

VCM-12/14-5LAN - Machine Vision & Edge AI Industrial Controller

Intel® 12th/13th/14th Gen Core™ i9/i7/i5/i3 (LGA1700), Q670/H610, 5x LAN (incl. 2.5GbE), PCIe x16 Expansion, Opto-Isolated I/O



- Supports Intel® 12th/13th/14th Gen Core™ i9/i7/i5/i3 & Pentium/Celeron LGA1700 processors (Alder Lake / Raptor Lake)
- Intel® Q670 / H610 industrial chipset with 2x DDR4 2666/2933/3200MHz SO-DIMM sockets up to 64GB
- 5x High-speed LAN ports: 1x 2.5GbE (Intel® I226V) + 4x GbE (Intel® I219LM + I210AT) - Ideal for GigE Vision cameras
- Triple independent display outputs: 1x HDMI, 1x DVI-D, and 1x VGA
- Storage: 1x M.2 2280 M-Key (PCIe Gen4 x4 NVMe), 1x mSATA, optional 2.5"/3.5" SATA drive bay (RAID 0/1)
- High-Speed I/O: 3x USB 3.2 Gen2 (10Gbps), 3x USB 3.0, onboard USB 2.0 dongle lock port, 2x COM (isolated RS232/422/485)
- Flexible expansion: 1x PCIe x16 slot for GPU/Frame Grabber, 1x Mini-PCIe, 1x M.2 3042/3052 B-Key for 5G/4G module
- Sealed fanless thermal chassis with optional temperature-controlled auxiliary cooling fan module
- Wide-range locking DC power input: Selectable 12V / 19V / 24V / 36V / 48V / 55V DC terminal block

System Specifications

Category	Parameter	Technical Specification
System	Processor	Intel® 12th/13th/14th Gen LGA1700 Core™ i9/i7/i5/i3, Pentium, Celeron (35W–65W TDP)
System	Chipset & BIOS	Intel® Q670 / H610 Chipset; 64Mb SPI Flash BIOS with Watchdog Timer (1-255s)
System	Memory	2x 260-pin DDR4 2666/2933/3200 MHz SO-DIMM, up to 64 GB
System	OS Support	Windows 10/11 (64-bit), Linux (Ubuntu, Debian), Domestic OS (UOS, Kylin)
Display	Interface	1x HDMI, 1x DVI-D, 1x VGA; Supports 3 independent display outputs
Ethernet	LAN Ports (5 LAN)	1x 2.5GbE Intel® I226V + 1x Intel® I219LM + 1x Intel® I210AT + 2x GigE (5 independent ports)
I/O Interface	USB	3x USB 3.2 Gen2 (10Gbps), 3x USB 3.0, 1x Onboard internal USB 2.0 Type-A dongle socket
I/O Interface	Serial / COM	2x COM (RS232/422/485 with opto-isolation or chip-level isolation; expandable)
I/O Interface	Vision / GPIO	16-ch / 32-ch Opto-isolated GPIO (up to 80V isolation, NPN/PNP); Light source trigger ready
Storage	NVMe & SATA	1x M.2 2280 M-Key (PCIe Gen4 x4 NVMe), 1x mSATA, optional 2.5"/3.5" Drive Bay (RAID 0/1)
Expansion	Slots	1x PCIe x16 (or x4/PCI), 1x Full-size Mini-PCIe (WiFi/MVB), 1x M.2 B-Key 3042/3052 (5G)
Power	Input Voltage	Locking terminal block: 12V / 19V / 24V / 36V / 48V / 55V wide DC input
Thermal	Cooling Design	Sealed Fanless Aluminum Heatsink + Optional temp-controlled smart auxiliary fan kit
Environment	Operating Temp	-20°C to 60°C (Fanless mode) / -20°C to 70°C (with Auxiliary Fan Module)
Environment	Storage / Humid	-40°C to 85°C; 5% to 95% relative humidity (non-condensing)
Mechanical	Installation	Heavy-duty vertical mounting bracket & horizontal desktop/wall mounting

Ordering Information

Part Number / Model	Description & Configuration Details
VCM-12-14-5LAN-Barebone	Machine Vision IPC, LGA1700, Q670, 5x LAN (2.5G), 3x USB3.2 Gen2, PCIe x16 Slot, Fanless

VCM-12-14-5LAN-i5-16G-512G	VCM-12/14 with Core i5-13500T, 16GB DDR4 RAM, 512GB NVMe SSD, Smart Aux Fan Kit
VCM-12-14-5LAN-i7-32G-1TB	VCM-12/14 with Core i7-14700T, 32GB DDR4 RAM, 1TB NVMe Gen4 SSD, 4x PoE/Vision Ready

Certifications & Compliance: ISO 9001:2015 ■ CE (EMC/LVD) ■ FCC Class A / SDoC ■
RoHS ■ WEEE Compliant

* Specifications are subject to change without prior notice.
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