



FANLESS EMBEDDED SYSTEMS

# RCO-6000-CML

Superior Fanless Embedded System w/ LGA 1200 for Intel 10th Gen CPU & W480E PCH



**Features**

- LGA 1200 socket for 10th Gen. Intel® CML S Processor (65W/35W TDP)
- Intel® W480E chipset
- 2x DDR4 2666/2933MHz SODIMM. Max. up to 64GB
- Triple Independent Display: 2x DisplayPort, 1x DVI-I
- 2x Intel® GbE supporting Wake-on-LAN and PXE
- 2x Full-size Mini PCIe for communication or expansion modules, 2x SIM socket
- 3x 2.5" SATA HDD Bay (1x Internal) and with RAID 0, 1, 5 support
- 1x M.2 (E Key, PCIe x1, USB 2.0, 2230)
- 8x RS-232/422/485 (6x internal), 6x USB 3.2 Gen 2, 3x USB 3.2 Gen 1 (1x internal)
- 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/65W CPU)
- TPM 2.0 Supported
- UL Listed



**Specifications**

**System**

<b>Processor</b>	
Support 10th Gen Intel® CML S Processor (LGA 1200, 65W/35W TDP)	
- Intel® Xeon® W-1290TE, 10 Cores, 20MB Cache, up to 4.5 GHz	
- Intel® Xeon® W-1270TE, 8 Cores, 16MB Cache, up to 4.4 GHz	
- Intel® Xeon® W-1250TE, 6 Cores, 12MB Cache, up to 3.8 GHz	
- Intel® Core™ i9-10900E, 10 Cores, 20MB Cache, up to 4.7 GHz	
- Intel® Core™ i9-10900TE, 10 Cores, 20MB Cache, up to 4.5 GHz	
- Intel® Core™ i7-10700E, 8 Core, 16MB Cache, up to 4.5 GHz	
- Intel® Core™ i7-10700TE, 8 Cores, 16MB cache, up to 4.4 GHz	
- Intel® Core™ i5-10500T, 6 Cores, 12MB Cache, up to 4.2 GHz	
- Intel® Core™ i5-10500TE, 6 Core, 12MB Cache, 3.7 GHz	
- Intel® Core™ i3-10100T, 4 Cores, 6MB cache, up to 3.8 GHz	
- Intel® Core™ i3-10100TE, 4 Cores, 9MB Cache, up to 3.6 GHz	
<b>System Chipset</b>	Intel® W480E Chipset
<b>LAN Chipset</b>	GbE1: Intel I219 (Support Wake-on-LAN and PXE) GbE2: Intel I210 (Support Wake-on-LAN and PXE)
<b>Audio Codec</b>	Realtek ALC888S
<b>System Memory</b>	2x 260-Pin DDR4 2666 /2933MHz SODIMM. Max. up to 64GB (ECC and Non-ECC)
<b>Graphics</b>	Intel® UHD Graphics 630
<b>BIOS</b>	AMI 256Mbit SPI BIOS
<b>Watchdog</b>	Software Programmable Supports 1~255 sec. System Reset
<b>TPM</b>	TPM 2.0

**Display**

<b>Display Port</b>	2x DisplayPort, support resolution 4096 x 2304, DP++
<b>DVI</b>	1x DVI-I, support resolution 1920 x 1200
<b>Multiple Display</b>	Triple Display
<b>VGA</b>	Yes (by optional split cable)

**Storage**

<b>SIM Socket</b>	2x External SIM socket (Mini PCIe attached)
<b>SSD/HDD</b>	1x Internal 2.5" SATA/SSD HDD Bay (support H=9mm) 2x Removable 2.5" SATA HDD Bay (support H=7mm, Hot-swappable) Support RAID 0, 1, 5

**Expansion**

<b>M.2</b>	1x M.2 (E Key, PCIe x1, USB 2.0, 2230)
<b>Mini PCIe</b>	2x Full-size Mini PCIe

**Expansion Modules**  
Occupied One Universal I/O Slot:

- 4-port GbE module with Intel® I350 Chipset, RJ-45 or M12 connector (PoE optional)
- 2-Port RJ45 10GbE with Intel X710 Chipset
- 4-Port USB with Renesas uPD720201K8 host controller (share PCIe Gen2 x1 bandwidth)
- 1x M.2 for 5G (B Key, PCIe x1, USB 3.0, 3042/3052), Including 2x SIM socket, 1x SIM switch (1x Universal Slot Only)

**I/O**

<b>Audio</b>	1x Mic-in, 1x Line-out
<b>CAN</b>	2x CAN 2.0 A/B 2-pin Internal header
<b>COM</b>	2x RS-232/422/485 ; 6x RS-232/422/485 (internal)
<b>DIO</b>	8 in / 8 out (Isolated)
<b>LAN</b>	2x RJ45
<b>Universal I/O Bracket</b>	2x Universal I/O Bracket (By mini PCIe interface)
<b>USB</b>	6x USB 3.2 Gen 2 (10 Gbps) 3x USB 3.2 Gen 1 (5 Gbps, 1x Internal) 2x USB 2.0 header (internal)

<b>Others</b>	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 4x 4-Pin Power Connector, 1x 4-PIN FAN Connector
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**Operating System**

<b>Windows</b>	Windows 10
<b>Linux</b>	Linux kernel

**Power**

<b>Power Adapter</b>	Optional AC/DC 24V/5A, 120W Optional AC/DC 24V/9.2A, 220W
<b>Power Mode</b>	AT, ATX
<b>Power Ignition Sensing</b>	Power Ignition Management
<b>Power Supply Voltage</b>	9~48VDC
<b>Power Connector</b>	5-pin Terminal Block
<b>Power Protection</b>	OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection

**Environment**

<b>Operating Temperature</b>	-25°C to 70°C (35W/65W CPU)
<b>Storage Temperature</b>	-30°C to 85°C
<b>Relative Humidity</b>	10% to 95% (non-condensing)
<b>Certification</b>	UL, CE, FCC Class A
<b>Vibration</b>	With SSD: 5 Grms, 5 - 500 Hz, 0.5 hr/axis With HDD: 1 Grms, 5 - 500 Hz, 0.5 hr/axis
<b>Shock</b>	With SSD: 50G, half sine, 11ms

**Physical**

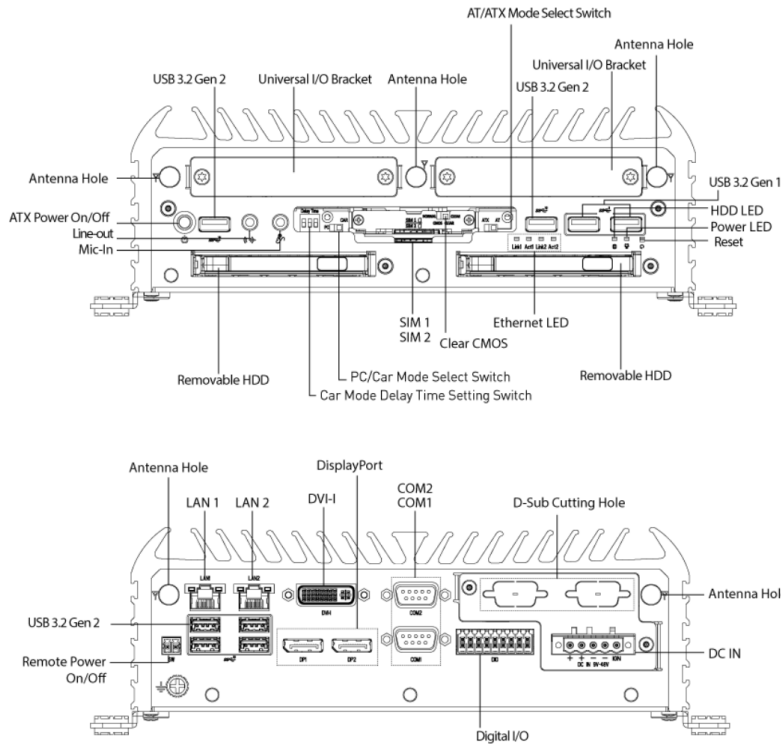
<b>Dimensions</b>	240 (W) x 261 (D) x 79 (H) mm
<b>Weights</b>	3.1-3.5 kg
<b>Construction</b>	Extruded Aluminum with Heavy Duty Metal
<b>Mounting Options</b>	Wall Mounting

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



# RCO-6000-CML

## External I/O Mechanical Layout

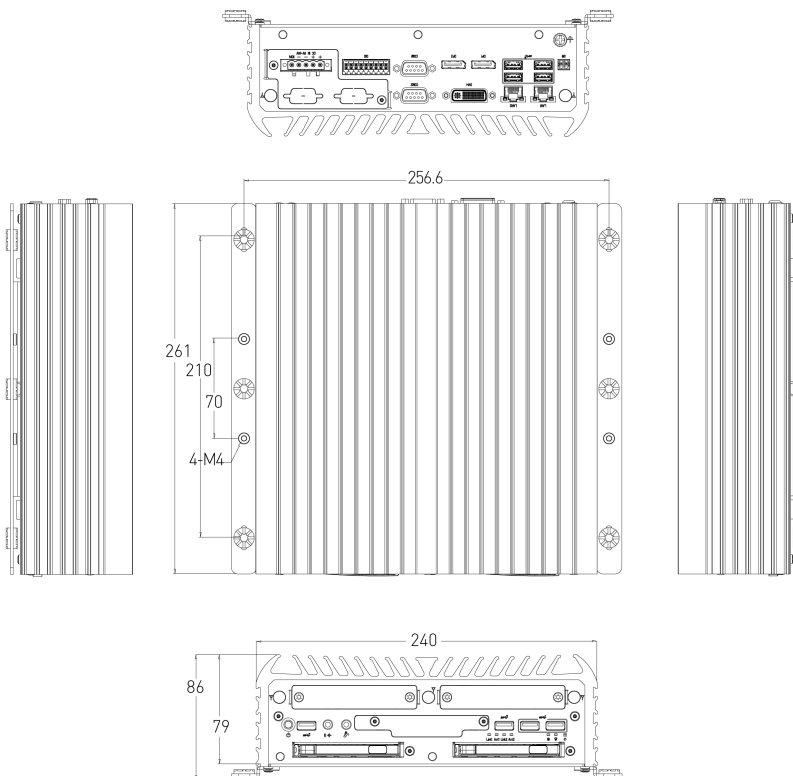


### Available Modules

- 5G Module:** 2x 5G SIM Slots
- D10G Module:** 2x 10Gb Ports
- LAN/POE Module:** 4x RJ45 LAN/POE Ports
- M12 Module:** 4x M12 LAN/POE Ports
- USB Module:** 4x USB 3.0 Ports

## Dimension

Unit: mm





## RCO-6000-CML

### Available Models

Model No.	Description
RCO-6000-CML	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN
RCO-6000-CML-4L	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 6x LAN
RCO-6000-CML-4LM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 4x M12 LAN
RCO-6000-CML-4P	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 4x PoE
RCO-6000-CML-4PM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 4x M12 PoE
RCO-6000-CML-8L	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 10x LAN
RCO-6000-CML-8LM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 8x M12 LAN
RCO-6000-CML-8P	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 8x PoE
RCO-6000-CML-8PM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 8x M12 PoE
RCO-6000-CML-D10G	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x 10G LAN
RCO-6000-CML-4U3	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 12x USB
RCO-6000-CML-8U3	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 16x USB
RCO-6000-CML-5G	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 5G Module

### Optional Accessories

Model No.	Description
1-E09A12002	Adapter AC/DC 24V 5A 120W 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-6000-CML Series Embedded System  
 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](mailto: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](mailto: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](mailto: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