RCO-6000-CFL

AI EDGE INFEERENCE COMPUTER

Industrial Computer with 9th Gen Intel® Core™ CFL-R S Processor

Features
- LGA 1151 socket for 9th Gen. Intel® CFL-R S Processor (35W TDP)
- Intel® Q370 chipset
- 2x DDR4 2400/2666MHz 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)
- TPM 2.0 Supported
- Supports Hailo-8™ Module m.2 M-Key PCIe x4

Specifications

System
- Processor: 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
- 6bE1: Intel I219LM (Support Wake-on-LAN and PXE)
- 6bE2: Intel I210-AT (Support Wake-on-LAN and PXE)

Audio Codec
- Realtek ALC688S

System Memory
- Max. up to 64GB

Graphics
- Intel® UHD Graphics 610/630

BIOS
- AMI 256Mbit SPI BIOS

Watchdog
- Software Programmable Supports 1-255 sec.

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: 1x External SIM socket
- SSD/HDD: 2x Internal 2.5" SATA HDD Bay (support H=7mm)

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

Expansion Modules
- 4-port GbE module with Intel® I350-AT4 Chipset, RI-45 or M12 connector (PoE optional)
- 2-Port RI45 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, 30x2/30x2 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
- 1x Universal I/O Bracket
- USB: 4x USB 3.2 Gen 2 (10Gbps), 5x USB 3.2 Gen 1 (5 Gbps), 1x USB 2.2 Gen 1 header (5 Gbps, internal)

Power
- Power Adapter: Optional AC/DC 24V/9.2A, 220W
- 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 Girms, 5 ~ 50 Hz, 0.5 hr/axis (SSD) 1 Girms, 5 ~ 500 Hz, 0.5 hr/axis (HDD)
- Shock: 50G, half-sine, 11 ms (SSD)

Physical
- Dimensions: 240 (W) x 261 (D) x 79.2 (H) mm
- Weights: 7.5 ~ 8.25 kg
- Construction: Extruded aluminum with heavy duty metal
- Mounting Options: Wall Mounting

Operating System
- Windows: Windows 10
- Linux: Linux kernel 5.0

Linux
- Desktop: Linux kernel 5.1
- Server: Linux kernel 5.4

Power Protection
- Over-Voltage Protection (OVP)
- Over-Current Protection (OCP)
- Reverse Polarity Protection (RPP)

* 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
- **5G Module**: 8x 5G SIM Slots
- **10G Module**: 2x 10Gb Ports
- **LAN/POE Module**: 4x RJ45, 2x POE Ports
- **M.2 Module**: 4x M.2, 2x M.2, 2x SATA
- **USB Module**: 4x USB 3.0 Ports

Dimension

Unit: mm
RCO-6000-CFL

Available Models

<table>
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<tr>
<th>Model No.</th>
<th>Description</th>
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<td>RCO-6000-CFL-P</td>
<td>Industrial Computer with 9th Gen Intel® Core™ Processor, Q370 PCH</td>
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Optional Accessories

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<th>Model No.</th>
<th>Description</th>
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<tr>
<td>1-E09A22801</td>
<td>Adapter AC/DC 24V/11.67A 280W with 3pin Terminal Block Plug 5.0mm Pitch</td>
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<td>1-E09A22102</td>
<td>Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug 5.0mm Pitch</td>
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<td>999930</td>
<td>Power Cord, 3-pin US Type, 180cm</td>
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<td>1-TPCD00002</td>
<td>Power Cord, European Type, 180cm</td>
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<td>1-TPCD00001</td>
<td>Power Cord, 3-pin UK Type, 180cm</td>
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<td>PETPUHAILOCFL-KIT</td>
<td>Hailo-8™ AI Accelerator Module, M.2 M-Key Kit</td>
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Packing List

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

Exports And Tariff Codes

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