BOXER-8645AI

Fanless AI@Edge embedded AI system with NVIDIA® Jetson AGX Orin™

BRESSNER
A HIPER Global Company

Features

- Arm® Cortex®-A78AE processor
- LPDDR5 RAM, up to 32GB or 64GB
- 8x GMSL2 with FAKRA connectors
- NVIDIA® Jetson AGX Orin™ AI accelerator
- MIL-STD-810G and E-Mark certified

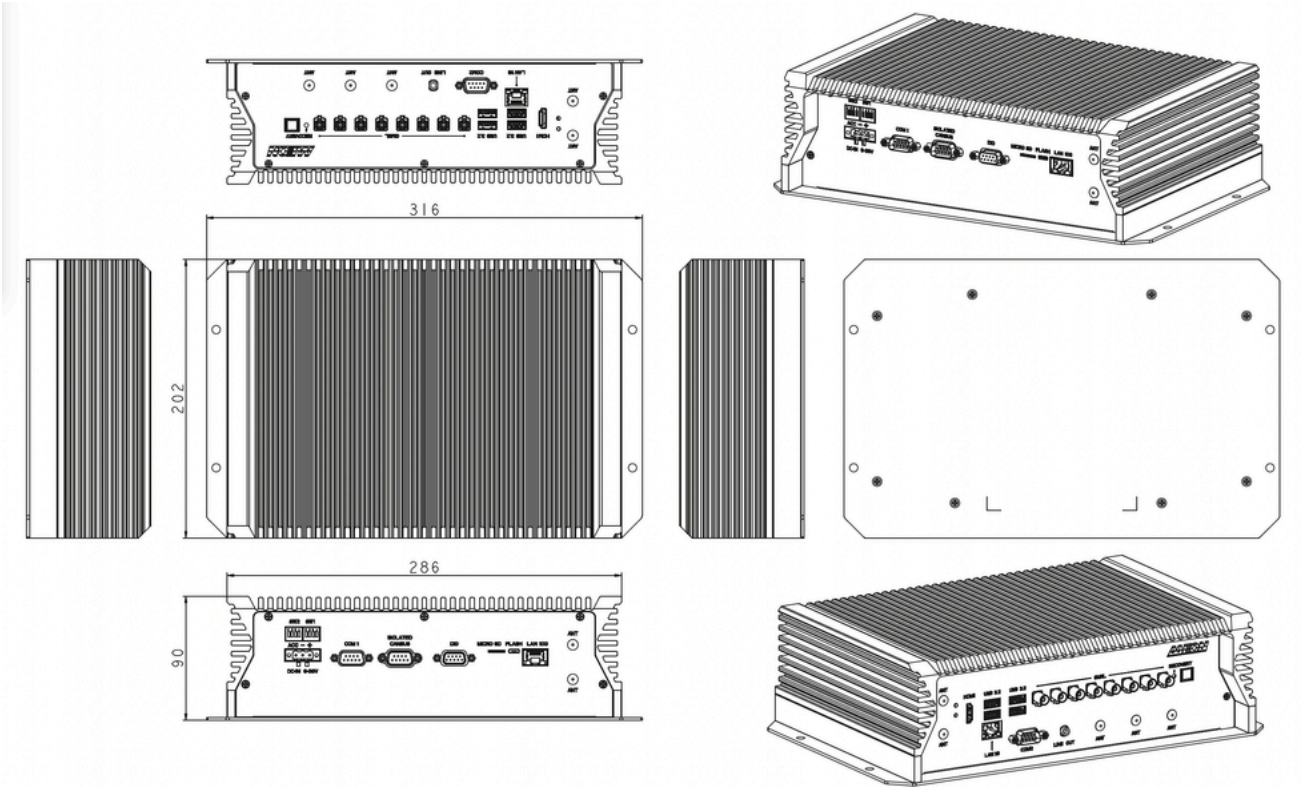
BOXER-8645AI – Latest AI system with NVIDIA® Jetson AGX Orin™

As AAEON's latest AI system powered by the NVIDIA® Jetson AGX Orin™ module, the BOXER-8645AI is a pioneer in embedded technology. With robust features suitable for in-vehicle use and utilizing the latest image processing technologies to develop more effective, advanced and future-oriented AMR and vehicle solutions, the BOXER-8645AI sets new standards.

High quality image capture with NileCAM25
The BOXER-8645AI is combined with the NileCAM25 Full HD Global Shutter GMSL2 color camera from AAEON's partner e-con Systems™, giving you higher quality image capture. This combination optimally unleashes the AI power of the NVIDIA® Jetson AGX Orin™ and enables innovative applications in a wide range of fields.

New technologies for faster, more accurate vehicle and AMR operations
Equipped with eight GMSL2 interfaces via FAKRA connectors, the BOXER-8645AI takes high-speed video transmission over longer distances to a new level. Thanks to the high frame rate, low latency and synchronized multi-camera streaming provided by e-con Systems' NileCAM25, the BOXER-8645AI increases inference accuracy. The system's suitability for AMR and in-vehicle deployments is strengthened by its E-Mark certification, 9-axis sensor and GNSS support, providing precise analytics for solutions that rely on accurate motion and orientation data.

Dimensions (mm)



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	Product: BOXER-8645AI
SYSTEM	
CPU	AGX Orin 32GB: 8-core Arm® Cortex®-A78AE CPU AGX Orin 64GB: 12-core Arm® Cortex®-A78AE CPU
Ai Accelerator	NVIDIA® Jetson AGX Orin™
RAM	1x LPDDR5 SODIMM, up to 32GB or 64GB
Storage	2x 2.5″ SATA 1x eMMC 5.1 64 GB 1x M.2 2280 M-Key (NVMe)
OS Support	Linux (NVIDIA JetPack™ 5.0 and above)
Expansion	1x M.2 2230 E-Key (Wifi/BT) 1x M.2 3052 B-Key (LTE) 1x M.2 2280 M-Key (NVMe) 2x 2.5″ SATA 2x SIM slot 1x MicroSD slot
INTERFACE	
Ethernet	1x RJ-45 for 10G LAN 1x RJ-45 for Giga LAN 8x Additional LAN (on request)
USB	4x USB 3.2 Gen 2 (Type-A) 1x Micro USB for OS Flash
COM	2x DB-9 Male for RS-232 (Rx/Tx/CTS/RTS)/RS-485
Digital I/O	1x DB-9 Male for DIO 8 bit
Video	1x HDMI 2.0 (Type A)
Audio	1x Jack for Line-out
Power	1x 3-pin terminal block
Other	1x DB-9 male connector for isolated CAN bus x2 8x GMSL2 with FAKRA 7x antenna holeTPM support GNSS support 9-axis sensor support
ENVIRONMENTAL	
Cooling	Fanless
Power Adapter	3-pole terminal block for 9V ~ 36V ACC ignition delay on/off
Remote Control & LED	1x power button 1x reset button 1x switch for ignition delay on/off 1x power LED
Operating Temperature	-25°C ~ 65°C, with 0.5 m/s AirFlowith 0.5 m/s AirFlow
Storage Temperature	-40˚C ~ 85˚C
Vibration / Shock Resistance	Vibration: MIL-STD-810G, 514.6C Procedure 1, Category 4 Trucker/Semitrailer on US highway (Figure 514.6C-1-Category 4-Common Carrier) Shock: MIL-STD-810G, Method 516.6, Procedure I, Aircraft Equipment
Humidity	5 ~95% @ 40°C, non-condensing
Dimensions	286 (W) x 202 (D) x 90 (H) mm
Weight	5.9 kg
Mounting	Wallmount
Certifications	E/FCC Class A, E-Mark

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Ordering Information	BOXER-8645AI-JP511E-A1-1010	BOXER-8645AI-JP511E-A2-1010
AI Accelerator	NVIDIA® Jetson AGX Orin™ 32GB	NVIDIA® Jetson AGX Orin™ 64GB
GMSL	8x	
LAN	1x 10G LAN 1x Giga LAN	
USB	4x USB 3.2 Gen 2	
RS-232/422/485	2x	
Isolated CANBus	2x	
Digital I/O	8x	
Storage	1x 64GB eMMC 2x M.2 2280 NVMe M Key 2x 2.5" SATA	
GNSS & 9 axis sensors & TPM	Built-in	
Display	1x HDMI	
Mounting	Wallmount	
Power	9 ~ 36VDC w/ 3 pin terminal block and Iginition delay on/off	
Operating System	Linux (NVIDIA Jetpack™ 5.0 or above)	

Optional Accessories	
1255X00059	120W Power Adapter
1702031802	Power Cord (US Type)
1702031803	Power Cord (European Type)
170203180E	Power Cord (Japanese Type)
9641864500	M.2 2280 NVMe Gen 3 M key Thermal Kit. For the SSD support list, please check the user manual.
9641864510	M.2 2280 NVMe Gen 4 M key Thermal Kit. For the SSD support list, please check the user manual.

Packing List	
BOXER-8645AI	1x BOXER-8645AI 1x Power Connector 1x Screw Package 1x HDMI Cable Holder