



AI EDGE INFERENCE COMPUTER

# RCO-6000-CFL-4NH

AI Edge Inference Computer with LGA 1151 for 9th Gen Intel® CPU & Q370 PCH, 4x U.2 15mm NVMe, Hardware RAID



## Features

- LGA 1151 socket for 9th Gen. Intel® CFL-R S Processor Pentium® / Celeron® Desktop Processor
- Intel® Q370 chipset
- 2x 260-pin DDR4 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 Removable 2 Bay NVMe SSD Module with Hardware RAID 0, 1, 5, 6, 10 support (Support H=15mm)
- 4x 2.5" SATA HDD Bay and 2x mSATA with RAID 0, 1, 5, 10 support
- 1x M.2 (M Key, NVMe PCIe x4, 2280); 1x M.2 (E Key, PCIe x2, 2230, USB 2.0, Support CNVi), 2x SIM socket
- 9 to 48VDC Wide Range Power Input Supporting AT/ATX Mode
- Wide Operating Temperature (-25°C to 60°C)
- Power ignition management
- Supports Hailo-8™ Module m.2 M-Key PCIe x4



## Specifications

System	
Processor	Support 9th Gen Intel® Core™ CFL-R S Processor (LGA 1151, 35W TDP) - 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
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
AI Accelerator	Hailo-8™ Module m.2 M-Key PCIe x4 (Optional)
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 (M Key, NVMe PCIe x4, 2280) 1x M.2 (E Key, PCIe x2, 2230, USB 2.0, Support CNVi)
mSATA	1x mSATA (shared by 1x Mini PCIe)
NVMe	2x Removable Cannister Bricks with 2.5" 4 Bay U.2 NVMe SSD (Support H=15mm) with Hardware RAID 0, 1, 5, 6, 10
SIM Socket	2x External SIM socket
SSD/HDD	2x Internal 2.5" SATA HDD Bay (support H=9.5mm) 2x Hotswap 2.5" SATA HDD Bay (support H=7mm) Support RAID 0, 1, 5, 10
Expansion	
Mini PCIe	2x Full-size Mini PCIe (1x Shared with mSATA)
PCIe	1x PCIe x16 (8-lane) (For Hardware Raid)
Expansion Modules	
<ul style="list-style-type: none"> <li>• 4-port GbE module with Intel® I350-AT4 Chipset, RJ-45 or M12 connector (PoE optional)</li> <li>• 2-Port RJ45 10GbE with Intel X710-AT2 Chipset</li> <li>• 4-Port USB with Renesas uPD720201K8 host controller</li> <li>• 1x M.2 for 5G (B Key, PCIe x4, USB 3.0, 3042/3052) Including 2x SIM socket, 1x SIM switch</li> </ul>	
I/O	
Audio	1x Mic-in, 1x Line-out
COM	4x 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) 5x USB 3.2 Gen 1 (5 Gbps) 1x USB 3.2 Gen 1 header (5 Gbps, 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

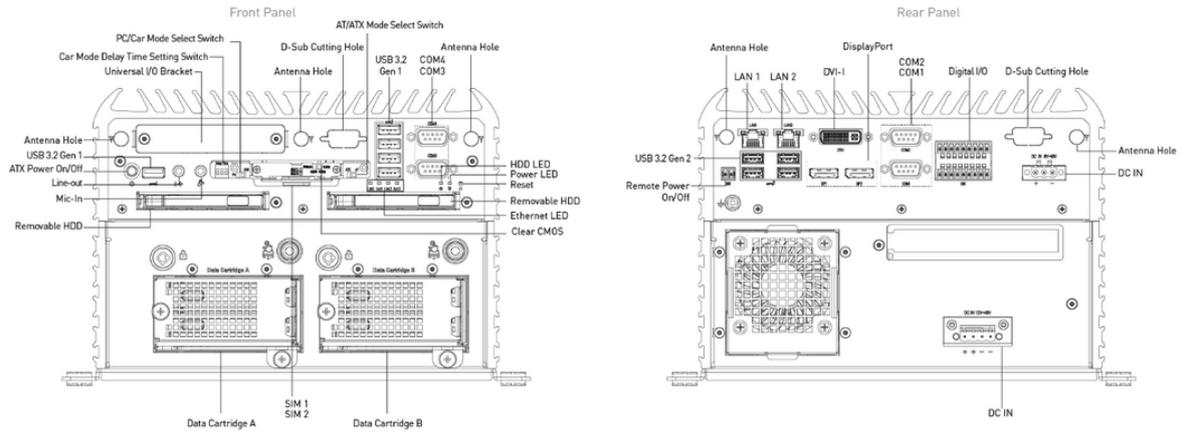
Linux	Linux kernel 5.X
Power	
Power Adapter	Optional AC/DC 24V, 220W/280W Optional AC/DC 24V, 220W for GPU
Power Mode	AT, ATX
Power Ignition Sensing	Power Ignition Management
Power Supply Voltage	9~48VDC for Computer, 12~48VDC for NVMe EDGEboost Node
Power Connector	3-pin Terminal Block for Computer, 4-pin Terminal Block for NVMe EDGEBoost Node (12V requires 4-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)
Storage Temperature	-30°C ~ 85°C
Relative Humidity	10% to 95% (non-condensing)
Certification	CE, FCC Class A, E-Mark, EMC Conformity with EN 50155, EN 50121-3-2
Vibration	3 Grms, 5 ~ 500 Hz, 0.5 hr/axis (SSD) 1 Grms, 5 ~ 500 Hz, 0.5 hr/axis (HDD)
Shock	20G, half-sine, 11 ms (SSD)
Physical	
Dimensions	261 (D) x 240 (W) x 168 (H)
Weights	10.2kg
Construction	Extruded aluminum with heavy duty metal
Mounting Options	Wall Mounting

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

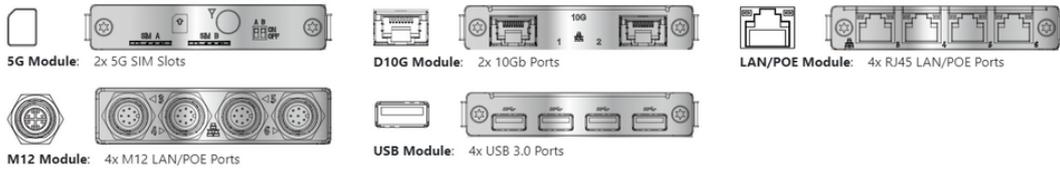
\*\* 65W CPUs may experience thermal throttling depending on extreme application workloads; this is also due to an increase in the physical CPU cores from the Intel silicon (up to 8 cores). Please note, this does not indicate system malfunction or problems in the fanless design. Please consult our embedded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

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

## External I/O Mechanical Layout

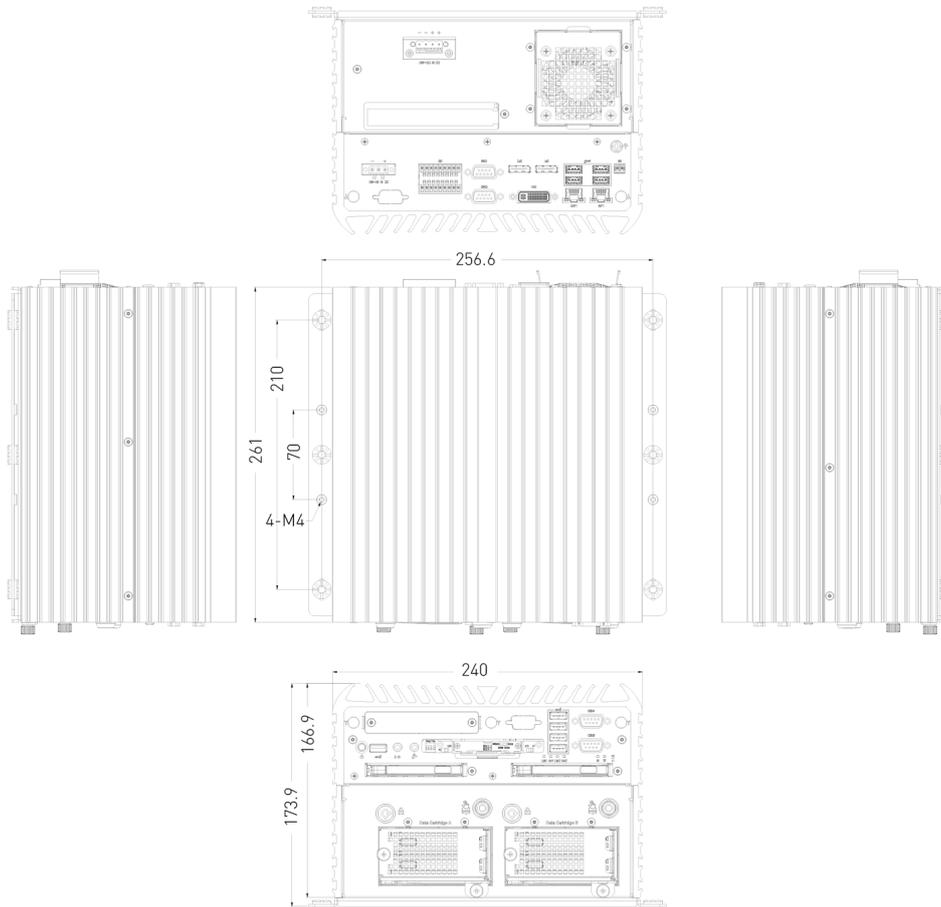


### Available Modules



## Dimension

Unit: mm



## Available Models

Model No.	Description
RCO-6000-CFL-4NH-P	AI Edge Inference Computer with 9th Gen Intel® Core™ Processor, 4x U.2 NVMe SSDs, PCIe x16 Hardware RAID

## 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
999930	Power Cord, 3-pin US Type, 180cm
1-TPCD00002	Power Cord, European Type, 180cm
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm
PETPUHAILOCFL-KIT	Hailo-8™ AI Accelerator Module, M.2 M-Key Kit

## Packing List

- 1x RCO-6000-CFL-4NH
- 1x Utility DVD Driver
- 1x Wall Mount Kit
- 1x Accessory Kit
- 1x DVI to VGA Adapter

## Compliances and Standards

Shock	20G, half-sine, 11 ms (SSD) IEC60068-2-27:2008 Designed to comply with MIL-STD-810G Method 516.7 Procedure I
Vibration	3 Grms, 5 ~ 500 Hz, 0.5 hr/axis (SSD)  1 Grms, 5 ~ 500 Hz, 0.5 hr/axis (HDD) IEC60068-2-64:2008 Designed to comply with MIL-STD-810G Method 514.7 Procedure I
Operating Temperature	-25°C to 60°C (35W CPU) IEC60068-2-1:2007 (Cold test procedure) IEC60068-2-2:2007 (Dry heat test procedure) IEC60068-2-3:2007 (Damp heat, steady state, test procedure) IEC60068-2-14:2009 (Wide temperature range thermal shock)
EMI	<ul style="list-style-type: none"> <li>• FCC Class A (47 CFR part 15.109 and part 15.107)</li> <li>• CE</li> <li>• ICES-003</li> <li>• UKCA</li> </ul>

## Exports And Tariff Codes

ECCN	5A992.c
HTS	8471.50.0150
ScheduleB	84.71