



FANLESS EMBEDDED SYSTEMS

RCO-6122PE series

Superior Fanless Embedded System w/ LGA 1151 for Intel 8th/9th Gen CPU & Q370 PCH



FEATURES

- LGA 1151 socket for 8th/9th Gen. Intel® CFL-R S Processor (65W/35W TDP)
- Intel® Q370 chipset
- 2x DDR4 2400/2666Hz SODIMM. Max. up to 64GB
- Triple Independent Display by 1x DVI-I and 2x DisplayPort
- 2x Intel® GbE supporting Wake-on-LAN and PXE
- 2x Full-size mini PCIe for communication or expansion modules, 2x SIM socket
- 4x 2.5" SATA HDD Bay and 1x mSATA with RAID 0, 1, 5, 10 support
- 1x M.2 (M Key, PCIe x4, 2280, Support NVMe),
1x M.2 (E Key, PCIe x2, 2230, USB 2.0, Support CNVi)
- 6x RS-232/422/485 (w/ 2x internal), 4x USB 3.2 Gen 2, 5x USB 3.2 Gen 1
- 1x PCIe x16 & 1x PCI
- 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
- Expansion (Optional)

RCO-6122EE : 2x PCIe x16 (8-Lane)

RCO-6122PP : 2x PCI

SPECIFICATIONS

System

Processor

- Support 8th/9th Gen Intel® CFL-R S Processor (LGA 1151, 65W/35W TDP)
- Intel® Core™ i7-9700E, 8 Cores, 12MB cache, up to 4.4 GHz
 - Intel® Core™ i5-9500E, 6 Cores, 9MB Cache, up to 4.2 GHz
 - Intel® Core™ i3-9100E, 4 Core, 6MB Cache, 3.7 GHz
 - Intel® Core™ i7-9700TE, 8 Cores, 12MB cache, up to 3.8 GHz
 - Intel® Core™ i5-9500TE, 6 Cores, 9MB Cache, up to 3.6 GHz
 - Intel® Core™ i3-9100TE, 4 Core, 6MB Cache, 3.2 GHz
 - Intel® Core™ i7-8700T, 6 Cores, 12MB cache, up to 4.0 GHz
 - Intel® Core™ i5-8500T, 6 Cores, 9MB Cache, up to 3.5 GHz
 - Intel® Core™ i3-8100T, 4 Cores, 6MB Cache, 3.1 GHz
 - Intel® Pentium® G5400T, 2 Cores, 4MB Cache, up to 3.1 GHz
 - Intel® Celeron® G4900T, 2 Cores, 2MB Cache, up to 2.9 GHz

System Chipset Intel® Q370 Express Chipset

LAN Chipset GbE1: Intel I219LM (Support Wake-on-LAN and PXE)
GbE2: Intel I210-AT (Support Wake-on-LAN and PXE)
GbE3-GbE6: Intel I350-AM4 (Optional)
10 GbE1-GbE2: Intel X710-AT2 (Optional)

Audio Codec Realtek ALC888S

System Memory 2x 260-Pin DDR4 2400/2666MHz SODIMM.
Max. up to 64GB (Un-buffered and Non-ECC)

BIOS AMI 256Mbit SPI BIOS

Watchdog Software Programmable Supports 1~255 sec. System Reset
TPM TPM 2.0

Display

Graphics Intel® UHD Graphics 610/630

VGA Yes (by optional split cable)

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

DisplayPort 2x DisplayPort, support resolution 4096 x 2304

Multiple Display Triple Display

Storage

SSD/HDD 2x Internal 2.5" SATA HDD Bay (support H=9mm)
2x Removable 2.5" SATA HDD Bay
(support H=7mm, hot-swappable), Support RAID 0, 1, 5, 10

mSATA 1x mSATA (Shared by 2x Mini PCI Express)

M.2 1x M.2 (M Key, PCIe x4, 2280, Support NVMe),
1x M.2 (E Key, PCIe x2, 2230, USB 2.0, Support CNVi)

SIM Socket 2x External SIM socket

Expansion

Mini PCI Express 2x Full-size Mini PCIe (1x shared by 1x mSATA)

PCI Express 1x PCIe x16

PCI 1x PCI

RCO-6122EE [Optional] 2x PCIe x16 (8-Lane)

RCO-6122PP [Optional] 2x PCI

4-Port GbE [Optional] 4-port GbE module with Intel® I350-AM4 Chipset,
RJ-45 or M12 connector (PoE optional)
Occupied one Universal I/O Slot

2-Port GbE [Optional] 2-Port RJ45 10GbE with Intel X710-AT2 Chipset
Occupied one Universal I/O Slot

4-Port USB [Optional]

4-Port USB with Renesas uPD720201K8 host controller
Occupied one Universal I/O Slot

5G [Optional]

1x M.2 for 5G (B Key, PCIe x4, USB 3.0, 3042/3052)
Including 2x SIM socket, 1x SIM switch
Occupied one Universal I/O Slot

Card Dimension

235 (L) x 112 (H) mm

Operating System

Windows Windows 10

Linux Linux kernel 5.X

I/O

COM 4x RS-232/422/485 ; 2x RS-232/422/485 (internal)

USB 4x USB 3.2 Gen 2 (10 Gbps)
5x USB 3.2 Gen 1 (5 Gbps)
1x USB 3.2 Gen 1 header (5 Gbps, internal)

LAN

2x RJ45

Audio

1x Mic-in, 1x Line-out

DIO

8 in / 8 out (Isolated)

Universal I/O Bracket

3x Universal I/O Bracket (By mini PCIe interface)

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

Power

Power Mode AT, ATX

Power Supply Voltage 9~48VDC

Power Ignition Sensing Power Ignition Management

Power Connector 3-pin Terminal Block

Power Adaptor Optional AC/DC 24V/9.2A, 220W
Optional AC/DC 24V/11.67A, 280W

Power Protection

OVP [Over Voltage Protection]; OCP [Over Current Protection]
Reverse Protection

Environment

Operating Temp. -25°C to 70°C (35W CPU) ; -25°C to 60°C (65W CPU)

Storage Temp. -30°C to 85°C

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

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

Standards / Certification

CE, FCC Class A, E-Mark,
EMC Conformity with EN 50155, EN 50121-3-2

Physical

Construction Extruded Aluminum with Heavy Duty Metal

Dimension 240 (W) x 261 (D) x 127.3 (H) mm

Weight

8.25 - 9.3 kg

Mounting

Wall Mounting

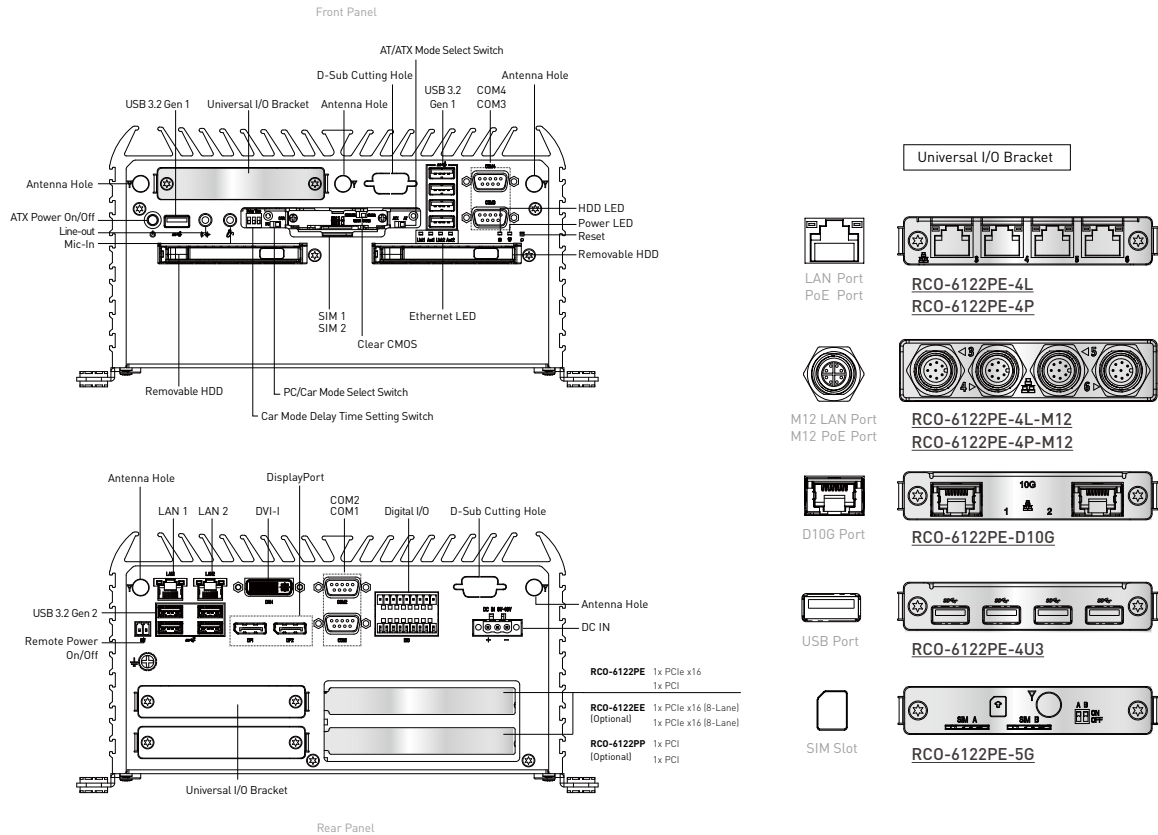
* For 8th/9th CPUs configured to run at 65W, operating temperatures will be limited to 60°C.

* 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 8 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.

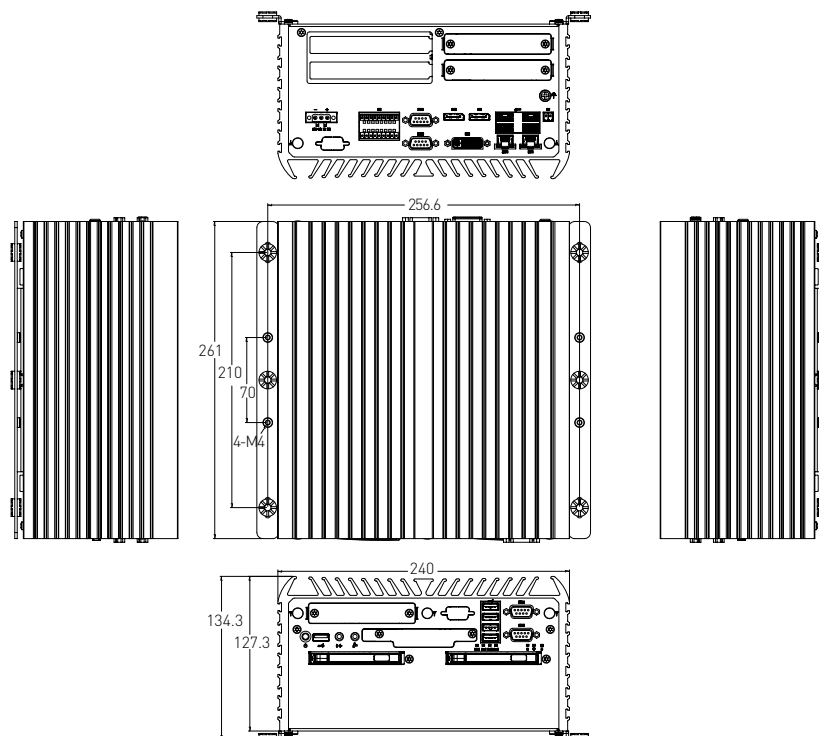
RCO-6122PE series

EXTERNAL I/O MECHANICAL LAYOUT



DIMENSION

Unit: mm





RCO-6122PE series

ORDERING INFORMATION

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-TPCD00005	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-6100 Series Embedded System
- 1x Wall Mount Kit
- 1x Accessory Kit
- 1x DVI to VGA Adapter

AVAILABLE MODELS

MODEL NO.	DESCRIPTION
RCO-6122EE	
RCO-6122EE	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 2x PCIe x8 Expansion
RCO-6122EE-4L	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 6x LAN, 2x PCIe x8 Expansion
RCO-6122EE-4L-M12	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 4x M12 LAN, 2x PCIe x8 Expansion
RCO-6122EE-4P	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 4x PoE, 2x PCIe x8 Expansion
RCO-6122EE-4P-M12	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 4x M12 PoE, 2x PCIe x8 Expansion
RCO-6122EE-D10G	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 2x 10G LAN, 2x PCIe x8 Expansion
RCO-6122EE-4U3	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, , 13x USB, 2x PCIe x8 Expansion
RCO-6122EE-5G	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 2x PCIe x8 Expansion, 5G Module
RCO-6122PP	
RCO-6122PP	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 2x PCI Expansion
RCO-6122PP-4L	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 6x LAN, 2x PCI Expansion
RCO-6122PP-4L-M12	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 4x M12 LAN, 2x PCI Expansion
RCO-6122PP-4P	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 4x PoE, 2x PCI Expansion
RCO-6122PP-4P-M12	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 4x M12 PoE, 2x PCI Expansion
RCO-6122PP-D10G	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 2x 10G LAN, 2x PCI Expansion
RCO-6122PP-4U3	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, , 13x USB, 2x PCI Expansion
RCO-6122PP-5G	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 2x PCI Expansion, 5G Module
RCO-6122PE	
RCO-6122PE	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 1x PCIe x16, 1x PCI Expansion
RCO-6122PE-4L	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 6x LAN, 1x PCIe x16, 1x PCI Expansion
RCO-6122PE-4L-M12	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 4x M12 LAN, 1x PCIe x16, 1x PCI Expansion
RCO-6122PE-4P	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 4x PoE, 1x PCIe x16, 1x PCI Expansion
RCO-6122PE-4P-M12	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 4x M12 PoE, 1x PCIe x16, 1x PCI Expansion
RCO-6122PE-D10G	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, , 2x 10G LAN, 1x PCIe x16, 1x PCI Expansion
RCO-6122PE-4U3	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, , 13x USB, 1x PCIe x16, 1x PCI Expansion
RCO-6122PE-5G	Superior Fanless Embedded System w/ LGA 1151 for Intel® 8 th /9 th Gen CPU & Q370 PCH, 2x LAN, 1x PCIe x16, 1x PCI Expansion, 5G Module



C&T Solution Inc.

17F-2, No. 700, Zhongzheng Rd., Zhonghe Dist., New Taipei City 235, Taiwan (R.O.C.)

Tel: +886-2-7731-7888 Fax: +886-2-7731-7855

Email: info@candtsolution.com

www.candtsolution.com

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.

US

sales@assured-systems.com

Sales: +1 347 719 4508

Support: +1 347 719 4508

1309 Coffeen Ave
Ste 1200
Sheridan
WY 82801
USA

EMEA

sales@assured-systems.com

Sales: +44 (0)1785 879 050

Support: +44 (0)1785 879 050

Unit A5 Douglas Park
Stone Business Park
Stone
ST15 0YJ
United Kingdom

VAT Number: 120 9546 28

Business Registration Number: 07699660