



## FANLESS EMBEDDED SYSTEMS

## RCO-6000-CML-2C

Superior Fanless Embedded System w/ LGA 1200 for Intel 10th Gen CPU & W480E PCH, 1x PCIe x16, 1x PCI

## 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
- 1x PCIe x16 and 1x PCI Expansion
- UL Listed



## Specifications

System	
Processor	
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	
System Chipset	Intel® W480E Chipset
LAN Chipset	GbE1: Intel I219 (Support Wake-on-LAN and PXE) GbE2: Intel I210 (Support Wake-on-LAN and PXE)
Audio Codec	Realtek ALC888S
System Memory	2x 260-Pin DDR4 2666 / 2933MHz SODIMM. Max. up to 64GB (ECC and Non-ECC)
Graphics	Intel® UHD Graphics 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, DP++
DVI	1x DVI-I, support resolution 1920 x 1200
Multiple Display	Triple Display
VGA	Yes (by optional split cable)
Storage	
SIM Socket	2x External SIM socket (Mini PCIE attached)
SSD/HDD	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	
M.2	1x M.2 (E Key, PCIe x1, USB 2.0, 2230)
Mini PCIe	2x Full-size Mini PCIe
PCIe	1x PCIe x16 (Model 2C) 2x PCIe x16 (8-lane) (Model 2E, optional)
PCI	1x PCI (Model 2C) 2x PCI (Model 2I, optional)
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)	
Card Dimension	235 (L) x 112 (H) mm
I/O	
Audio	1x Mic-in, 1x Line-out
CAN	2x CAN 2.0 A/B 2-pin Internal header
COM	2x RS-232/422/485 ; 6x RS-232/422/485 (internal)
DIO	8 in / 8 out (Isolated)

LAN	2x RJ45
Universal I/O Bracket	2x Universal I/O Bracket (By mini PCIe interface)
USB	6x USB 3.2 Gen 2 (10 Gbps) 3x USB 3.2 Gen 1 (5 Gbps, 1x Internal) 2x USB 2.0 header (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 4x 4-Pin Power Connector, 1x 4-PIN FAN Connector

## Operating System

Windows	Windows 10
Linux	Linux kernel

## Power

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

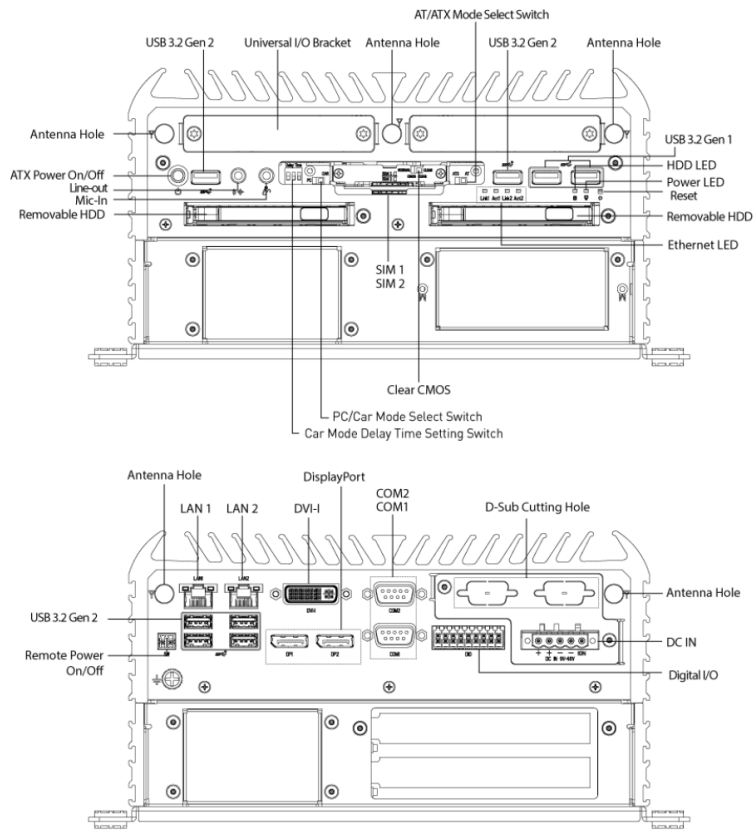
## Environment

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

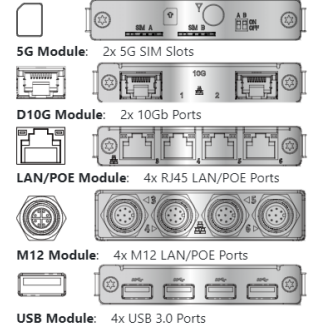
## Physical

Dimensions	240 (W) x 261 (D) x 126.8 (H) mm
Weights	5.6 kg
Construction	Extruded Aluminum with Heavy Duty Metal
Mounting Options	Wall Mounting

## External I/O Mechanical Layout

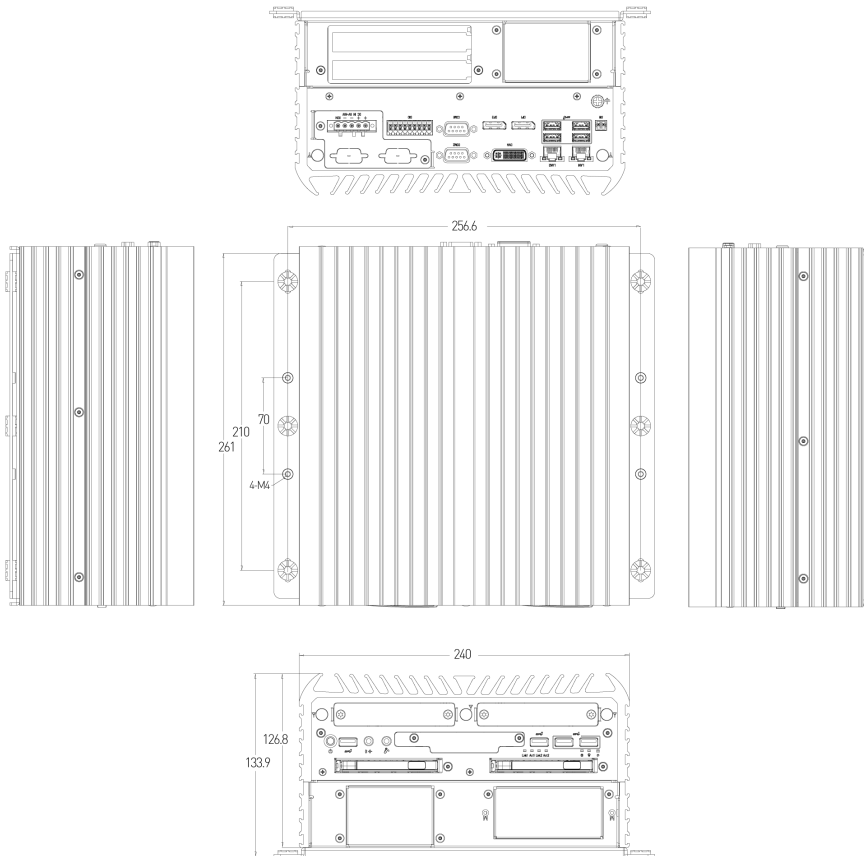


### Available Modules



## Dimension

Unit: mm



## Available Models

Model No.	Description
RCO-6000-CML-2C	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI
RCO-6000-CML-2C-4L	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 6x LAN, 1x PCIe x16, 1x PCI
RCO-6000-CML-2C-4LM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI, 4x M12 LAN
RCO-6000-CML-2C-4P	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI, 4x PoE
RCO-6000-CML-2C-4PM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI, 4x M12 PoE
RCO-6000-CML-2C-8L	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 10x LAN, 1x PCIe x16, 1x PCI
RCO-6000-CML-2C-8LM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI, 8x M12 LAN
RCO-6000-CML-2C-8P	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI, 8x PoE
RCO-6000-CML-2C-8PM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI, 8x M12 PoE
RCO-6000-CML-2C-D10G	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI, 2x 10G LAN
RCO-6000-CML-2C-4U3	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI, 12x USB
RCO-6000-CML-2C-8U3	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI, 16x USB
RCO-6000-CML-2C-5G	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 1x PCIe x16, 1x PCI, 5G Module
RCO-6000-CML-2E	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane)
RCO-6000-CML-2E-4L	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 6x LAN, 2x PCIe x16 (8-lane)
RCO-6000-CML-2E-4LM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane), 4x M12 LAN
RCO-6000-CML-2E-4P	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane), 4x PoE
RCO-6000-CML-2E-4PM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane), 4x M12 PoE
RCO-6000-CML-2E-8L	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 10x LAN, 2x PCIe x16 (8-lane)
RCO-6000-CML-2E-8LM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane), 8x M12 LAN
RCO-6000-CML-2E-8P	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane), 8x PoE
RCO-6000-CML-2E-8PM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane), 8x M12 PoE
RCO-6000-CML-2E-D10G	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane), 2x 10G LAN
RCO-6000-CML-2E-4U3	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane), 12x USB
RCO-6000-CML-2E-8U3	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane), 16x USB
RCO-6000-CML-2E-5G	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCIe x16 (8-lane), 5G Module
RCO-6000-CML-2I	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI
RCO-6000-CML-2I-4L	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 6x LAN, 2x PCI
RCO-6000-CML-2I-4LM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI, 4x M12 LAN
RCO-6000-CML-2I-4P	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI, 4x PoE
RCO-6000-CML-2I-4PM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI, 4x M12 PoE
RCO-6000-CML-2I-8L	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 10x LAN, 2x PCI
RCO-6000-CML-2I-8LM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI, 8x M12 LAN
RCO-6000-CML-2I-8P	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI, 8x PoE
RCO-6000-CML-2I-8PM12	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI, 8x M12 PoE
RCO-6000-CML-2I-D10G	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI, 2x 10G LAN
RCO-6000-CML-2I-4U3	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI, 12x USB
RCO-6000-CML-2I-8U3	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI, 16x USB
RCO-6000-CML-2I-5G	Superior Fanless Embedded System w/ LGA 1200 for Intel® 10th Gen CPU & W480E PCH, 2x LAN, 2x PCI, 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
SFICBL022	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