



AI EDGE INFERENCE COMPUTER

# RCO-6000-RPL-2E16

Industrial Computer w/ LGA 1700 for Intel 12/13th Gen CPU &amp; R680E PCH, 2x PCIe



## Features

- LGA 1700 socket for 12/13th 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
- 2x 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, Support CNVi)
- 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
- 1x PCIe x16 (Gen4), 1x PCIe x1 (Gen3)

## 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
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 (One DisplayPort 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, Support CNVi)
Mini PCIe	1x Full-size Mini PCIe (1x shared by 1x mSATA)
PCIe	• RCO-6000-RPL-2E16 : 1x PCIe x16 (Gen4), 1x PCIe x1 (Gen3) • RCO-6000-RPL-2E8 (Optional) : 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

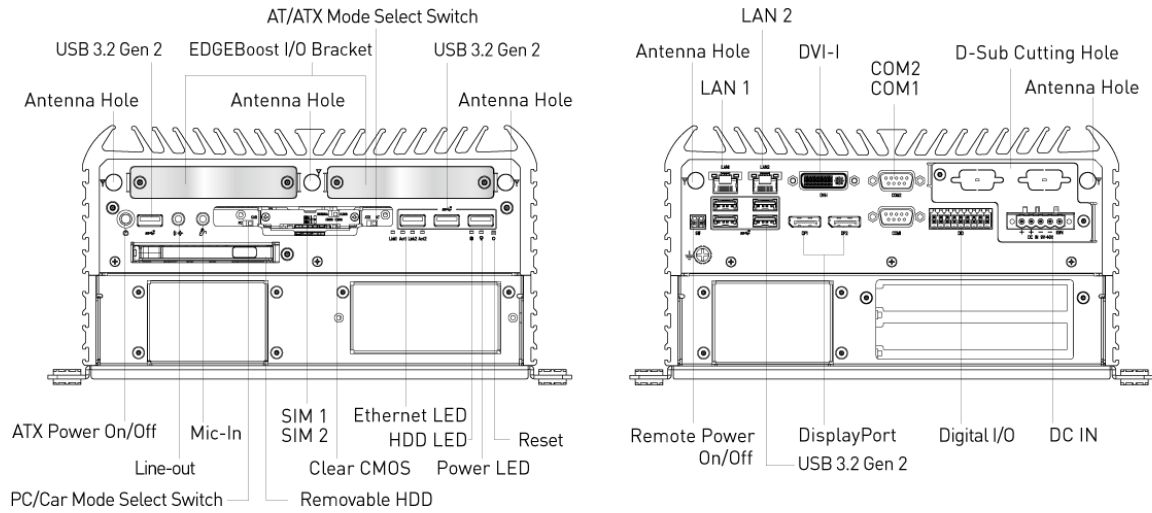
I/O	
Audio	1x Mic-in, 1x Line-out
CAN	2x CAN 2.0 A/B 2-pin Internal header
COM	2x RS-232/422/485 ; 4x RS-232/422/485 (Internal)
DIO	8 in / 8 out (Isolated)
EDGEBoost I/O Bracket	2x EDGEBoost I/O Bracket (By mini PCIe interface)
LAN	2x RJ45
USB	8x USB 3.2 Gen 2 (10 Gbps) 1x USB 3.2 Gen 1 (5 Gbps, 1x Internal), 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/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)
Storage Temperature	-30°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Certification	CE, FCC Class A
Vibration	With SSD: 5 Grms, 5 - 500 Hz, 0.5 hr/axis With HDD: 1 Grms, 5 - 500 Hz, 0.5 hr/axis
Shock	With SSD: 50G, half sine, 11ms
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 12/13th Gen Intel CPUs configured to run at 65W, operating temperatures will be limited to 60°C.

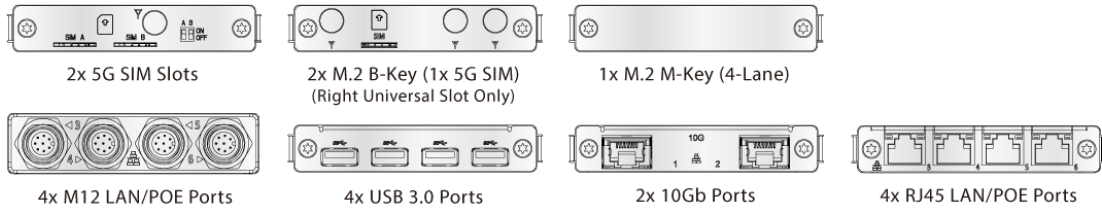
\*\* 65W CPUS may experience thermal throttling depending on extreme application workloads; this is also due to an increase in the physical CPU cores from the Intel silicon (up to 24 cores). Please note, this does not indicate system malfunction or problems in the fanless design. Please consult our embedded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

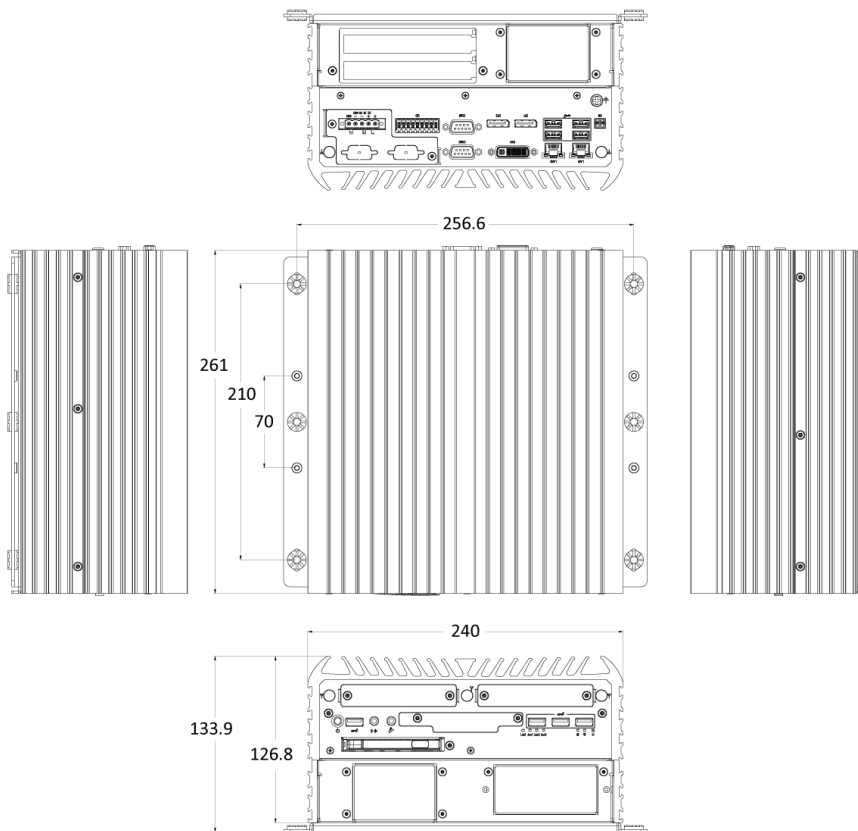


### Available EDGEBoost I/O



## Dimension

Unit: mm



## Available Models

Model No.	Description
RCO-6000-RPL-2E16	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-4L	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 6x LAN, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-4LM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 4x M12 LAN, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-4P	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 4x PoE, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-4PM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 4x M12 PoE, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-8L	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 10x LAN, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-8LM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 8x M12 LAN, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-8P	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 8x PoE, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-8PM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 8x M12 PoE, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-D10G	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 2x 10G LAN, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-4U3	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 12x USB, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-8U3	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 16x USB, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-5G	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 5G Module, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-2M2BK	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 3x M.2 B-Key, 1x PCIe x16 & x1
RCO-6000-RPL-2E16-M2MK	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 1x M.2 M-Key, 1x PCIe x16 & x1
RCO-6000-RPL-2E8	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-4L	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 6x LAN, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-4LM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 4x M12 LAN, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-4P	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 4x PoE, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-4PM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 4x M12 PoE, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-8L	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 10x LAN, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-8LM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 8x M12 LAN, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-8P	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 8x PoE, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-8PM12	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 8x M12 PoE, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-D10G	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 2x 10G LAN, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-4U3	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 12x USB, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-8U3	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 16x USB, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-5G	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 5G Module, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-2M2BK	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 3x M.2 B-Key, 2x PCIe (8-lane)
RCO-6000-RPL-2E8-M2MK	Superior Fanless Embedded System w/ LGA 1700 for Intel® 12/13th Gen CPU & R680E PCH, 2x LAN, 1x M.2 M-Key, 2x PCIe (8-lane)

## 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-2E Series Embedded System  
 1x Wall Mount Kit  
 1x Accessory Kit  
 1x DVI to VGA Adapter