

BOXER-8251AI

Fanless Embedded PC for AI@Edge with NVIDIA® Xavier NX Accelerator and ARM® Carmel®v8.2 64-bit

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A ONE STOP SYSTEMS COMPANY

Features

- ARM® Carmel® V8.2 64-bit CPU
- NVIDIA® Xavier NX AI Accelerator
- 8 GB LPDDR4
- 1x HDMI, 1x GbE, 2x COM, 4x USB
- Dimensions: 88 x 75 x 39mm



BOXER-8251AI – Strong computing power and robust design

The Embedded Edge AI platform BOXER-8251AI contains the NVIDIA® Jetson Xavier NX compute / inference engine and is optimized for high performance applications. BOXER-8251AI combines high-performance computing, scalable functionality, versatile connectivity and industrial-grade reliability in a mini platform and offers reliable long-term operation for performance-critical applications in industrial automation, deep learning, logistics and transportation. The Edge AI platform has an ultra-compact design and is ideal for any workplace with limited space. The system supports low-power DDR4 memory (LPDDR4) and an M.2 E-Key 2230 expansion slot.

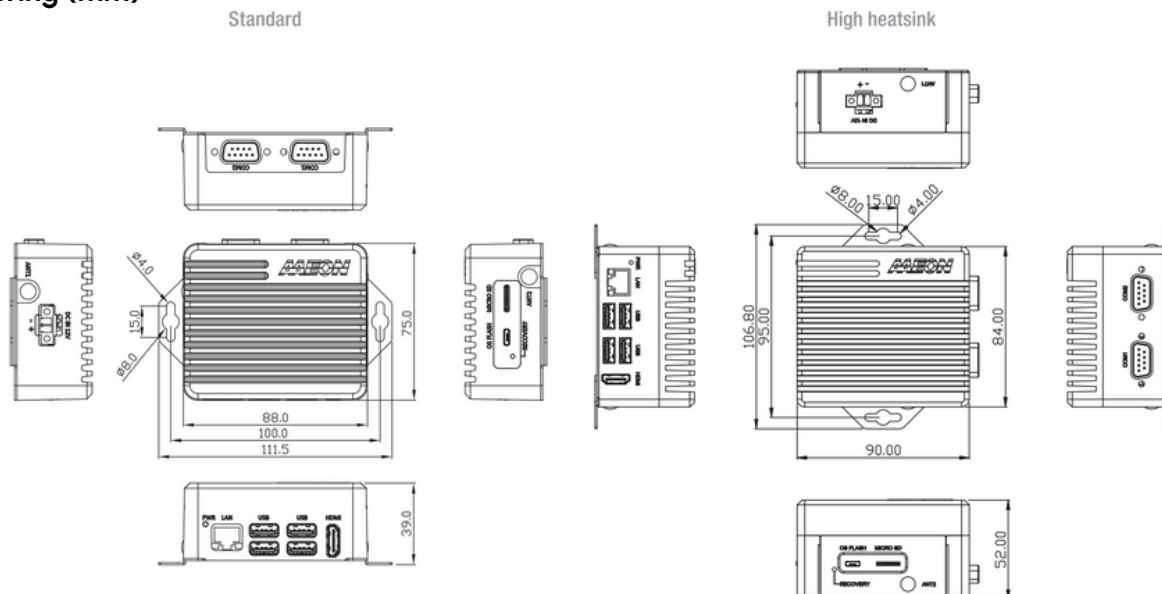
High performance through 6-core ARM processor

The Edge AI platform combines outstanding performance with extensive connectivity in an easy-to-use package. The rugged housing allows for use in harsh environments. Using the NVIDIA® Jetson Xavier NX Inference Engine, the industrial system features exceptional processing power with a 6-core ARM 64-bit processor. Together with unique image and video processing and efficient remote monitoring, the BOXER-8251AI meets the requirements for use in critical applications with the highest demands on reliability. Proven applications in industrial environments include motion sensing and system monitoring.

Many connection options in mini form factor

The BOXER-8251AI offers, despite its small size, besides HDMI 2.0 port, especially a Gigabit Ethernet port. It offers up to 8GB LPDDR4 RAM and 16GB eMMC onboard memory (additionally the memory can be extended with an SD card). The Edge AI platform withstands temperature fluctuations from -20 to +60°C and humidity up to 95% without any problems. The series can be operated with power supplies in a voltage input of 12V to 24V, with 2-pin terminal block. Four USB 3.2 and a front DB-9 COM port for RS-232, also offer plenty of connection possibilities for additional peripherals.

Drawing (mm)



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Specifications	Product: BOXER-8251AI
SYSTEM	
CPU	ARM® Carmel®V8.2 64-bit, 6-core, CPU 6MB L2 + 4MB L3
AI Accelerator	NVIDIA® Jetson Xavier NX
RAM	8 GB LPDDR4
Storage	1x 16GB eMMC1x MicroSD card slot
Expansion	1x M.2 E-Key 2230 (for Wi-Fi)
Operating Temperature	Linux (AAEON ACLinux 4.9) Linux (NVIDIA Jetpack 4.5) Ubuntu 18.04
INTERFACE	
Ethernet	1x Gigabit Ethernet port
USB	4x USB 3.2 Gen 1 1x Micro USB for flash OS
COM	2x RS-232
Video	1x HDMI 2.0
Power	1x DC power input
Other	1x Recovery button
ENVIRONMENTAL	
Cooling	Fanless
Power Supply	12V DC with 2-pin terminal block
Remote Control & LED	1x Power LED
Operating Temperature	20W; 6-core 1.4GHz CPU: -20°C ~ 55°C (for high heat sink) 15W; 6-core 1.4GHz CPU: -20°C ~ 40°C/-20°C ~ 50°C (for high heat sink) 15W; 4-core 1.4GHz CPU: -20°C~40°C 15W; 2-core 1.9GHz CPU: -20°C ~ 50°C/-20°C ~ 60°C (for high heat sink) 10W; 4-core 1.2GHz CPU: -20°C ~ 50°C/-20°C ~ 60°C (for high heat sink) 10W; 2-core 1.5GHz CPU: -20°C~50°C
Storage Temperature	-40° ~ 70°C
Vibration / Shock Resistance	Vibration: 3 Grms/ 5 ~ 500Hz/ operation – MicroSD or eMMC
Humidity	~95% , non-condensing
Dimensions	Standard: 88 (W) x 75 (D) x 39 (H) mm High heat sink: 90 (W) x 84 (D) x 52 (H) mm
Weight	Standard: 0.5kg (0.3kg net) High heat sink: 0.8kg (0.6kg net)
Mounting	Wallmount
Certifications	CE/FCC Class A

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Ordering Information	BOXER-8251AI-A3-1010	BOXER-8251AI-JP46E-A1-1010	BOXER-8251AI-JP46E-E1-1010 (HIGH HEATSINK)
AI Accelerator	Jetson Xavier NX	Jetson Xavier NX	Jetson Xavier NX
LAN	1	1	1
USB	3.2 Gen 1 x 4	3.2 Gen 1 x 4	3.2 Gen 1 x 4
RS-232	2	2	2
Storage	16GB eMMC + MicroSD	16GB eMMC + MicroSD	16GB eMMC + MicroSD
Video	HDMI x 1	HDMI x 1	HDMI x 1
Mounting	Wallmount	Wallmount	Wallmount
Power	12Vdc w/ 2 pin terminal block	12Vdc w/ 2 pin terminal block	12Vdc w/ 2 pin terminal block
Operating System	NVIDIA Jetpack 4.5	NVIDIA Jetpack 4.6	NVIDIA Jetpack 4.6

Optional Accessories	
1255300611	60W Power Adapter
1702031802	Power Cord (US type)
1702031803	Power Cord (European Type)
170203180E	Power Cord (Japanese Type)