BOXER-6645-ADS

Fanless Embedded Box PC with Intel® 13th / 12th Gen. processors

Features

- Intel® Core™ / Celeron® 13th/12th Gen. CPU
- 2x DDR5 4,800MHz up to 64GB
- Intel® H610E / Q670E chipset
- Supports Windows® 11 PRO 64-bit
- Supports Hailo-8™ M.2 2280 AI accelerator module (optional)

BOXER-6645-ADS – Powerful Embedded Box PC with 12th Generation Intel® Processor

The BOXER-6645-ADS delivers exceptional processing power with up to 16 cores and 24 threads using 12th Generation Intel® Core™ i3/i5/i7/i9 processor platforms. This provides limitless potential for applications that demand high-performance computing. Housed in a robust, fanless chassis, the product's 65W CPU ensures durability, complemented by an operating temperature range of -20°C to 60°C.
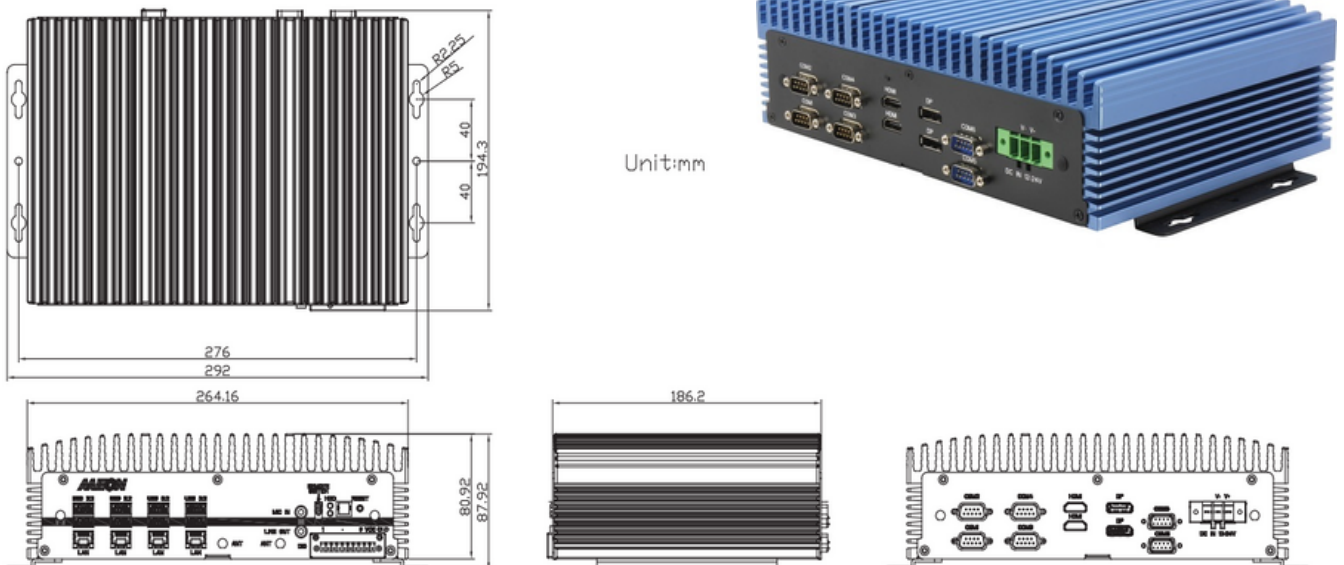
Featuring four independent display interfaces for the A2 model and three for the A1 model, the computer offers rich I/O perfectly integrated into a resilient casing. Its wide voltage input range of 12~24V, anti-shock, and anti-vibration features allow for continuous operation even in extreme deployment environments.

Comprehensive Interfaces and Expansion Capabilities

The BOXER-6645-ADS stands out as the most well-equipped Embedded Box PC of its kind. It boasts up to eight USB 3.2 Gen2 slots for high-speed peripherals, along with four LAN ports for camera and sensor connectivity. With an additional four independent display outputs for the A2 model, the BOXER-6645-ADS is ideal for applications such as traffic management control centers. Moreover, it provides M.2 expansion options, including M.2 2230 and M.2 2252 slots for the integration of Wi-Fi and 5G modules.

Beyond its outstanding processing power, the BOXER-6645-ADS incorporates a range of integrated peripheral technologies, from Intel® DL Boost to Intel® Iris® Xe Graphics, enabling top-tier AI inference performance for Smart City and Industry 4.0 solutions.
Equipped with a dual-channel SODIMM slot supporting DDR5-4800MHz, the BOXER-6645-ADS features 64GB of system memory, resulting in a 50% increase in bandwidth and significantly improved data transfer speeds. Combined with the capabilities of 12th Generation Intel Core processors, this facilitates real-time edge-server communication for IoT Gateway applications.

Drawing (mm)

Unit:mm

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Specifications	BOXER-6645-ADS
SYSTEM	
CPU	13th Generation Intel® Core™ Processors: Intel® Core™ i9-13900TE & Intel® Core™ i9-13900E, Intel® Core™ i7-13700TE & Intel® Core™ i7-13700E, Intel® Core™ i5-13500TE & Intel® Core™ i5-13500E, Intel® Core™ i3-13100TE & Intel® Core™ i3-13100E 12th Generation Intel® Core™/Celeron® Processors: Intel® Core™ i9-12900E & Intel® Core™ i7-12700TE & Intel® Core™ i7-12700E, Intel® Core™ i5-12500TE & Intel® Core™ i5-12500E, Intel® Core™ i3-12100TE & Intel® Core™ i3-12100E, Intel® Celeron® Processor G6900TE, Intel® Celeron® Processor G6900E
Chipset	Intel® H610E / Q670E
Graphics	Intel® Iris Xe Graphics Engine
RAM	2x DDR5 4,800MHz up to 64GB
Storage	2x 2.5" SATA III drive bay (BOXER-6645-ADS-A2 supports RAID 0/1) 1x M.2 2280 M-key (NVMe, extra heatsink required, refer to optional accessories; model A2)
Expansion	1x M.2 E-key 2230 for WiFi module 1x M.2 B-key 3052 for 5G/4G module
Operating System	Windows® 10 IoT Enterprise 64-bit Windows® 11 PRO 64-bit Linux Ubuntu 20.04 (Kernel 15.5 or above)
INTERFACE	
Ethernet	2x Intel® I210AT, 10/100/1000 Base-TX 1x Intel® I219LM, 10/100/1000 Base-TX 1x Intel® I225LM, 10/100/1000 Base-TX
USB	4x USB 3.2 Gen2 (5GB/s) (only BOXER-6645-ADS-A1) 8x USB 3.2 Gen2 (10GB/s) (only BOXER-6645-ADS-A2) 4x USB 2.0 (only BOXER-6645-ADS-A1)
COM	6x DB-9 for RS-232/422/485
Digital I/O	8x DIO
Video	2x HDMI type A for HDMI 1.4b 2x DisplayPort for DP1.4a *A2 model supports four simultaneous display outputs *A1 model supports three simultaneous display outputs
Audio	1x Mic-in and Line-out
Power	1x 3-pin DC input
Other	6x SMA antenna hole
ENVIRONMENTAL	
Cooling	Fanless
Power Supply	DC power input : 12 ~ 24V DC
Remote Control & LED	1x System LED 1x HDD LED
Operating Temperature	-20℃ ~ 50℃), according to IEC68-2 with 0.5 m/s AirFlow, with wide temperature memory/storage (TDP 65W CPU) -20℃ ~ 60℃, according to IEC68-2 with 0.5 m/s AirFlow, with wide temperature memory (max. 32GB)/storage (TDP 35W CPU)
Storage Temperature	-40° ~ 80℃
Vibration / Shock Resistance	Vibration: 3 Grms/ 5 ~ 500Hz/ operation – SSD; 1 Grms/ 5 ~ 500Hz/ operation – HDD Shock: 50G, according to IEC68-2-27, half sine, 11ms duration (with SSD)
Humidity	5%~95% @ 40℃, non-condensing
Dimensions	264 (W) x 80.92 (D) x 186.2 (H)mm
Weight	5.3 kg (gross) 4.3 kg (net)
Mounting	Wallmount
Certifications	CE/FCC Class A

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A ONE STOP SYSTEMS COMPANY

Ordering Information	BOXER-6645-ADS-A1-1010	BOXER-6645-ADS-A2-1010
Chipsatz	Intel® H610E	Intel® Q670E
Ethernet	4x Gigabit Ethernet ports	4x Gigabit Ethernet ports
USB	4x USB 3.2 (5GB/s) 4x USB 2.0	8x USB 3.2 (10GB/s)
Digital I/O	8-bit	8-bit
COM	6x DB-9 for RS-232/422/485	6x DB-9 for RS-232/422/485
Audio	1x Mic-in and Line-out	1x Mic-in and Line-out
Storage	2x 2.5" SATA 6GB/s drive bay	2x 2.5" SATA 6GB/s drive bay 1x M.2 2280 M-key (NVMe)
Video	2x HDMI 2x DisplayPorts	2x HDMI 2x DisplayPorts
Expansion	1x M.2 E-key 2230 1x M.2 B-key 3052 with SIM slot	1x M.2 E-key 2230 1x M.2 B-key 3052 with SIM slot
Mounting	Wallmount	Wallmount
Power	12 ~ 24V DC	12 ~ 24V DC
Operating Temperature	-20°C ~ 50°C), according to IEC68-2 with 0.5 m/s AirFlow, with wide temperature memory / storage & TDP 65W CPU. -20°C ~ 60°C, according to IEC68-2 with 0.5 m/s AirFlow, with wide temperature memory (max. 32GB)/ storage & TDP 35W CPU	-20°C ~ 50°C), according to IEC68-2 with 0.5 m/s AirFlow, with wide temperature memory / storage & TDP 65W CPU. -20°C ~ 60°C, according to IEC68-2 with 0.5 m/s AirFlow, with wide temperature memory (max. 32GB)/ storage & TDP 35W CPU

Scope of delivery

- 2x Wall mounts
- 1x 3-pin DC-in power connector
- 1x Remote On/Off connector
- 1x Screw package
- 1x BOXER-6645-ADS

Optional accessories

- 120W Power adapter // SKU: 125590120B
- 230W Power adapter // SKU: 1255302300
- Power cable (US type) // SKU: 17020231802
- Power cable (EU type) // SKU: 1702031803
- Power cable (JPN type) // SKU: 170203180E