

BOXER-6451-ADP

Fanless and compact embedded computer with Intel® Core™ 12th Generation processors

BRESSNER
A ONE STOP SYSTEMS COMPANY

Features

- Intel® Core™ 12th Generation processors
- DDR4 SODIMM, up to 32GB
- Intel® SoC chipset
- 1x 2.5GbE LAN (Intel® I226-LM) + 1x GbE LAN x 1 (Intel® I219-LM)
- M.2 3052 B-Key for 5G support



BOXER-6451-ADP – Fanless Box PC for Space-Saving Industrial Applications

The BOXER-6451-ADP is a compact yet powerful fanless embedded PC featuring Intel Core/Celeron processors from the 12th generation (formerly Alder Lake-P U15). Specifically designed for applications such as AMRs, kiosks, and smart manufacturing, the system combines excellent CPU performance with versatile connectivity. Moreover, its innovative cooling structure enables the BOXER-6451-ADP to handle demanding workloads while offering integrated 5G, Wi-Fi, and NVMe expandability. This makes it an ideal solution for high-performance projects in limited spaces.

With dimensions of only 190 mm x 111 mm x 63.5 mm, the BOXER-6451-ADP delivers up to 10 cores and 12 threads from Intel's 12th-generation processors. Its robust design ensures integration even in smaller spaces, making it perfect for kiosks, charging stations, and compact industrial environments.

Compact and Efficient: The Optimal Solution for Industrial Environments

Thanks to its slim housing design, the BOXER-6451-ADP accommodates a wide variety of inputs and outputs. It features four COM ports (RS-232/422/485), three USB 3.2 ports (10 Gbps), and one 2.5 GbE LAN port. Additionally, Intel IPU 6.0 and Intel DL Boost enhance processing capabilities, making it a reliable choice for AMR systems. Furthermore, the system ensures seamless integration into data-intensive industrial applications.

Another key feature is the optimized cooling structure. Unlike traditional tubular heat pipes, the BOXER-6451-ADP uses a flattened heat pipe to increase the contact surface, accelerating heat dissipation. As a result, the fanless system manages higher workloads efficiently while preventing overheating.

Enhanced Functionality and Maximum Flexibility

The BOXER-6451-ADP offers expanded functionality for diverse industrial applications. Equipped with M.2 2230 E-Key, M.2 3052 B-Key, and M.2 2280 M-Key slots, it supports 5G, Wi-Fi, and NVMe integration. This versatility makes it ideal for AI-IoT gateways, robotic arms, and manufacturing control systems.

Front View



Rear View



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Specifications

	BOXER-6451-ADP
SYSTEM	
CPU	Intel® Core™ i7-1265UE Intel® Core™ i5-1245UE Intel® Core™ i3-1215UE
Chipset	Intel® SoC
RAM	Up to 32GB DDR4 SODIMM
Storage	1x 2.5" SATA Drive Bay 1x M.2 2280 M-Key (4x PCIe)
Expansion	1x M.2 2230 E-Key (Wi-Fi/BT) 1x M.2 3052 B-Key w/ SIM (LTE/5G) 1x M.2 2280 M-Key (NVMe)
Operating System	OS Support: Windows® 10 IoT Ent LTSC Windows® 11 PRO Ubuntu 22.04
INTERFACE	
Ethernet	1x RJ-45 for 2.5GbE (Intel® I226-LM) 1x RJ-45 for GbE (Intel® I219-LM)
USB	3x USB 3.2 Gen 2 (Type-A) 1x USB 2.0 (Type-A)
COM	4x DB-9 for RS-232/422/485
Video	2x HDMI 1.4b (Type A)
Power	1x 12V DC input jack
Other	6x Antenna openings
ENVIRONMENTAL	
Remote Control & LED	Power button with LED
Operating Temperature	-20°C to 60°C, IEC68-2 with 0.5 m/s AirFlow with extended temperature storage
Storage Temperature	-40°C ~ 80°C
Vibration/Shock Resistance	Vibration: SSD: Random, 3Grms, 5~500Hz Shock: SSD: 50G @ Wallmount, Half-sine, 11ms
Humidity	5 ~ 95% @ 40°C, non-condensing
Dimensions	(W x D x H): 195 x 63.5 x 111mm
Weight	2 kg (Gross Weight) 1.5 kg (Net Weight)
Mounting	Wall-Mount
Certifications	CE/FCC Class A

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Ordering Information

Part Number	CPU	PCH	LAN	USB 3.0	USB 2.0	RS-232/422/485	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6451-ADP-A1-1010	i3-1215UE	SoC	2	USB 3.2 x 3 (10Gbps)	1	4	Line-out	2.5" SATA Drive Bay x 1 M.2 2280 M-Key x 1 (NVMe)	HDMI x 2	M.2 2230 E-Key x 1 M.2 3052 B-Key w/ SIM Slot x 1	Wallmount	12V	-4°F – 140°F (-20°C – 60°C) with 0.5 m/s airflow, with wide temperature Memory/Storage
BOXER-6451-ADP-A2-1010	i5-1245UE	SoC	2	USB 3.2 x 3 (10Gbps)	1	4	Line-out	2.5" SATA Drive Bay x 1 M.2 2280 M-Key x 1 (NVMe)	HDMI x 2	M.2 2230 E-Key x 1 M.2 3052 B-Key w/ SIM Slot x 1	Wallmount	12V	-4°F – 140°F (-20°C – 60°C) with 0.5 m/s airflow, with wide temperature Memory/Storage
BOXER-6451-ADP-A3-1010	i7-1265UE	SoC	2	USB 3.2 x 3 (10Gbps)	1	4	Line-out	2.5" SATA Drive Bay x 1 M.2 2280 M-Key x 1 (NVMe)	HDMI x 2	M.2 2230 E-Key x 1 M.2 3052 B-Key w/ SIM Slot x 1	Wallmount	12V	-4°F – 140°F (-20°C – 60°C) with 0.5 m/s airflow, with wide temperature Memory/Storage

Packing List

1x BOXER-6451-ADF
2x Wallmount Bracket
1x Screw Package
1x 84W 12V Power Adapter

Optional Accessories

Power Cord (US)
Power Cord (Europe)
Power Cord (Japan)

Dimensions (mm)

