



INDUSTRIAL COMPUTER

RCO-3000-CFL

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

Features

- Support 9th Gen Intel® CFL-R S Processor (LGA 1151, 35W TDP)
- 2x 260-Pin DDR4 2400/2666MHz SODIMM, Max. up to 64GB
- Intel® Q370 Chipset
- Triple Independent Display: 2x DisplayPort, 1x DVI-I
- 2x Intel® GbE supporting Wake-on-LAN and PXE
- 2x Full-size Mini PCIe (shared by 1x mSATA), and 2x SIM socket
- 2x 2.5" SATA HDD Bay with RAID 0, 1, 5 support, 1x mSATA (Shared by 1x Mini PCIe)
- 1x M.2 (E Key, PCIe x1, USB 2.0, 2230, Support CNVi)
- 5x RS-232/422/485 (2x internal)
- 4x USB 3.2 Gen 2 (10 Gbps), 4x USB 2.0 (2x 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)
- TPM 2.0 Supported



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)

Audio Codec Realtek ALC888S

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

Graphics Intel® UHD Graphics 610/630

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 4096 x 2304

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

Multiple Display Triple Display

VGA Yes (by optional split cable)

Storage

M.2 1x M.2 (E Key, PCIe x1, USB 2.0, 2230, Support CNVi)

mSATA 1x mSATA (shared by 1x Mini PCIe)

SIM Socket 2x External SIM socket

SSD/HDD 1x Internal 2.5" SATA HDD Bay (support H=9mm)
1x Hotswap 2.5" SATA HDD Bay (support H=7mm)
Support RAID 0, 1, 5

Expansion

Mini PCIe 2x Full-size Mini PCIe (1x Shared with mSATA)

Expansion Modules

4-port GbE module with Intel® I350-AT4 Chipset, RJ-45 or M12 connector

4-Port USB with Renesas uPD720201K8 host controller

2-Port RJ45 10GbE with Intel X710-AT2 Chipset

I/O

Audio 1x Line-out

COM 3x RS-232/422/485 ; 2x RS-232/422/485 (internal)

DIO 8 in / 8 out (Isolated)

LAN	2x RJ45
Universal I/O Bracket	1x Universal I/O Bracket (By mini PCIe interface)
USB	4x USB 3.2 Gen 2 (10Gbps) 4x USB 2.0 (2x 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

Operating System

Windows	Windows 10
Linux	Linux kernel

Power

Power Adapter	Optional AC/DC 24V/11.67A, 280W Optional AC/DC 24V/9.2A, 220W
Power Mode	AT, ATX
Power Ignition Sensing	Power Ignition Management
Power Supply Voltage	9~48VDC
Power Connector	3-pin Terminal Block
Power Protection	Over-Voltage Protection (OVP) Over-Current Protection (OCP) Reverse Polarity Protection (RPP)

Environment

Operating Temperature	-25°C to 60°C (35W CPU) -25°C to 50°C (65W CPU)
Storage Temperature	-30°C ~ 85°C
Relative Humidity	10% to 95% (non-condensing)
Certification	CE, FCC Class A
Vibration	5 Grms, 5 ~ 500 Hz, 0.5 hr/axis (SSD) 1 Grms, 5 ~ 500 Hz, 0.5 hr/axis (HDD)
Shock	50G, half-sine, 11 ms (SSD)

Physical

Dimensions	192 (W) x 197 (D) x 60.3 (H) mm
Weights	2.8kg ~ 3.6 kg
Construction	Extruded aluminum with heavy duty metal
Mounting Options	Wall Mounting / DIN Rail (Optional)

* For 8th/9th CPUs configured to run at 65W, operating temperatures will be limited to 50°C.

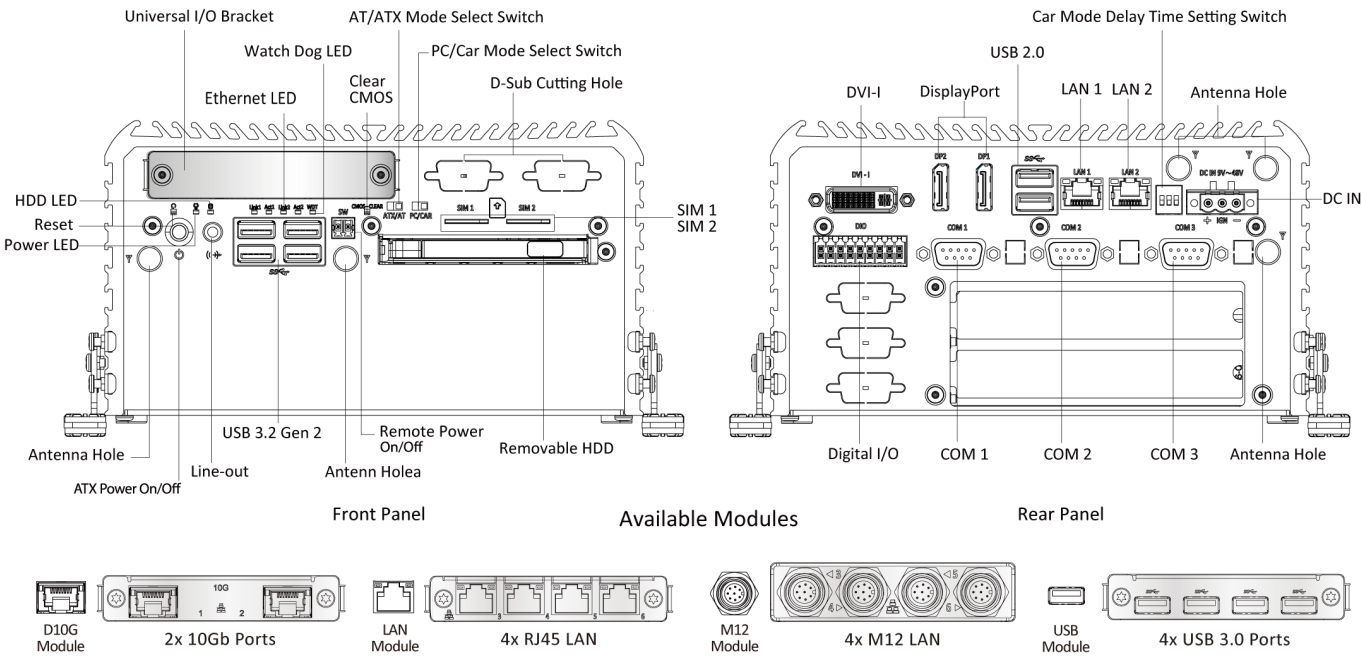
** 65W CPUs may experience thermal throttling depending on extreme application workloads; this is also due to an increase in the physical CPU cores from the Intel silicon (up to 8 cores). Please note, this does not indicate system malfunction or problems in the fanless design. Please consult our embedded engineers for the best configuration to match your application requirements.

*** All specifications and photos are subject to change without notice.



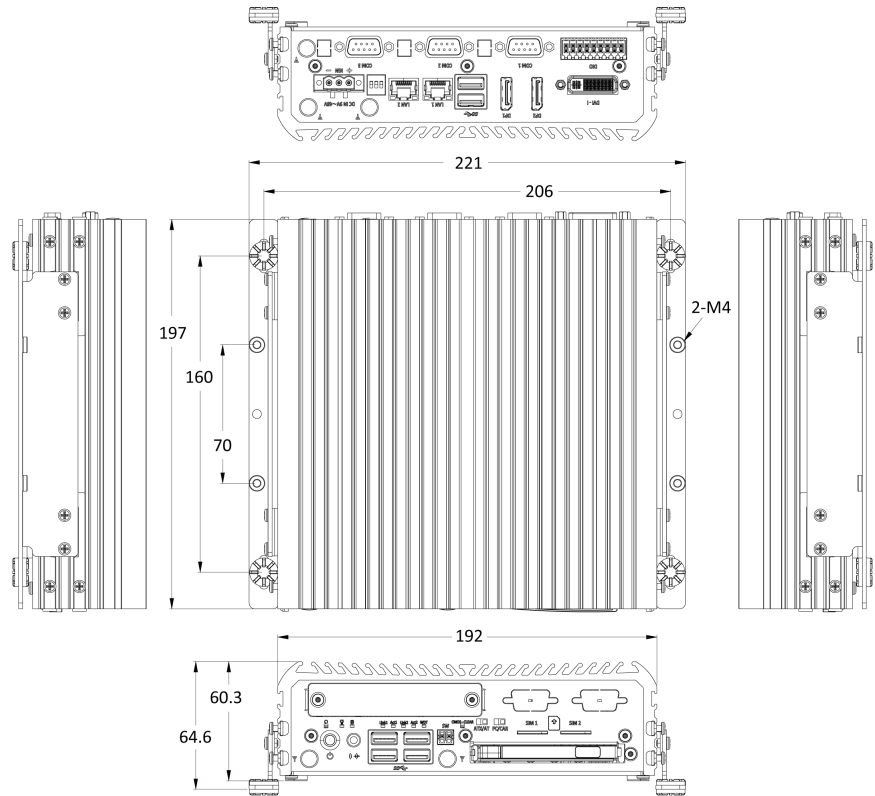
RCO-3000-CFL

External I/O Mechanical Layout



Dimension

Unit: mm





RCO-3000-CFL

Available Models

Model No.	Description
RCO-3000-CFL	Advanced Fanless Embedded System w/ LGA 1151 for Intel® 8th/9th Gen CPU & Q370 PCH, 2x LAN
RCO-3000-CFL-4L	Advanced Fanless Embedded System w/ LGA 1151 for Intel® 8th/9th Gen CPU & Q370 PCH, 6x LAN
RCO-3000-CFL-4LM12	Advanced Fanless Embedded System w/ LGA 1151 for Intel® 8th/9th Gen CPU & Q370 PCH, 2x LAN, 4x M12 LAN
RCO-3000-CFL-D10G	Advanced Fanless Embedded System w/ LGA 1151 for Intel® 8th/9th Gen CPU & Q370 PCH, 2x LAN, 2x 10G LAN
RCO-3000-CFL-4U3	Advanced Fanless Embedded System w/ LGA 1151 for Intel® 8th/9th Gen CPU & Q370 PCH, 2x LAN, 10x USB

Optional Accessories

Model No.	Description
1-E09A22801	Adapter AC/DC 24V/11.67A 280W with 3pin Terminal Block Plug 5.0mm Pitch
1-E09A22102	Adapter AC/DC 24V 9.2A 220W 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-3000-CFL
- 1x Wall Mount Kit
- 1x Accessory Kit
- 1x DVI to VGA Adapter



C&T Solution Inc.

18F, No.176, Jianyi Road, Zhonghe Dist., New Taipei City 235603, Taiwan (R.O.C.)

Toll Free: +886-2-7731-7888 Fax: +886-2-7731-7855

Email: info@candtsolution.com

<https://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