



## MACHINE VISION COMPUTER

## VCO-6000-RPL-4E

Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU &amp; R680E PCH, 3 PCIe

## Features

- LGA 1700 socket for 12/13/14th Gen. Intel® ADL & RPL Processor (65W/35W TDP)
- Intel® R680E chipset
- 2x DDR5 4800/5600MHz SODIMM. Max. up to 64GB
- Triple Independent Display: 2x DisplayPort, 1x DVI-I
- 2x Intel® 2.5GbE supporting Wake-on-LAN and PXE
- 1x Full-size Mini PCIe (1x shared by 1x mSATA), 2x SIM socket
- 2x 2.5" SATA HDD Bay (1x Internal) and with RAID 0, 1 support
- 1x M.2 (E Key, PCIe x1, USB 2.0, 2230)
- 1x M.2 (B Key, 2242/3042/3052, PCIe x2, Support AI Module/NVMe Storage, PCIe x1 & USB 3.2 Gen1, Support 4G/5G)
- 6x RS-232/422/485 (4x internal), 4x USB 3.2 Gen 2, 5x USB 3.2 Gen 1 (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 CPU); -25°C to 60°C (65W CPU)
- TPM 2.0 Supported



## Specifications

## System

Processor  
Support 12/13/14th(Non-vPRO) Gen Intel® ADL & RPL Processor (LGA 1700, 65W/35W TDP)

- Intel® Core™ i9-14900/i9-13900E/i9-12900E, 65W
- Intel® Core™ i9-14900T/i9-13900TE/i9-12900TE, 35W
- Intel® Core™ i7-14700/i7-13700E/i7-12700E, 65W
- Intel® Core™ i7-14700T/i7-13700TE/i7-12700TE, 35W
- Intel® Core™ i5-14500/i5-13500E/i5-12500E, 65W
- Intel® Core™ i5-14500T/i5-13500TE/i5-12500TE, 35W
- Intel® Core™ i3-13100E/i3-12100E, 60W
- Intel® Core™ i3-14100T/i3-13100TE/i3-12100TE, 35W
- Intel® Core™ 300T, 35W
- Intel® Pentium® G7400E, 46W / G7400TE, 35W
- Intel® Celeron® G6900E, 46W / G6900TE, 35W

System Chipset	Intel® R680E Express Chipset
LAN Chipset	2.5 GbE1: Intel I226; 2.5 GbE2: Intel I226, Support Wake-on-LAN and PXE, Support TSN
Audio Codec	Realtek ALC888S
System Memory	2x 262-Pin DDR5 4800/5600MHz SODIMM. Max. up to 64GB (ECC and Non-ECC)
Graphics	Intel® UHD Graphics 770/710
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 5120 x 3200, Up to 7680 x 4320
DVI	1x DVI-I, support resolution 1920 x 1200
Multiple Display	Triple Display
VGA	Yes (by optional split cable)

## Storage

M.2	1x M.2 B Key, 2242/3042/3052 (PCIe x2, Support AI Module/NVMe Storage) (PCIe x1 & USB 3.2 Gen1, Support 4G/5G)
mSATA	1x mSATA (Shared by 1x Mini PCI Express)
SIM Socket	2x Internal SIM socket (Mini PCIe/M.2 B Key attached)
SSD/HDD	1x Internal 2.5" SATA/SSD HDD Bay (support H=9mm) 1x Removable 2.5" SATA HDD Bay (support H=7mm, Hot-swappable), Support RAID 0, 1 optional: • 4B7M: 4x Removable 2.5" SATA HDD Bay (support H=7mm, Hot-swappable, Optional) Support RAID 0, 1, 5, 10 • 2B15M: 2x Removable 2.5" SATA HDD Bay (support H=15mm, Hot-swappable, Optional) Support RAID 0, 1, 5, 10 • 2N15M: 2x Removable 2.5" U.2 NVMe Bay (support H=15mm, Hot-swappable, Optional) Support RAID 0, 1

## Expansion

Mini PCIe	1x Full-size Mini PCIe (1x shared by 1x mSATA)
PCIe	2x PCIe x16 Slot (x8 Lane, Gen 4); 1x PCIe x4 (x1 Lane, Gen 3)
Card Dimension	310 (L) x 112 (H) mm
GPU Card Dimension	Please ensure the card dimensions do not exceed the following specifications to avoid potential installation issues. 312 (L) x 111 (W) mm (Height: Single GPU 20 mm, Dual GPU less than 40 mm)

## I/O

COM	2x RS-232/422/485 ; 4x 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	4x USB 3.2 Gen 2 (10 Gbps) 5x USB 3.2 Gen 1 (5 Gbps, Internal) 1x USB 3.2 Gen 1 header (5 Gbps, internal)
Others	4x 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 (internal) 1x 6CM FAN Module (Optional)

## Operating System

Windows	Windows 10/11
Linux	Linux kernel

## Power

Power Adapter	Optional AC/DC 24V/9.2A, 220W Optional AC/DC 24V/11.67A, 280W (for more advanced CPU or as second power supply for GPU/Card Expansion) Optional AC/DC 24V/15A, 360W (for more advanced i7/i9 CPU)
Power Mode	AT, ATX
Power Ignition Sensing	Power Ignition Management
Power Supply Voltage	9~48VDC • VCO-6000-RPL-4E-2PWR (optional) : 12~48VDC (Optional, For GPU/Card Expansion)
Power Connector	5-pin Terminal Block 4-pin Terminal Block (optional second power supply)
Power Protection	OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection

## Environment

Operating Temperature	-25°C to 70°C (35W CPU) -25°C to 60°C (65W CPU)
Storage Temperature	-30°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Certification	UL 62368 Ed. 3, CE, FCC Class A
Vibration	IEC60068-2-64:2008 With HDD: 1 Grms (5 - 500 Hz, 0.5 hr/axis) With SSD: 3 Grms (5 - 500 Hz, 0.5 hr/axis) Designed to comply with MIL-STD-810G Method 514.7 Procedure I
Shock	IEC60068-2-27:2008 With SSD: 20G half-sin 11ms Designed to comply with MIL-STD-810G Method 516.7 Procedure I

## Physical

Dimensions	177 (W) x 340 (D) x 240 (H) mm
Weights	9.7 KG
Construction	Extruded Aluminum with Heavy Duty Metal
Mounting Options	Wall Mounting

\* For 12/13/14th Gen Intel 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 24 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.

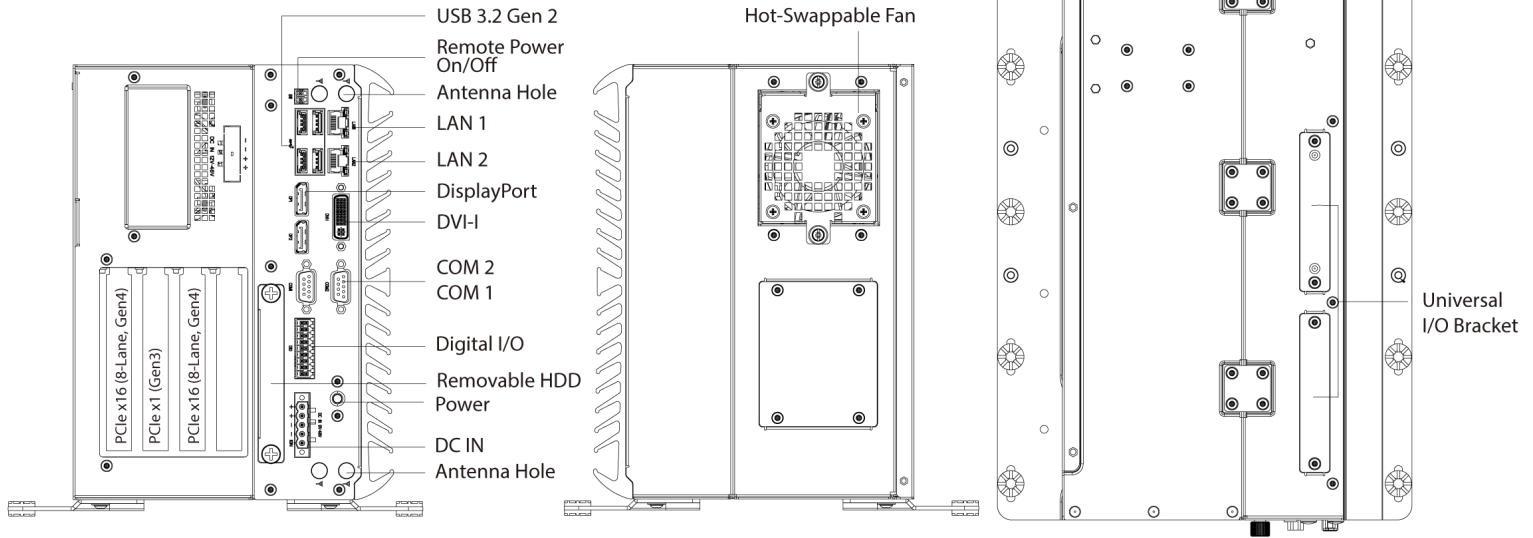
\* All specifications and photos are subject to change without notice.

## External I/O Mechanical Layout

Front Panel

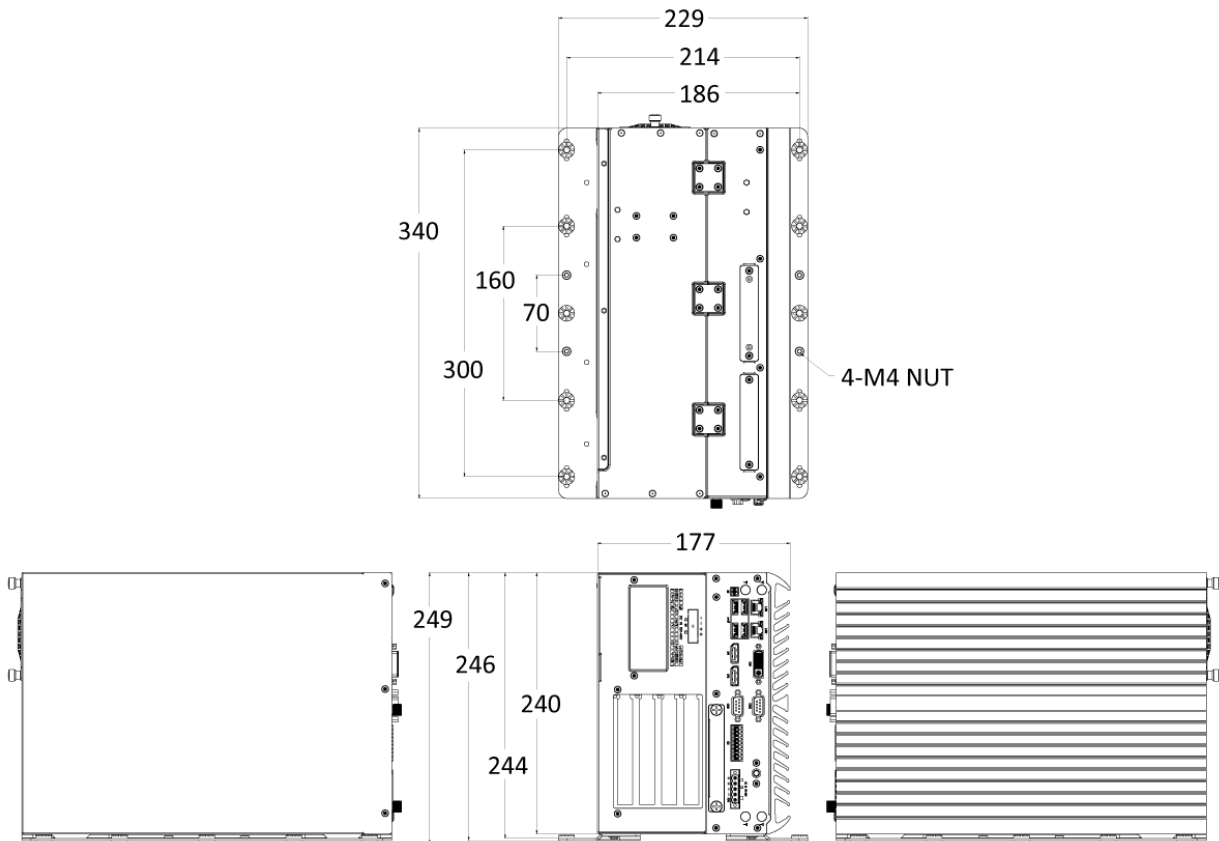
Rear Panel

Top Panel

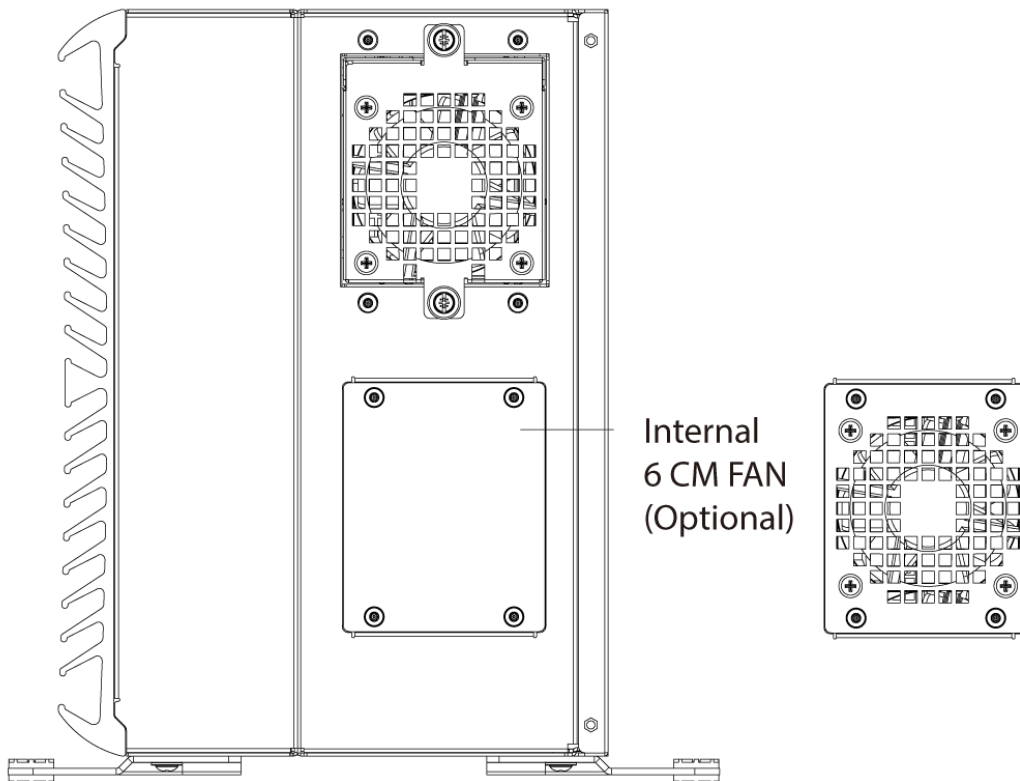
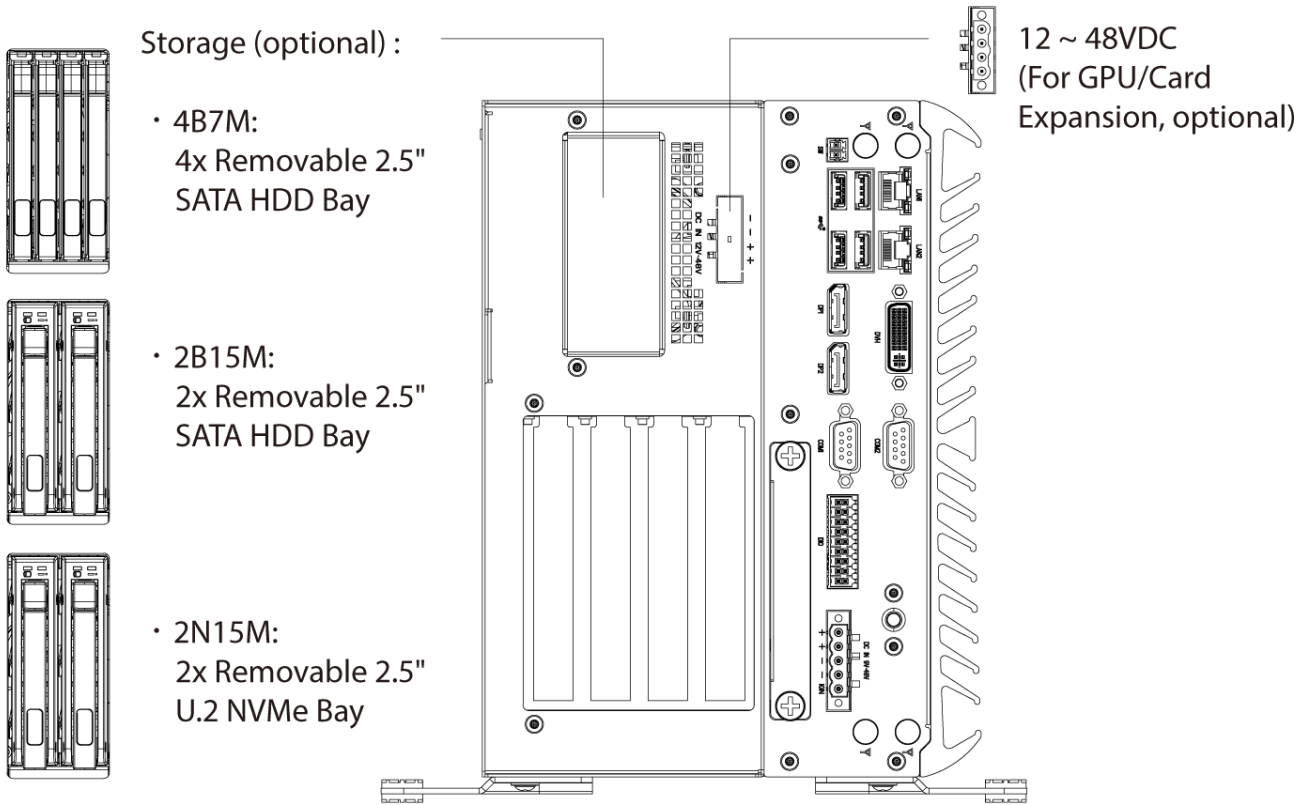


## Dimension

Unit: mm



## Expansion



## Available Models

Model No.	Description
VCO-6000-RPL-4E	Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU & R680E PCH, 3x PCIe
VCO-6000-RPL-4E-4B7M	Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU & R680E PCH, 3x PCIe, 6x HDD
VCO-6000-RPL-4E-2B15M	Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU & R680E PCH, 3x PCIe, 4x HDD
VCO-6000-RPL-4E-2N15M	Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU & R680E PCH, 3x PCIe, 2x 15mm NVMe
VCO-6000-RPL-4E-2PWR	Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU & R680E PCH, 3x PCIe, 2x Power input
VCO-6000-RPL-4E-4B7M-2PWR	Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU & R680E PCH, 3x PCIe, 6x HDD, 2x Power input
VCO-6000-RPL-4E-2B15M-2PWR	Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU & R680E PCH, 3x PCIe, 4x HDD, 2x Power input
VCO-6000-RPL-4E-2N15M-2PWR	Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU & R680E PCH, 3x PCIe, 2x 15mm NVMe, 2x Power input

## Optional Accessories

Model No.	Description
1-E09A22102	Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug 5.0mm Pitch
1-E09A22801	Adapter AC/DC 24V/11.67A 280W with 3pin Terminal Block Plug 5.0mm Pitch
1-E09A36001	Adapter AC/DC 24V/15A 360W 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
3-RC6300EXFAN	External Double FAN KIT

## Packing List

1x VCO-6000-RPL-4E Series Embedded System  
1x Wall Mount Kit  
1x Accessory Kit  
1x DVI to VGA Adapter