AIM101 NEW

Powered by Intel® Processor N-series, featuring a High-speed PCIe Gen 3 x4 M.2 Slot to Unleash the Full Potential of AI Accelerators for Top-tier Computer Vision Inference at the Edge

intel ai

▲ Rear view

Up to 214 TOPS | Patented Thermal Design | IP40 | Fanless | Smart Ignition | 9 to 36 VDC | 2.5GbE | LPDDR5

Features

- Powered by Intel® Processor N150 Quad-core SoC
- Optional M.2 AI accelerator cards
- Qualified Intel® ESQ for Metro AI Suite Device
- Patented thermal design for superior cooling efficiency*
- Intelligent power management - USB power on/off control
- Seamless connectivity with Wi-Fi 6E, LTE, and 2.5GbE combined
- Wide power input range of 9 to 36 VDC with smart ignition control
- Ideal for edge AI object detection, image classification, and video analytics applications

*This product is protected by one or more of the following patent No. M676919 and M680341 granted in Taiwan.

Specifications

AI Accelerator	Optional, M.2 AI accelerator card • Axelera Metis M.2 module (214 TOPS at INT8) • DeepX DX-M1 M.2 module (25 TOPS at INT8) • Hailo-8 M.2 module (26 TOPS at INT8), by project • MemryX MX3 M.2 module (20 TOPS at BF16), by project
CPU	Intel® Processor N150 Quad-core SoC, up to 3.6 GHz (Twin Lake)
Chipset	SoC integration
System Memory	8GB LPDDR5 SDRAM onboard *16GB (2 x 8GB) LPDDR5 SDRAM onboard, by project

Specifications

System I/O Outlet	Ethernet	2 x 2.5GbE LAN (Intel® I226-V)
	USB	2 x USB 3.2 Gen 2[*1] 2 x USB 2.0[*1]
	Display	1 x HDMI (supports resolution up to 1920 x 1080 @ 60Hz)[*1] [*1] Optional lockable kit for 4 USB and 1 HDMI.
	Others	3 x DB9 half-cut bracket for optional I/O (support optional COM, DIO or CAN bus connectivity) 5 x SMA-type antenna opening for Wi-Fi/LTE/GPS 1 x terminal block for DC power input 1 x reset button 1 x power button 1 x remote power switch
Storage	Optional, storage options are as followed • 1 x 2.5" SATA HDD/SSD • 1 x M.2 Key M 2280 NVMe SSD[*2] • 1 x mSATA SSD[*3] [*2] Please note that AI accelerator card and NVMe SSD cannot be used simultaneously. [*3] Please note that Mini PCI Express module and mSATA cannot be used simultaneously.	
Expansion Interface	1 x M.2 Key M 2280 slot (PCIe Gen 3 x4) for AI accelerator card or NVMe SSD[*2] 1 x M.2 Key E 2230 slot for Wi-Fi 6E 1 x full-size PCI Express Mini Card slot (USB + PCIe/SATA) for Wi-Fi/LTE/GPS or mSATA[*3] 1 x Nano SIM slot	
TPM	TPM 2.0	
BIOS	AMI	
Watchdog Timer	255 levels, 1 to 255 sec.	
System Indicator	1 x green LED for system power-on 1 x orange LED for SSD	
Power Input	Input: 9 to 36 VDC (typical 12/24 VDC) with smart ignition control Inrush current: 0.37A/1.93A	
Power Consumption (Max.)	47 W	
Operating Temperature	-40°C to +70°C (-40°F to +158°F) (with W.T. AI accelerator card and SSD)	
Storage Temperature	-40°C to +80°C (-40°F to +176°F)	
Relative Humidity	10% to 95% relative humidity, non-condensing	
Shock (operating)	IEC 60068-2-27 2008 Table A.1 (with SSD: 50G, half-sine, and 11 ms duration) MIL-STD-810H, Method 516.8, and Procedure I (with SSD: 40G, TP sawtooth, and 11 ms duration)	
Vibration (operating)	IEC 60068-2-64 (with SSD: 3Grms, random, and 5 to 500 Hz) MIL-STD-810H, Method 514.8, Category 20, and Figure 514.8C-2	
IP Rating	IP40 rating when connecting cables and installing the associated optional accessories.	
Construction	Aluminum extrusion and heavy-duty steel	
Dimensions (W x D x H)	167 x 119 x 62.6 mm (6.57" x 4.69" x 2.46")	
Packing Dimensions	325 x 310 x 197 mm (12.8" x 12.2" x 7.76")	
Weight (net/gross)	1.1 kg (2.43 lbs)/1.86 kg (4.1 lbs)	
Mounting Type	Wall mount, DIN-rail	
Certifications	CE, FCC Class A, and UKCA	
OS Support	Linux Ubuntu 24.04.3 LTS+ (Kernel 6.14+) Win 11 IoT	
Software Support	Axiomtek EAPI, AXView	

Ordering Information

AIM101-N150-8R (P/N: E27Y101101)	Fanless edge AI system with Intel® Processor N150, onboard 8GB LPDDR5, 2 2.5GbE LAN, 4 USB, and 1 HDMI, featuring a PCIe Gen 3 x4 M.2 slot
Optional	
ACC155-AXK-M101 (P/N: E29R155106)	AI accelerator card-Axelera Metis M.2 module and thermal kit[*2 *4] [*2] Please note that AI accelerator card and NVMe SSD cannot be used simultaneously. [*4] Please note that AIM101 with Axelera Metis M.2 module supports an operating temperature of -20°C to +70°C (-4°F to +158°F).
ACC155-DXK-M101 (P/N: E29R155107)	AI accelerator card-DeepX DX-M1 M.2 module and thermal kit[*2 *5] [*5] Please note that AIM101 with DeepX DX-M1 M.2 module supports an operating temperature of -25°C to +70°C (-13°F to +158°F).
ACC155-TM2-M101 (P/N: E29R155103)	M.2 NVMe thermal kit[*2]
ACC155-25CK-M101 (P/N: E29R155105)	2.5" SATA cable kit (excluding 2.5" SATA HDD/SSD)
ACC155-TMS-M101 (P/N: E29R155102)	Mini PCI Express/mSATA thermal kit[*3] [*3] Please note that Mini PCI Express module and mSATA cannot be used simultaneously.
Storage	M.2 NVMe SSD/mSATA SSD/2.5" SATA HDD/SSD (128GB or above); please order SSD thermal kit or 2.5" SATA cable kit separately.
ACC155-WM-M101 (P/N: E29R155100)	Wall mount kit
ACC155-DR-M101 (P/N: E29R155101)	DIN-rail kit
594K6220210E	Remote power switch cable
509000005500	24V 60W power adapter
590000053600	COM cable, for optional COM(RS232/ 422/ 485) on optional I/O (up to 2 DB9 ports)
592000000400	1st DIO cable, for optional 8-CH TTL DIO 0-7 port on optional I/O (up to 1 DB9 port)
590000101500	2nd DIO cable, for optional 8-CH TTL DIO 8-15 port on optional I/O (up to 1 DB9 port)
MIO108-2CAN-mPC 90D (P/N: E39Q108103)	Mini PCI Express module with dual CAN bus, for optional dual CAN bus 2.0A/B on optional I/O (up to 2 DB9 ports)[*3] [*3] Please note that Mini PCI Express module and mSATA cannot be used simultaneously.
Power cord	
Wi-Fi module	
LTE module	

* Specifications and certifications may vary based on different requirements.

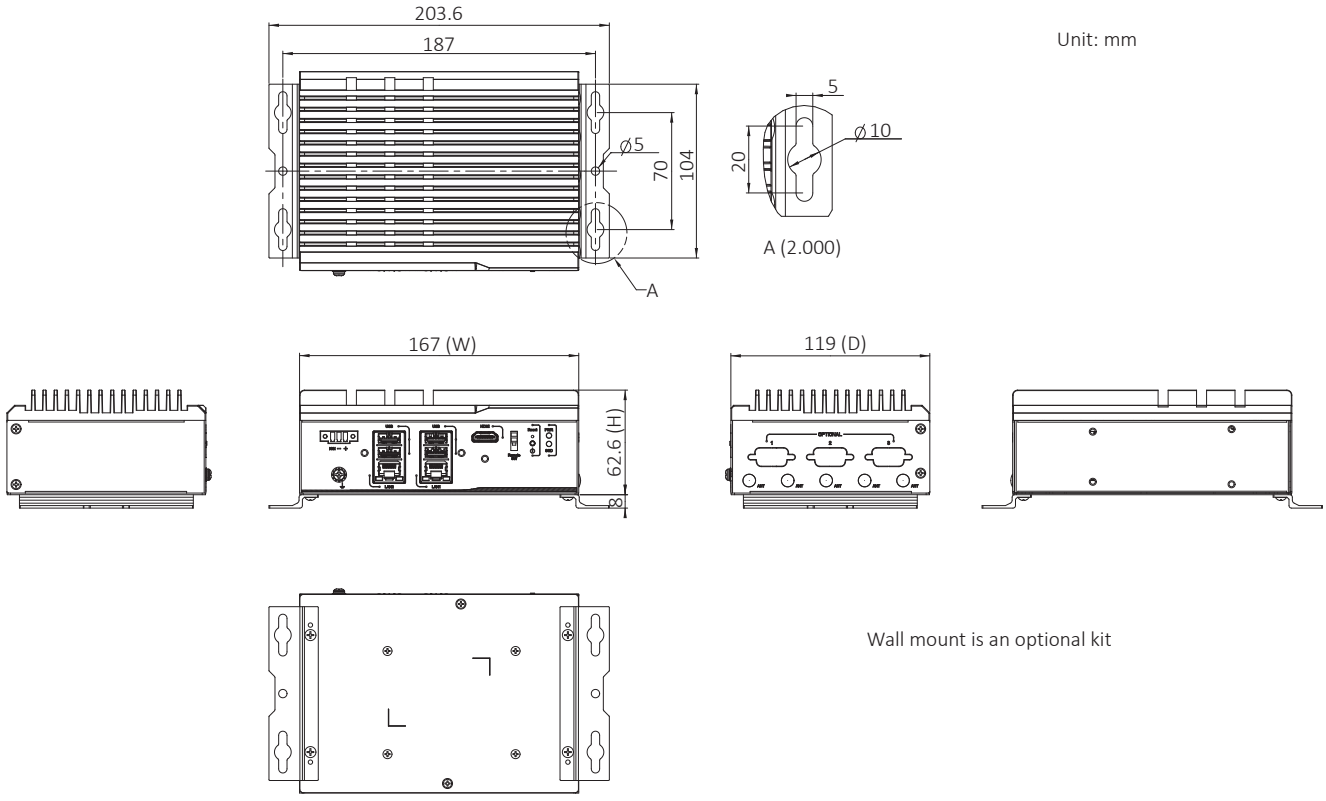
Packing List

1 x AIM101 system unit
1 x 3-pin terminal block connector for power
1 x screw pack

Power Protection

DC Version
OVP (over voltage protection)
UVP (under voltage protection)
OCP (over current protection)
SCP (short circuit protection)
Reverse protection

Dimensions



Unit: mm

Wall mount is an optional kit