

KBox E-250-AML/ADN



Fanless Mini Industrial Computer with Intel® Atom® x7000RE Series, Intel® Core™ i3 N-Series & Intel® N-Series Processors

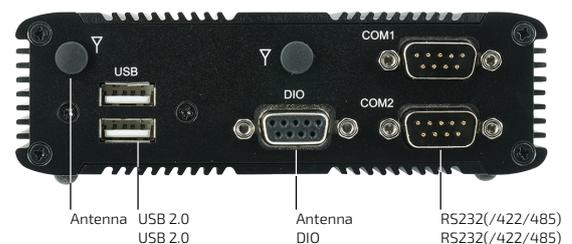
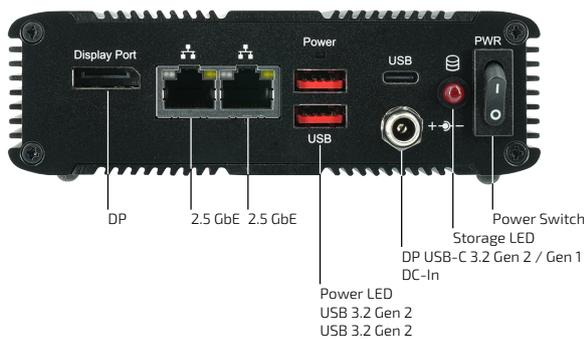
- 2 COM ports and 8 digital I/O channels for industrial sensing and controlling
- 4K UHD output support via DisplayPort & DisplayPort over USB Type C
- Rugged design against environmental disturbances, such as dust, vibration & shock
- Hardware-based protection against malware and sophisticated cyberattacks
- Mini size for space-limited applications

Mini Industrial PC w/ Intel® Atom® x7000RE Series, Intel® Core™ i3 N-Series & Intel® N-Series CPUs

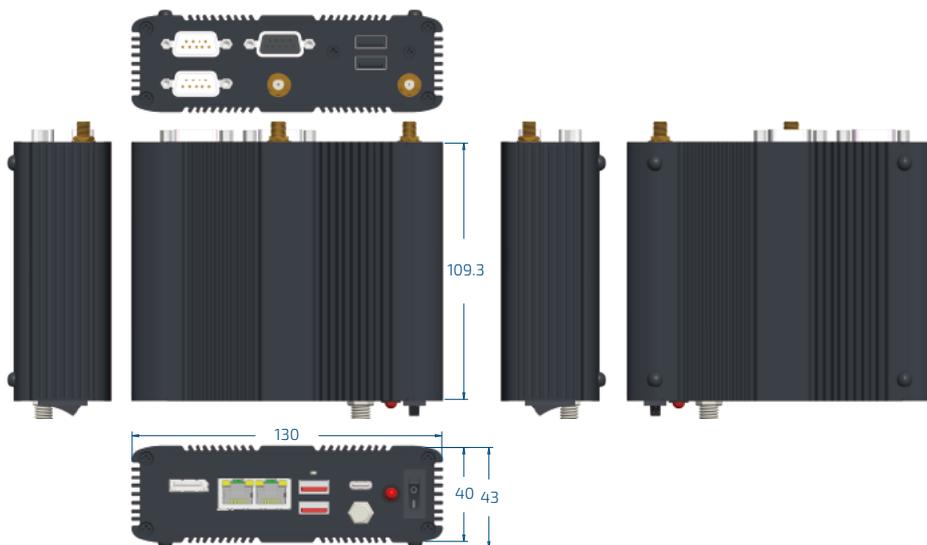
KBox E-250-AML/ADN is a fanless mini industrial computer powered by Intel® Atom® x7000RE Series (codenamed Amston Lake), Intel® Core™ i3 N-Series and Intel® N-Series Series (code-named Alder Lake N) processors with integrated Intel® UHD Graphics Gen12 as well as next-gen high-speed LPDDR5 soldered memory. Thus, it can deliver upgraded performance, enhanced media

transcoding and faster AI inference for intelligent Industry 4.0, edge computing and Industrial IoT applications. In addition, the system supports two 2.5 GbE LAN ports as well as expansion possibilities for Wi-Fi and WWAN (3G, 4G or 5G) for optimized bandwidth utilization and flexible network integration.

- ▶ Intel® Atom® x7000RE Series Processors
- ▶ Intel® Core™ i3 N-Series Processors
- ▶ Intel® N-Series Processors
- ▶ 4 GByte / 8 GByte / 16 GByte LPDDR5 memory down
- ▶ 2x 2.5 GbE LAN for Ethernet
- ▶ 2x DP (1x full DP, 1x USB-C) for dual display support
- ▶ 3x USB 3.2 Gen 2 / Gen 1 (2x Type A, 1x Type C), 2x USB 2.0
- ▶ 2x RS232 or 2x RS232/422/485 for serial device connection
- ▶ 1x 8-bit DIO (4x DI + 4x DO) for device / signal control
- ▶ 32 GByte / 64 GByte / 128 GByte eMMC for storage
- ▶ 1x M.2 Key B for SSD, WWAN expansion
- ▶ 1x M.2 Key E for WLAN and Bluetooth expansion
- ▶ dTPM 2.0 support
- ▶ Passive cooling design without fans nor vents
- ▶ Extended temperature model available: -30 °C ~ 60 °C
- ▶ Mini size of only 0.6 liters



Mechanical Dimensions



unit: mm

SYSTEM	PROCESSOR MEMORY	Intel® Atom® x7211RE (Dual Core, 6M Cache, 1.0 / 3.2 GHz, 6 W TDP) Intel® Atom® x7433RE (Quad Core, 6M Cache, 1.5 / 3.4 GHz, 9 W TDP) Intel® Core™ i3-N305 (Octa Core, 6M Cache, 1.8 / 3.8 GHz, 15 W TDP) Intel® N97 (Quad Core, 6M Cache, 2.0 / 3.6 GHz, 12 W TDP) 4 GByte / 8 GByte / 16 GByte LPDDR5 4800 memory down
VIDEO	GRAPHICS DISPLAY INTERFACE MULTIPLE DISPLAY	Intel® UHD Graphics Gen12 2x DP (4096 x 2160 @ 60 Hz, 1x Full-size DP on front, 1x DP USB-C on front) Dual Display
NETWORK CONNECTION	ETHERNET	2x 2.5 GbE LAN (RJ45 on front, Intel® I226-V/IT, TSN support*)
PERIPHERAL CONNECTION	USB SERIAL PORT DIO	2x USB 3.2 Gen 2 Type A (on front) 1x USB 3.2 Gen 2 Type C (on front, w/ DP & PD 5 V / 3 A, except Atom® x7000RE) 1x USB 3.2 Gen 1 Type C (on front, w/ DP & PD 5 V / 3 A, only Atom® x7000RE) 2x USB 2.0 (Type A on rear) 2x RS232 (def.) / RS232/422/485 (opt.) (DB9 on rear, Tx / Rx only for RS232) 1x 8-bit DIO (DB9 Female on rear, 4x DI + 4x DO)
STORAGE & EXPANSION	eMMC M.2 SIM CARD HOLDER	32 GByte / 64 GByte / 128 GByte eMMC 1x M.2 Key B (Type 2242/3042/3052/2280, w/ PCIe x2 / USB 2.0 / SATA / UIM) 1x M.2 Key E (Type 2230, w/ PCIe x1 / USB 2.0 / CNVi**) 1x SIM Card Holder (optional, by wafer)
POWER	INPUT VOLTAGE CONNECTOR	DC 12 V Lockable DC Jack (on front)
FIRMWARE	BIOS WATCHDOG H/W MONITOR REAL TIME CLOCK SECURITY	AMI uEFI BIOS w/ 256 Mb SPI Flash Programmable WDT to generate system reset event Voltages, Temperatures Processor integrated RTC dTPM 2.0 Support (Infineon SLB 9672)
SYSTEM CONTROL & MONITORING	BUTTON, SWITCH & INDICATOR	1x Power Switch (on front) 1x Power LED (on front) 1x Storage LED (on front)
COOLING	COOLING METHOD	Passive
SOFTWARE	OS SUPPORT	Windows 11, Windows 10, Linux
MECHANICAL	CONSTRUCTION DIMENSION (W x D x H) WEIGHT MOUNTING	Aluminum Metal Chassis 130 mm x 109.3 mm x 40 mm / 5.12" x 4.30" x 1.57" 750 g / 1.65 lb Desktop VESA Mount (adaptor required) DIN Rail Mount
ENVIRONMENTAL	OPERATING TEMPERATURE STORAGE TEMPERATURE HUMIDITY	0 °C ~ 50 °C / 32 °F ~ 122 °F (Standard) -30 °C ~ 60 °C / -22 °F ~ 140 °F (Extended) -20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) -55 °C ~ 85 °C / -67 °F ~ 185 °F (Extended) 0 % ~ 95 %
COMPLIANCE	EMC & SAFETY	CE Class B, FCC Class B, ICES Class B, UKCA Class B

* TSN support for models with Atom® processors

** Atom® x7000RE Series processors do not support CNVi

Ordering Information

ARTICLE	PROCESSOR	LPDDR5	eMMC	LAN CHIP	TSN	USB-C 3.2	COM	OP. TEMP.
KBox E-250-ADN-0-N97	Intel N97	8 GB	64 GB	Intel I226-V	No	1x Gen 2	RS232	0 ~ 50 °C
KBox E-250-ADN-1-N97	Intel N97	8 GB	128 GB	Intel I226-V	No	1x Gen 2	RS232	0 ~ 50 °C
KBox E-250-ADN-2-i3-N305	Intel Core i3-N305	8 GB	128 GB	Intel I226-V	No	1x Gen 2	RS232	0 ~ 50 °C
KBox E-250-AML-0-x7211RE-ET*	Intel Atom x7211RE	8 GB	64 GB	Intel I226-IT	Yes	1x Gen 1	RS232	-30 ~ 60 °C
KBox E-250-AML-1-x7433RE-ET*	Intel Atom x7433RE	8 GB	128 GB	Intel I226-IT	Yes	1x Gen 1	RS232	-30 ~ 60 °C

The asterisk (*) means on a per-request basis.

Accessories

ARTICLE	DESCRIPTION
POWER ADAPTER*	AC 90 V ~ 264 V to DC 12 V @ 5 A max. 60 W, DC Jack
POWER CORD*	EU / US / UK / JP / CN / AU type depending on country
WI-FI + BLUETOOTH EXPANSION KIT*	Wi-Fi 2.4 GHz / 5 GHz + Bluetooth 4.0 Class I, M.2 Key-A/E interface, 2x antenna
VESA MOUNT KIT*	VESA mount adapter bracket, 4x screw
DIN RAIL MOUNT KIT*	DIN rail clamp, adapter plate, 6x screw

The asterisk (*) means optional item.

Product Contact Point

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