

IAD32-MXM

Intel® Core™ i5 x86 Embedded Motherboard



KEY FEATURES

- 3.5" Form Factor (146mm x 102mm), x86 Embedded motherboard
- Supports an add-on M.2 Key-E to MXM daughterboard, expanding the total assembly size to 183 × 146 mm
- Intel® 12th Generation Core™ i5 Processor
- 1 x SO-DIMM, DDR5 4800 MHz (Max. 32GB)
- Integrated Dual Gigabit Ethernet
- 1 x M.2 Key M Slot for M.2 2280 NVMe SSD
- 12 V Single Voltage Power Input

INTRODUCTION

The IAD32-MXM 3.5-inch embedded board is engineered to bring server-grade scalability to the industrial edge. Powered by the Intel® 12th Gen Core™ i5 processor and DDR5 4800MHz memory, it delivers superior multitasking performance in a compact footprint. Its distinguishing feature—unique M.2 Key-E to MXM expansion—enables the integration of high-end graphics modules previously reserved for servers, now fully compatible with IPC systems. With NVMe SSD support and robust connectivity, the IAD32-MXM is the ultimate solution for space-constrained Edge AI and intensive industrial workloads.

SPECIFICATIONS

System Specification

Processor	Intel® Core™ i5-1235U 3.3GHz(up to 4.40 GHz)	Memory	1 x SO-DIMM, DDR5 4800 MHz, 8GB 16GB (Optional) 32GB (Optional)
Storage	1 x M.2 2280 M-Key NVMe SSD 256GB 512GB (Optional) 1TB (Optional) 2TB (Optional) 1 x SATA III for 2.5" SSD/HDD up to 2TB (Optional)	Ethernet controller	2 x Intel® Ethernet Controller
Security	TPM 2.0	Operating System	Windows 11 IoT Enterprise (64 bit) (Optional) Windows 11 Pro 64 bit (Optional) Linux Ubuntu 22.04(Do not support Wake on Touch) (Optional)
WLAN	Support (Optional)	BT	Support (Optional)
Graphic Card	Intel A370M NVIDIA A500 NVIDIA A1000 NVIDIA A2000 NVIDIA T1000 (Optional)		

IO Ports

Power Input	1 x 12V DC, 2.5φ DC jack	USB Port	2 x USB3.2 Gen2x1 (Type-A)
Serial Port	1 x RS232/422/485 (Default RS232)	Video	1 x HDMI 2.0 (Optional)
Expansion Port	1 x M.2 2280 M-Key Slot (for NVMe SSD) 1 x M.2 2230 E-Key Slot (for Wi-Fi module) 1 x M.2 2230 E-Key Slot (for MXM GPU card)	LAN	2 x 2.5 Giga LAN RJ45 Connector

Internal IO Ports

Power input	1 x 6pin(1x6) for 12V DC in	Power output	1 x 2pin(1x2) blue wafer for 3.3V DC out 1 x 2pin(1x2) red wafer for 5V DC out 1 x 2pin(1x2) yellow wafer for 12V DC out
USB	2 x 8pin(2x4) for 4 x USB 2.0	Serial port	3 x 10pin(2x5) for RS232
Display	1 x 40pin DF13 connector for LVDS 1 x 30pin DF13 connector for eDP 1.4a , Max resolution up to 4096x2304@60Hz (Optional)	Backlight	1 x 7pin(1x7) for panel backlight
SATA	1 x SATA III 1 x 8pin(2x4) for SATA power	DIDO	1 x 14pin(2x7) for Digital input/output
VR	1 x 3pin(1x3) for Digital panel backlight brightness control 1 x 3pin(1x3) VR/Software brightness switch jumper 1 x 3pin(1x3) PWM/DC brightness switch jumper 1 x 3pin(1x3) 3.3V/5V PWM Level switch jumper	Fan	1 x 3pin(1x3) for CPU Fan
OSD	1 x 10pin(2x5) for OSD control	Speaker	2 x 2pin(1x2) for Speaker
Backup battery	1 x 2pin(1x2) for RTC battery	Audio	1 x 12pin(2x6) for Line in/Line out/ Mic in

Certification

Certification	CE, FCC
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Mechanical

Dimension	146 x 102 mm
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Environment

Operating Humidity	10% to 95% RH, Non-Condensing	Operating Temperature	0°C to 60°C
Storage Temperature	-40°C to 70°C		

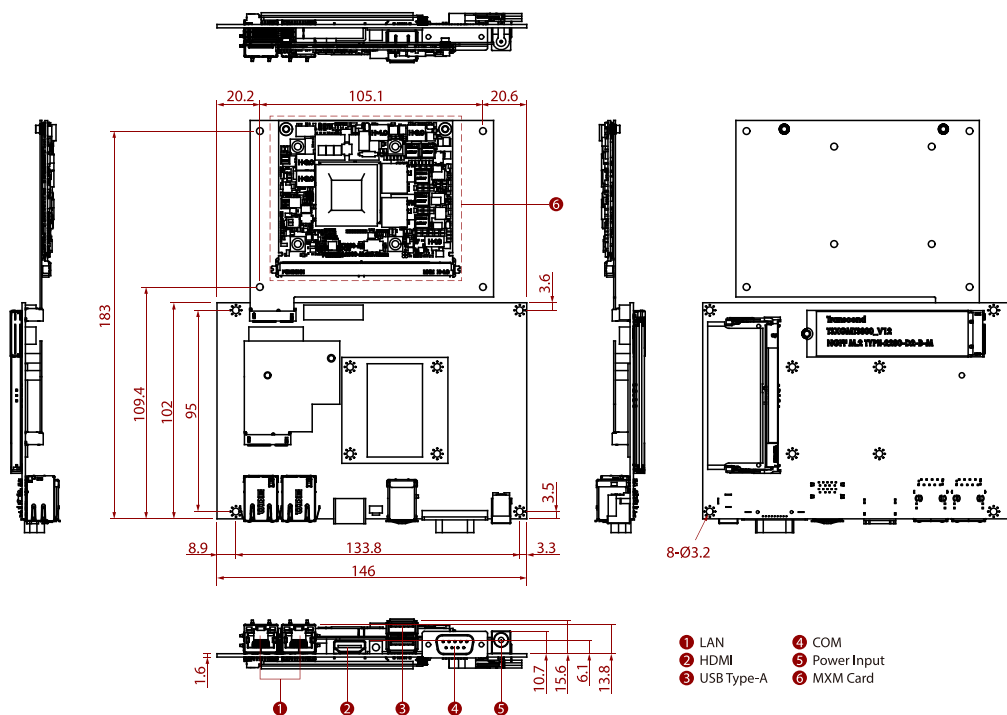
Accessory

Accessory	1 x Installation Guide	Optional Accessory	1 x SATA cable (94H007Z070K0) (Optional) 1 x SATA Power cable (94HE08Z150E0) (Optional) 1 x COM cable (94G309E100E1) (Optional) 1 x 2-Port USB 2.0 Type A cable (94E808E080K0) (Optional) 1 x 12V 120W Adapter (922D120W12V5) (Optional) 1 x Power cord (Varies by country) (Optional) 1 x CPU Heatspreader (98K000A000N3) (Optional) 1 x Membrane (98K000A000N1) (Optional) 2 x Speaker (612620000007) (Optional)
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Power

Power Rating	12V DC
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DIMENSIONS UNIT:MM



NOTE

1. This is a simplified drawing, and some components are not marked in detail.
2. Please contact our sales representative if you need further product information.
3. All specifications are subject to change without prior notice.
4. The product shown in this datasheet is a standard model. For diagrams that contain customized or optional I/O, please contact the Winmate Sales Team for more information.