

MACHINE VISION COMPUTER

VCO-6000-RPL-3-2PWR

Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU & R680E PCH, 3x PCIe, 3x Expansion Slots, 2x Power Input



Features

- LGA 1700 socket for 12th/13th Gen. Intel® ADL & RPL Processor (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
- 2x 2.5" SATA HDD Bay (1x Internal) and with RAID 0, 1 support
- 1x Full-size Mini PCIe (1x shared by 1x mSATA), 2x SIM socket
- 1x M.2 (E Key, 2230), 1x M.2 (B Key, 2242/3042/3052)
- 1x PCIe x16 (16-lane, Gen4); 2x PCIe x4 (1-lane, Gen 2)
- 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
- 48VDC 600W Power Board for GPU Expansion
- Wide Operating Temperature -25°C to 70°C (35W CPU)
- TPM 2.0 Supported

Specifications

System	
Processor	Support 12th/13th Gen Intel® ADL & RPL Processor (LGA 1700, 35W TDP) - Intel® Core™ i9-13900TE/i9-12900TE, up to 24 Cores, 36MB Cache, up to 5 GHz, 35W - Intel® Core™ i7-13700TE/i7-12700TE, up to 16 Cores, 30MB cache, up to 4.8 GHz, 35W - Intel® Core™ i5-13500TE/i5-12500TE, up to 14 Core, 24MB Cache, up to 4.5 GHz, 35W - Intel® Core™ i3-13100TE/i3-12100TE, up to 4 Cores, 12MB Cache, up to 4.1 GHz, 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 1.4a, 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 Configuration Options: • 4x Removable 2.5" SATA HDD Bay (support H=7mm, Hot-swappable, Optional) Support RAID 0, 1, 5, 10 • 2x Removable 2.5" SATA HDD Bay (support H=15mm, Hot-swappable, Optional) Support RAID 0, 1, 5, 10 • 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	1x PCIe x16 (Gen 4) 2x PCIe x4 (1-lane, Gen 2)
Card Dimension	310 (L) x 112 (H) 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) 1x USB 3.2 Gen 1 (5 Gbps, Internal) 1x USB 3.2 Gen 1 header (5 Gbps, internal)

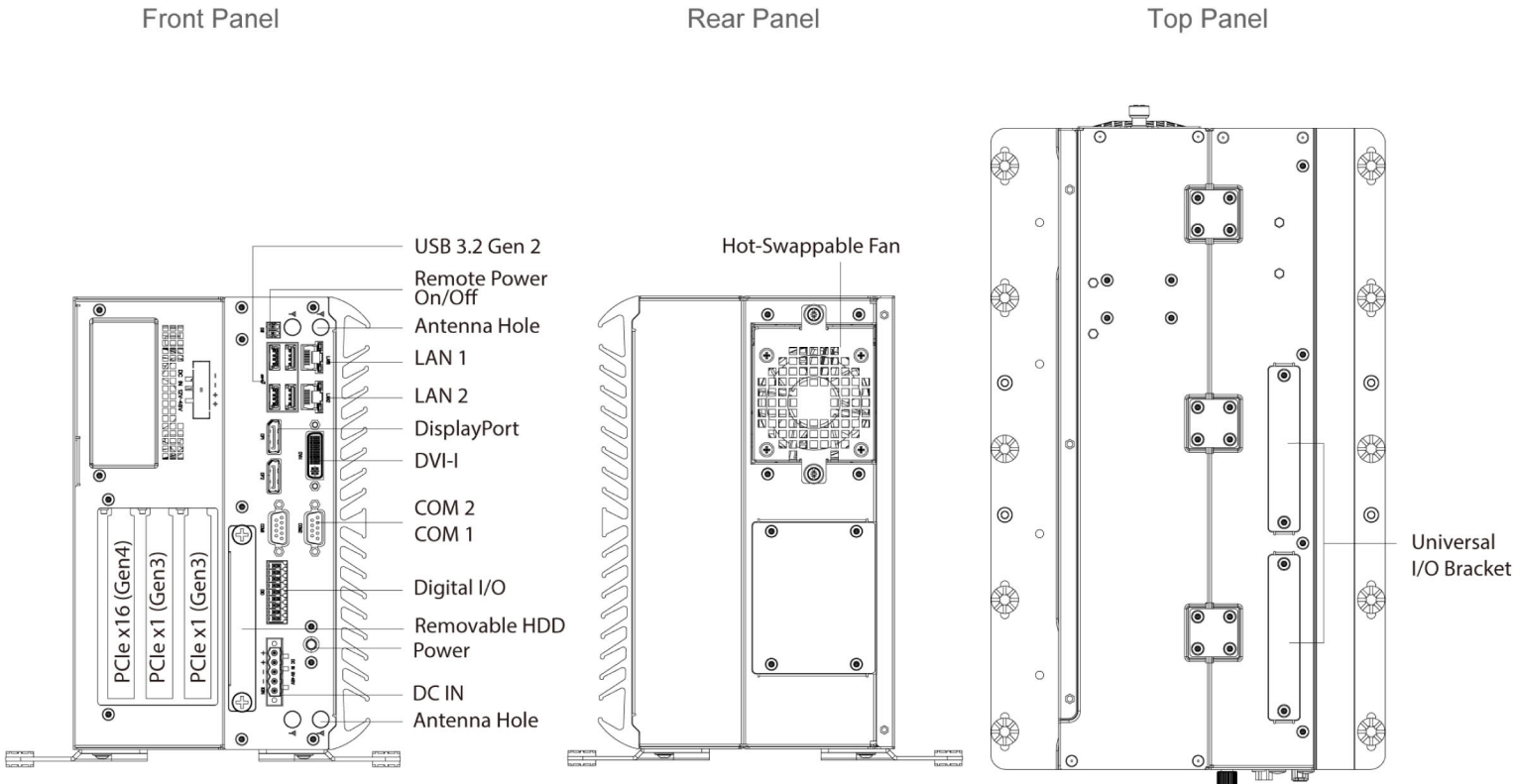
Others	4x WiFi Antenna Holes 1x Power Switch, 1x AT/ATX Switch, 1x Remote Power On/Off 1x PC/Car Mode Switch, 1x Delay Time Switch 1x Removable CMOS Battery (internal) 1x 6CM FAN Module (Optional)
Operating System	
Windows	Windows 10/11
Linux	Linux kernel
Power	
Power Adapter	Optional AC/DC 24V/9.2A, 220W Optional AC/DC 24V/11.67A, 280W (for more advanced CPU) Optional AC/DC 24V/15A, 360W (for more advanced i7/i9 CPU) Optional AC/DC 48V/12.5A, 600W (for GPU Expansion)
Power Mode	AT, ATX
Power Ignition Sensing	Power Ignition Management
Power Supply Voltage	• 9~48VDC • 48VDC (For GPU Expansion)
Power Connector	5-pin Terminal Block 4-pin Terminal Block (second power supply for GPU)
Power Protection	OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection
Environment	
Operating Temperature	-25°C to 70°C (35W 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	With HDD: 1 Grms (5 - 500 Hz, 0.5 hr/axis) With SSD: 3 Grms (5 - 500 Hz, 0.5 hr/axis)
Shock	With SSD: 20G half-sin 11ms
Physical	
Dimensions	157 (W) x 340 (D) x 240 (H) mm
Weights	9.2 KG
Construction	Extruded Aluminum with Heavy Duty Metal
Mounting Options	Wall Mounting

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

VCO-6000-RPL-3-2PWR

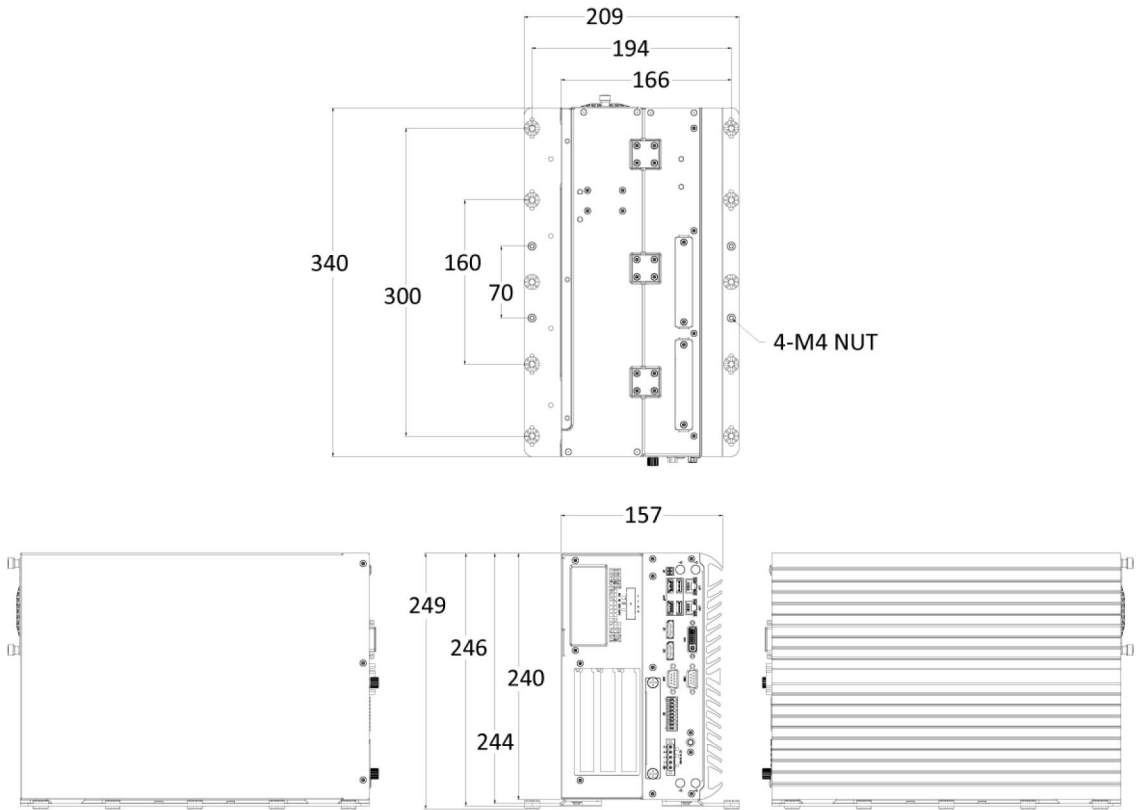
Machine Vision Computer w/ LGA 1700 for Intel 12/13/14th Gen CPU & R680E PCH, 3x PCIe, 3x Expansion Slots, 2x Power Input

External I/O Mechanical Layout



Dimension

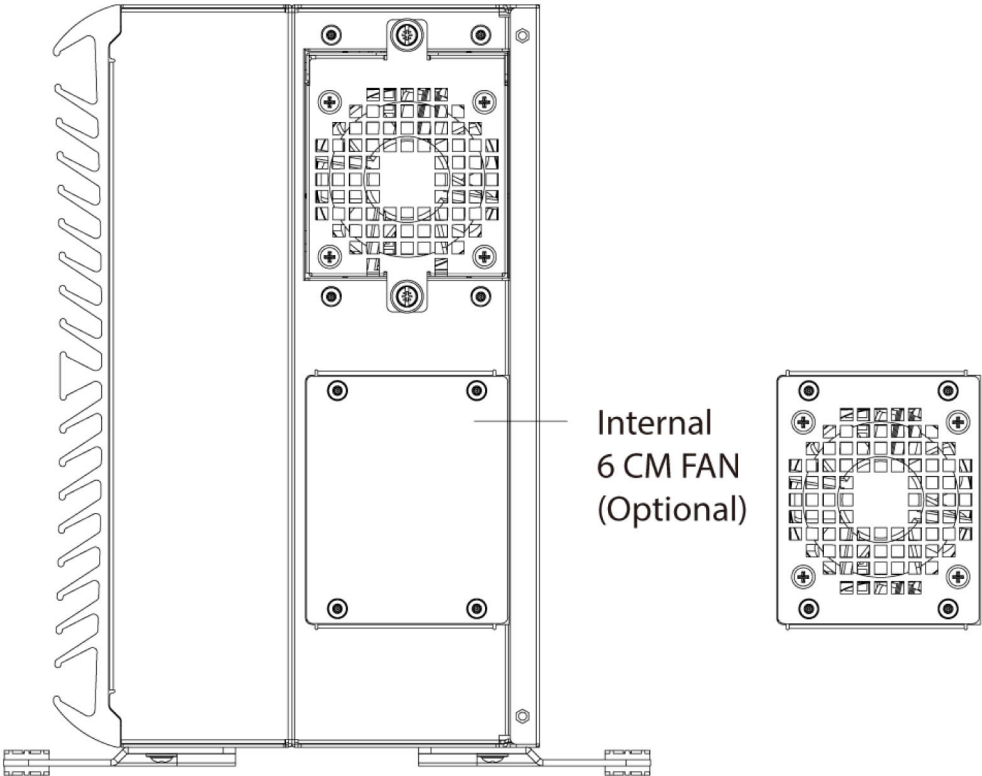
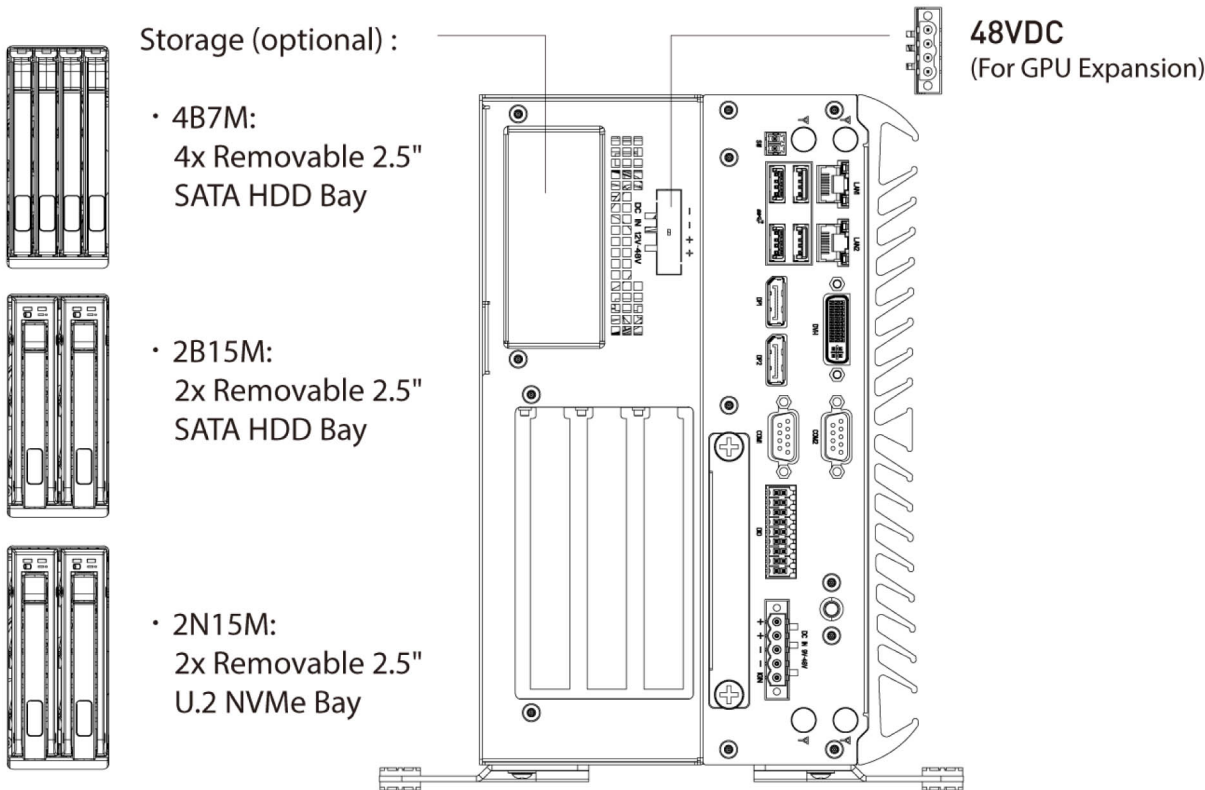
Unit: mm



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Expansion



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Available Models

Model No.	Description
VCO-6000-RPL-3-2PWR-P	Machine Vision Computer w/ Intel® 12th/13th Gen CPU & R680E PCH, 2x LAN, 3x PCIe, 3x Expansion Slots, 600W GPU Power Board
VCO-6000-RPL-3-2PWR-2B-P	Machine Vision Computer w/ Intel® 12th/13th Gen CPU & R680E PCH, 2x LAN, 3x PCIe, 3x Expansion Slots, 2 Bay 15mm SATA, 600W GPU Power Board
VCO-6000-RPL-3-2PWR-2N-P	Machine Vision Computer w/ Intel® 12th/13th Gen CPU & R680E PCH, 2x LAN, 3x PCIe, 3x Expansion Slots, 2 Bay 15mm NVMe, 600W GPU Power Board
VCO-6000-RPL-3-2PWR-4B-P	Machine Vision Computer w/ Intel® 12th/13th Gen CPU & R680E PCH, 2x LAN, 3x PCIe, 3x Expansion Slots, 4 Bay 7mm SATA, 600W GPU Power Board

Optional Accessories

Model No.	Description
1-E09A22001	Adapter AC/DC 24V 9.2A 220W with 5pin Terminal Block Plug 5.0mm Pitch
1-E09A28001	Adapter AC/DC 24V/11.67A 280W with 5pin Terminal Block Plug 5.0mm Pitch
1-E09A36003	Adapter AC/DC 24V/15A 360W with 5pin Terminal Block Plug 5.0mm Pitch
1-E09A60001	Adapter AC/DC 48V/12.5A 600W with 4pin Terminal Block 5.0mm Pitch
999930	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 VCO-6000-RPL Series Embedded System
1x Wall Mount Kit
1x Accessory Kit
1x DVI to VGA Adapter

Compatible GPU AVL

Model	RAM	CUDA Cores	TDP	TOPS/TFLOPS	Displays	System Interface	Form Factor
NVIDIA T1000	8G	896	50W	5.3 TFLOPS	4x mDP	PCIe 3.0 x16	2.7" H x 6.1" L, Low-Profile Single Slot
NVIDIA RTX A1000	8G	2304	50W	6.74 TFLOPS	4x mDP	PCIe 4.0 x8	2.7" H x 6.4" L, Single slot
NVIDIA RTX A2000	12G	3328	70W	7.99 TFLOPS	4x mDP	PCIe 4.0 x16	2.7" H x 6.6" L, Low Profile, Dual Slot
NVIDIA RTX 2000 ADA	16G	2816	70W	12 TFLOPS	4x mDP	PCIe 4.0 x8	2.7" H x 6.6" L, Dual slot
NVIDIA RTX A4000	16G	6144	140W	19.2 TFLOPS	4x DP 1.4a	PCIe 4.0 x16	4.4" H x 9.5" L, Single Slot
NVIDIA RTX 4000 SFF ADA	20G	6144	70W	19.2 TFLOPS	4x mDP	PCIe 4.0 x16	2.7" H x 6.6" L, Low Profile, Dual Slot
NVIDIA RTX 4000 ADA	20G	6144	130W	26.7 TFLOPS	4x DP 1.4a	PCIe 4.0 x16	4.4" H x 9.5" L, Single Slot
NVIDIA RTX 4500 ADA	24G	7680	210W	39.9 TFLOPS	4x DP 1.4a	PCIe 4.0 x16	4.4" H x 10.5" L, Dual Slot
NVIDIA RTX 5000 ADA	32G	12800	250W	65.3 TFLOPS	4x DP 1.4a	PCIe 4.0 x16	4.4" H x 10.5" L, Dual Slot

Exports And Tariff Codes

ECCN	5A992.c
HTS	8471.50.0150
ScheduleB	84.71

Compliances and Standards

Vibration	With HDD: 1 Grms (5 - 500 Hz, 0.5 hr/axis) With SSD: 3 Grms (5 - 500 Hz, 0.5 hr/axis) IEC60068-2-64:2008 Designed to comply with MIL-STD-810G Method 514.7 Procedure I
Shock	With SSD: 20G half-sin 11ms IEC60068-2-27:2008 Designed to comply with MIL-STD-810G Method 516.7 Procedure I
Operating Temperature	-25°C to 70°C (35W CPU) 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