



AI EDGE INFERENCE COMPUTER

RCO-6000-CFL-2

Industrial Computer with 9th Gen Intel® Core™ CFL-R S Processor, 2x PCI/PCIe Expansion

Features

- LGA 1151 socket for 9th Gen. Intel® CFL-R S Processor (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, NVMe PCIe x4, 2280); 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
- 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)
- 2x PCIe x8 Expansion (RCO-6000-CFL-2E)
- 2x PCI Expansion (RCO-6000-CFL-2I)
- 1x PCIe x16, and 1x PCI Expansion (RCO-6000-CFL-2C)
- TPM 2.0 Supported
- 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
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 DP
DVI	1x DVI-I
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)
SIM Socket	2x External SIM socket
SSD/HDD	2x Internal 2.5" SATA HDD Bay (support H=9mm) 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)
PCI	2x PCI (2I-Model) 1x PCI (2C-Model)
PCIe	2x PCIe x8 (2E-Model) 1x PCIe x16 (2C-Model)

Expansion Modules	
• 4-port GbE module with Intel® I350-AT4 Chipset, RJ-45 or M12 connector (PoE optional)	
• 2-Port RJ45 10GbE with Intel X710-AT2 Chipset	
• 4-Port USB with Renesas uPD720201K8 host controller	
• 1x M.2 for 5G (B Key, PCIe x4, USB 3.0, 3042/3052) Including 2x SIM socket, 1x SIM switch	

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	3x 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/9.2A, 220W Optional AC/DC 24V/5A, 120W
Power Mode	AT, ATX
Power Ignition Sensing	Power Ignition Management
Power Supply Voltage	9 ~ 48 VDC
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 70°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	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)

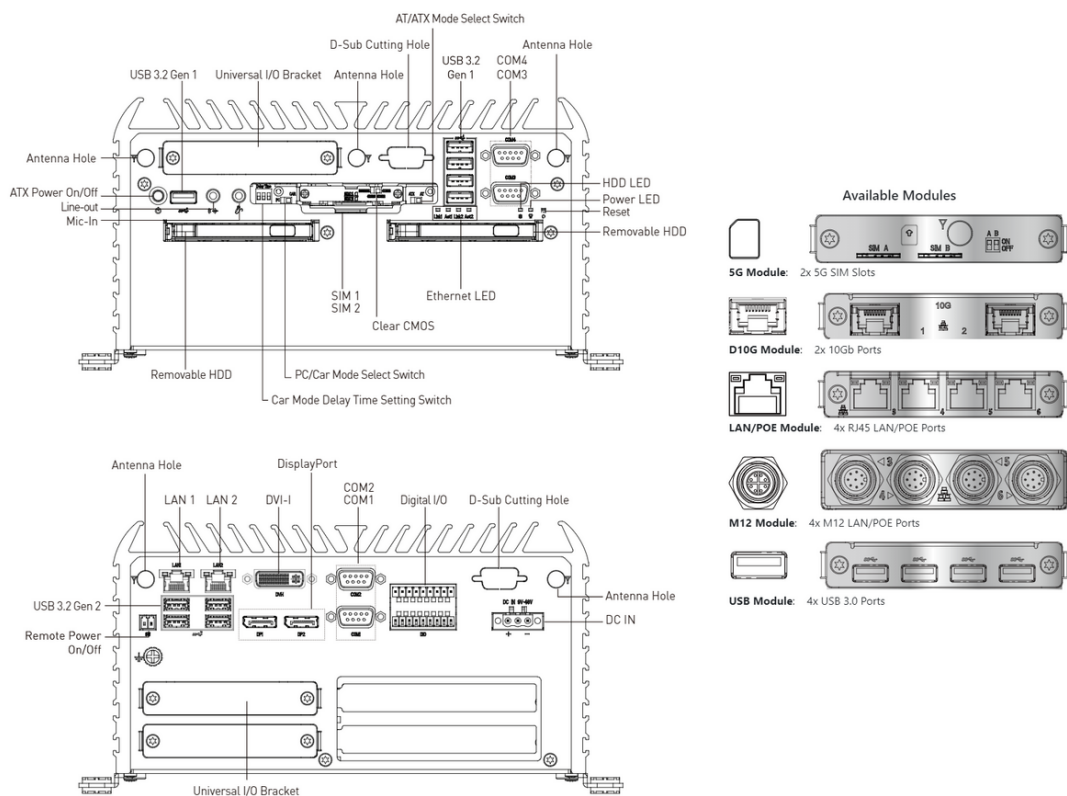
Physical	
Dimensions	240 (W) x 261 (D) x 127.3 (H) mm
Weights	8.25 ~ 9.3kg
Construction	Extruded aluminum with heavy duty metal
Mounting Options	Wall Mounting

* 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.

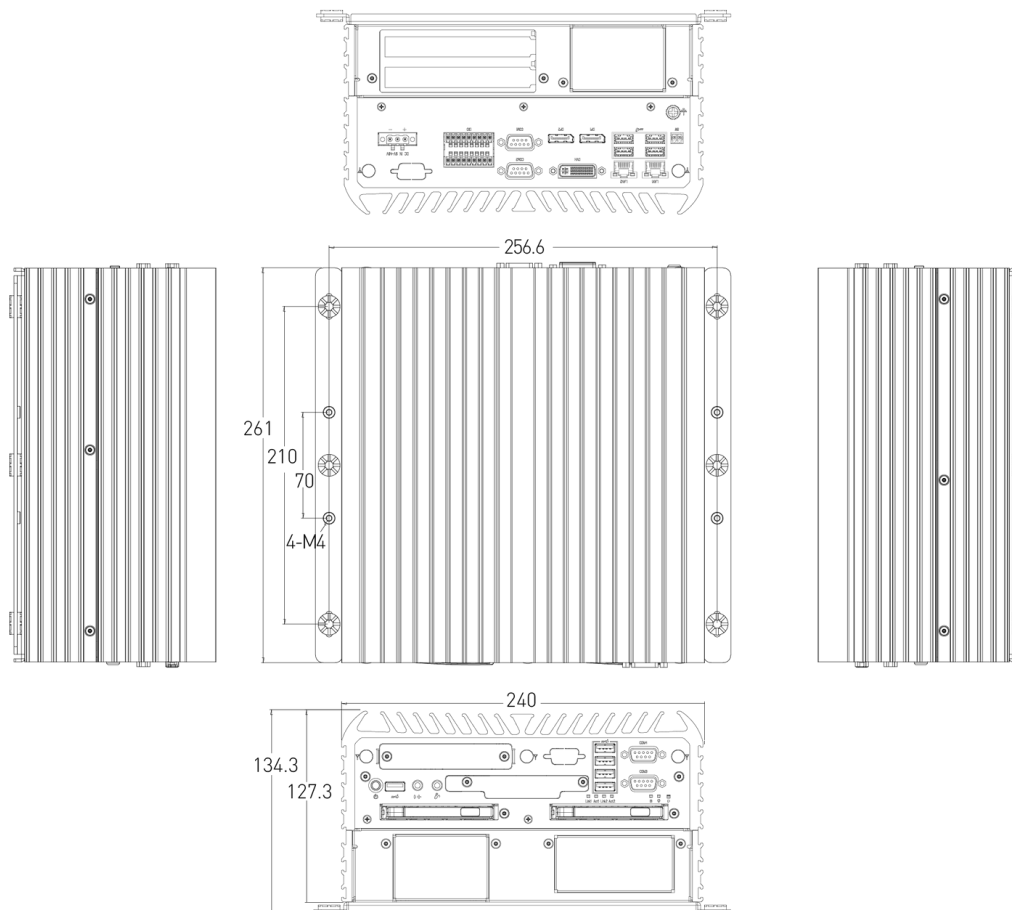
*** All specifications and photos are subject to change without notice.

External I/O Mechanical Layout



Dimension

Unit: mm



Compliances and Standards

Shock	50G, half-sine, 11 ms (SSD) IEC60068-2-27:2008 Designed to comply with MIL-STD-810H Method 516.8 Procedure I
Vibration	5 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-810H Method 514.8 Procedure I
Operating Temperature	-25°C to 70°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	- FCC Class A (47 CFR part 15.109 and part 15.107) - CE - ICES-003 - UKCA

Available Models

Model No.	Description
RCO-6000-CFL-2E-P	Industrial Computer with 9th Gen Intel® Core™ Processor, Q370 PCH, 2x Expansion 2x PCIe x16 (8-Lane) (key E), w/ Power Adapter
RCO-6000-CFL-2I-P	Industrial Computer with 9th Gen Intel® Core™ Processor, Q370 PCH, 2x Expansion 2x PCI (key I), w/ Power Adapter
RCO-6000-CFL-2C-P	Industrial Computer with 9th Gen Intel® Core™ Processor, Q370 PCH, 2x Expansion 1x PCIe x16, and 1x PCI Expansion (key C), w/ Power Adapter

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-2
- 1x Utility DVD Driver
- 1x Wall Mount Kit
- 1x DVI to VGA Adapter

US Exports And Tariff Codes

ECCN	5A992.c
HTS	8471.50.0150
ScheduleB	84.71

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