RUGGED EMBEDDED COMPUTER

RCO-1000-ASL-10

Fanless Mini Computer with Intel® Atom® x7433RE/x7835RE Processors, 1x DP, 1x HDMI, 4x USB, 1x 2.5" SATA HDD Bay

Features

- Support Intel® Atom® x7433RE/x7835RE Processors
- 1x 262-pin DDR5 SO-DIMM. Max. up to 32GB
- 2x 2.5GbE (Wake-on-LAN and PXE)
- 1x 2.5" SATA HDD Bay
- 1x M.2 (B Key, 2242 / 3042 / 3052) for storage
- 2x RS-232/422/485, 3x USB 3.2 Gen2, 1x USB 2.0
- 9 to 36VDC Wide Range Power Input Supporting AT/ATX Mode
- Wide Operating Temperature -40°C to 70°C
- TPM 2.0 Supported
- With 1x Universal Expansion Slots
- UL Listed

Specifications

System	
Processor	- Intel Atom® x7433RE Processor 6M Cache, up to 3.4 GHz 8 core 9W (Default) - Intel Atom® x7835RE Processor 6M Cache, up to 3.60 GHz 8 core 12W
System Chipset	SoC integrated
LAN Chipset	2.5 GbE1: Intel I226 (Support Wake-on-LAN and PXE) 2.5 GbE2: Intel I226 (Support Wake-on-LAN and PXE)
Audio Codec	Realtek ALC888C
System Memory	1x 262-Pin DDR5 4800/5600 MT/s SO-DIMM. Max. up to 32GB Non-ECC
Graphics	Intel® UHD Graphics
BIOS	AMI 256Mbit SPI BIOS
Watchdog	Software Programmable Supports 1~255 sec. System Reset
TPM	TPM 2.0

Display	
Display Port	1x DisplayPort (4096 x 2304@60Hz)
HDMI	1x HDMI 1.4b (Resolution up to 3840x2160 @ 30 Hz)
Multiple Display	Dual Display

Storage	
M.2	1x M.2 B key-1 SATA/PCIE/USB 3.0 (2242/3042/3052) for Storage
SIM Socket	2x External SIM socket
SSD/HDD	1x Internal 2.5" SATA HDD Bay (support H=9.5 mm)

Expansion	
M.2	1x M.2 E key Type: 2230 (Support PCIe x1 + USB 2.0 signal for WiFi and Bluetooth)
Expansion Modules	Optional: • 2-port COM module with Super I/O Chipset • 4-Port USB module with USB hub • 1-Port DP 1.4 and DIO (4 in / 4 out, Isolated) • 1-Port HDMI 2.0 and DIO (4 in / 4 out, Isolated)

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
EDGEBoost I/O Bracket	1x EDGEBoost I/O Bracket (By mini PCIe interface, Proprietary Module)
LAN	2x RJ45 (2.5 GbE)
USB	3x USB 3.2 Gen 2 (10 Gbps) 1x USB 2.0
Others	6x WiFi Antenna Holes 1x Power Switch, 1x AT/ATX Switch, 1x Remote Power On/Off 1x Internal CMOS Battery Cable 1x 4-PIN FAN Connector 1x Ground Screw 1x HDD LED , 1x Reset

Operating System	
Windows	Windows 10/11
Linux	Linux Ubuntu 22.04

Power	
Power Adapter	Optional AC/DC 12V/5A, 60W
Power Mode	AT, ATX
Power Ignition Sensing	Adjustable power ignition management can be achieved through BIOS and optional daughter board.
Power Supply Voltage	9~36VDC
Power Connector	3-pin Terminal Block

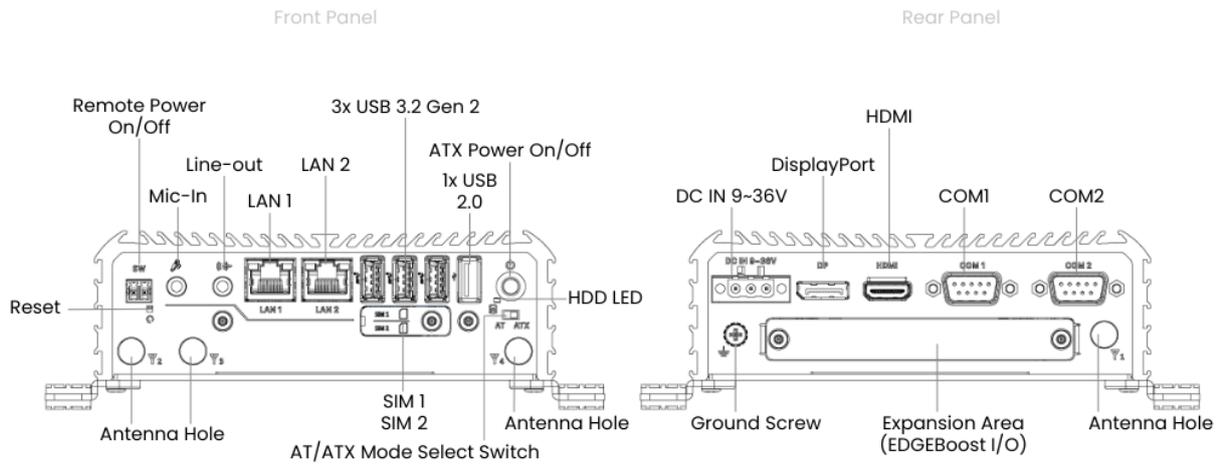| Power Protection	OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection

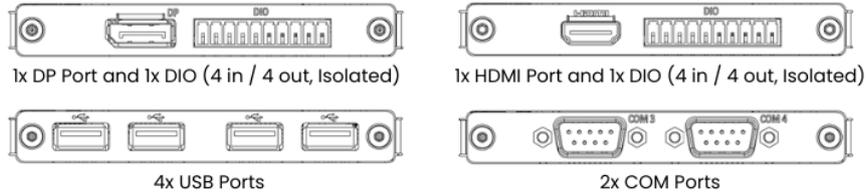| Environment	
Operating Temperature	-40°C to 70°C
Storage Temperature	-40°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Certification	UL, CE, FCC Class A
Vibration	With SSD: 5 Grms, 5 - 500 Hz, 0.5 hr/axis With HDD: 1 Grms, 5 - 500 Hz, 0.5 hr/axis
Shock	With SSD: 50G, half sine, 11ms

Physical	
Dimensions	150 (W) x 105 (D) x 49 (H) mm
Weights	0.9 kg
Construction	Extruded Aluminum with Heavy Duty Metal
Mounting Options	Wall Mounting SIDE / VESA / DIN-Rail Mounting (Optional)

- For Intel® Atom® Processor x7433RE operating temperature limited -40°C to 70°C
- Intel 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.
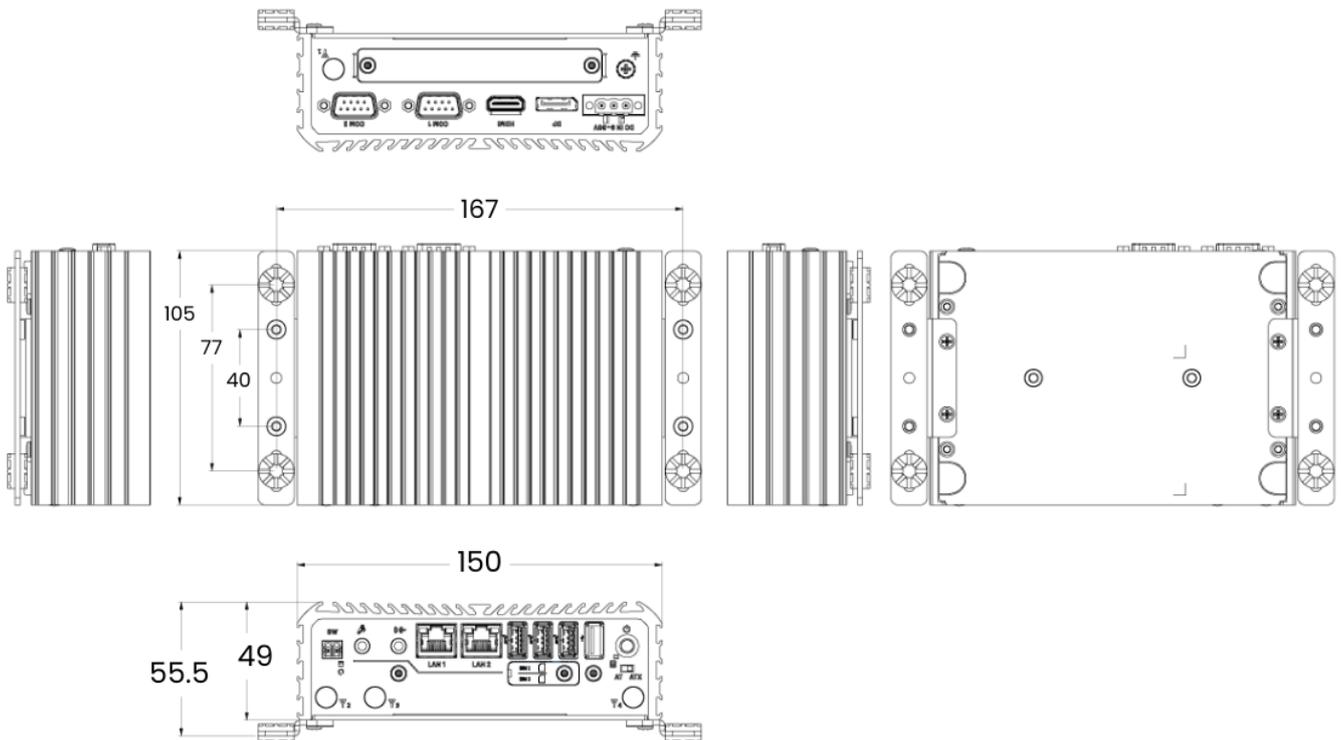
External I/O Mechanical Layout

Front Panel

Rear Panel

Remote Power On/Off

3x USB 3.2 Gen 2

Line-out

LAN 2

ATX Power On/Off

Mic-In

LAN 1

1x USB 2.0

HDMI

DisplayPort

DC IN 9~36V

COM1

COM2

Reset

HDD LED

Antenna Hole

SIM 1
SIM 2

Antenna Hole

AT/ATX Mode Select Switch

Ground Screw

Expansion Area (EDGEBoost I/O)

Antenna Hole

Available EDGEBoost I/O for Rear Panel

1x DP Port and 1x DIO (4 in / 4 out, Isolated)

1x HDMI Port and 1x DIO (4 in / 4 out, Isolated)

4x USB Ports

2x COM Ports

Dimension

Unit: mm

167

105

77

40

150

55.5

49

Available Models

Model No.	Description
RCO-1000-ASL-x7433RE-10	Fanless Mini PC with Intel® Atom® x7433RE Processor, 1x EDGEBoost IO
RCO-1000-ASL-x7835RE-10	Fanless Mini PC with Intel® Atom® x7835RE Processor, 1x EDGEBoost IO

Optional Accessories

Model No.	Description
1-TPCD00002	Power Cord, European Type, 180cm
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm
1-TPCD00005	Power Cord, 3-pin US Type, 180cm
3-RC1AS0401S10	RCO-1000-ASL-10 Series Side Mount Kit
3-VESA-0003	RCO-1000 Series VESA Mount Kit
3-RC1AS1101S10	Din Rail-2 Mounting Kit
3-RC1200IGKIT	MOD, PWR IGNITION, KIT, 1000-ASL
3-RC12002SKIT	MOD, EBIO, 2XCOM, 3, 4, 1000-ASL
3-RC12002S1IT	MOD, EBIO, 2XCOM, 5, 6, 1000-ASL
3-RC12004UKIT	MOD, EBIO, 4XUSB2.0, 1000-ASL
3-RC1200DDKIT	MOD, EBIO, DP, DIO, 4IN, 4OUT, 1000-ASL
3-RC1200HOKIT	MOD, EBIO, HDMI, DIO, 4IN, 4OUT, 1000-ASL

Packing List

1x RCO-1000-ASL-10 Series Embedded System
1x Wall Mount Kit
1x Accessory Kit

Exports And Tariff Codes

ECCN	5A992.c
HTS	8471.50.0150
ScheduleB	84.71

Compliances and Standards

Shock	With SSD: 50G, half sine, 11msIEC60068-2-27:2008 Designed to comply with MIL-STD-810H Method 516.8 Procedure I
Vibration	With SSD: 5 Grms, 5 - 500 Hz, 0.5 hr/axis With HDD: 1 Grms, 5 - 500 Hz, 0.5 hr/axis IEC60068-2-64:2008 Designed to comply with MIL-STD-810H Method 514.8 Procedure I
Operating Temperature	-40°C to 70°C 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)
EMC	• FCC Class A • CE • ICES-003 • UKCA • Industrial EMC Compliance - EN 61000-4-2: 2009 - EN IEC 61000-4-3: 2020 - EN 61000-4-4: 2012 - EN 61000-4-5: 2014 +A1: 2017 - EN 61000-4-6: 2014
Safety	• UL Safety: UL62368-1, 3rd Ed., (cULus) • Test procedure: CB Scheme • Standard: IEC 62368-1:2018