>1x PCIe x16 (Gen4), 1x PCIe x1 (Gen3)<br>• RCO-6000-RPL-2E8-2PWR (Optional) :<br>1x PCIe x16 (8-lane, Gen4), 1x PCIe x8 (8-lane, Gen4) |

**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

|                |                      |
|----------------|----------------------|
| Card Dimension | 235 (L) x 112 (H) mm |
|----------------|----------------------|

**GPU Card Dimension** Please ensure the card dimensions do not exceed the following specifications to avoid potential installation issues.  
189 (L) x 111 (W) mm (Height: Single GPU 20 mm)

**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/11.67A, 280W<br>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)<br>Reverse Protection  |

**Environment**

|                       |   |
|-----------------------|---|
| Operating Temperature | -25°C to 60°C (35W/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: 3 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**

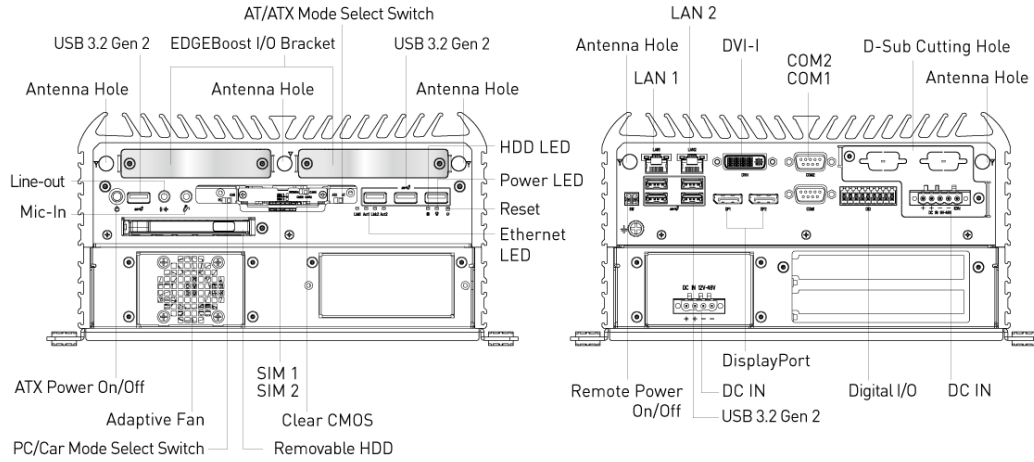
|                  |   |
|------------------|---|
| Dimensions       | 240 (W) x 261 (D) x 126.8 (H) mm        |
| Weights          | 6.5 - 7.5 kg                            |
| Construction     | Extruded Aluminum with Heavy Duty Metal |
| Mounting Options | Wall Mounting                           |

\* 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.

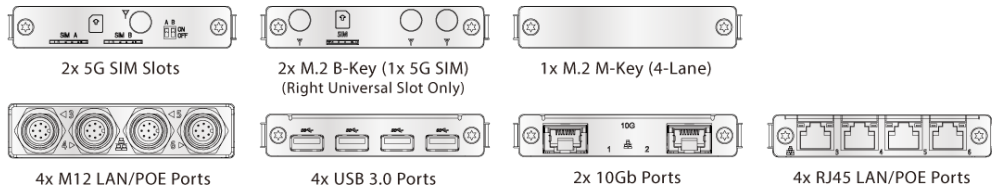


# RCO-6000-RPL-2E16-2PWR

## External I/O Mechanical Layout

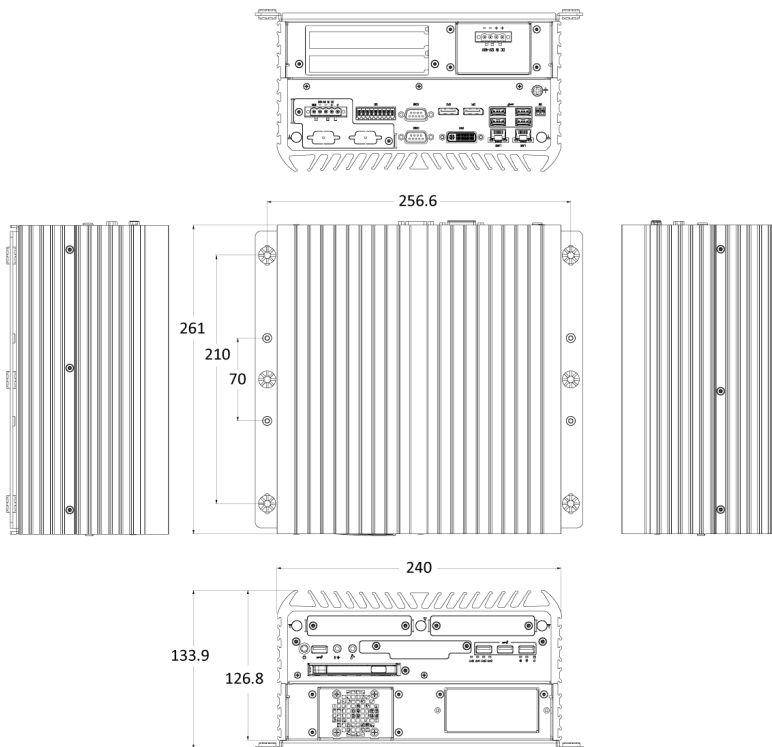


## Available EDGEBoost I/O



## Dimension

Unit: mm





## RCO-6000-RPL-2E16-2PWR

### Available Models

| Model No.              | Description  |
|------------------------|--|
| RCO-6000-RPL-2E16-2PWR | GPU Computing System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 1x PCIe x16 & x1, 2x Power input |
| RCO-6000-RPL-2E8-2PWR  | GPU Computing System w/ LGA 1700 for Intel® 12/13/14th Gen CPU & R680E PCH, 2x LAN, 2x PCIe (8-lane), 2x Power input |

### 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   |
| 1-TPCD00005      | Power Cord, 3-pin US Type, 180cm  |
| 1-TPCD00002      | Power Cord, European Type, 180cm  |
| 1-TPCD00001      | Power Cord, 3-pin UK Type, 180cm  |
| 3-EXFANK01S10-S0 | External Double Fan Module Kit (for Product shipment)                   |
| 3-EXFANK01S10-S1 | External Double Fan Module Kit (for system assembly)                    |
| 1-TFAN00005      | FAN Extension Cable   |

### Packing List

1x RCO-6000-RPL-2E-2PWR Series Embedded System  
 1x Wall Mount Kit  
 1x Accessory Kit  
 1x DVI to VGA Adapter



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## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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