

KBox E-310-AMH/ADH



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

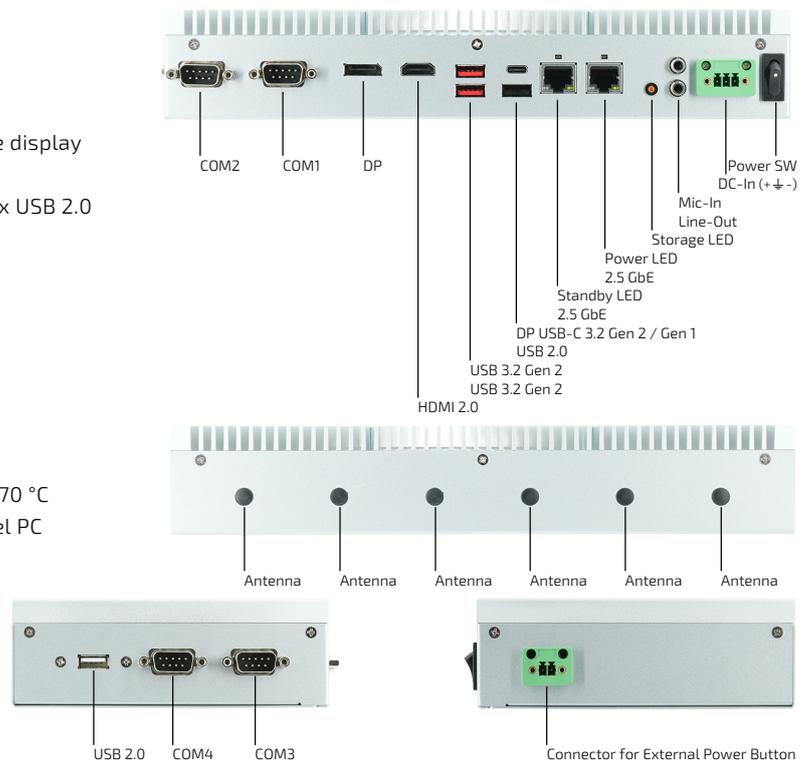
- Upgraded processing and graphics performance + faster AI inference capability
- Rugged design against environmental disturbances, such as dust, vibration & shock
- Hardware-based protection against malware and sophisticated cyberattacks
- Wide voltage input range to apply to different power supply conditions
- Convertible to a computing box module to transform into a panel PC

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

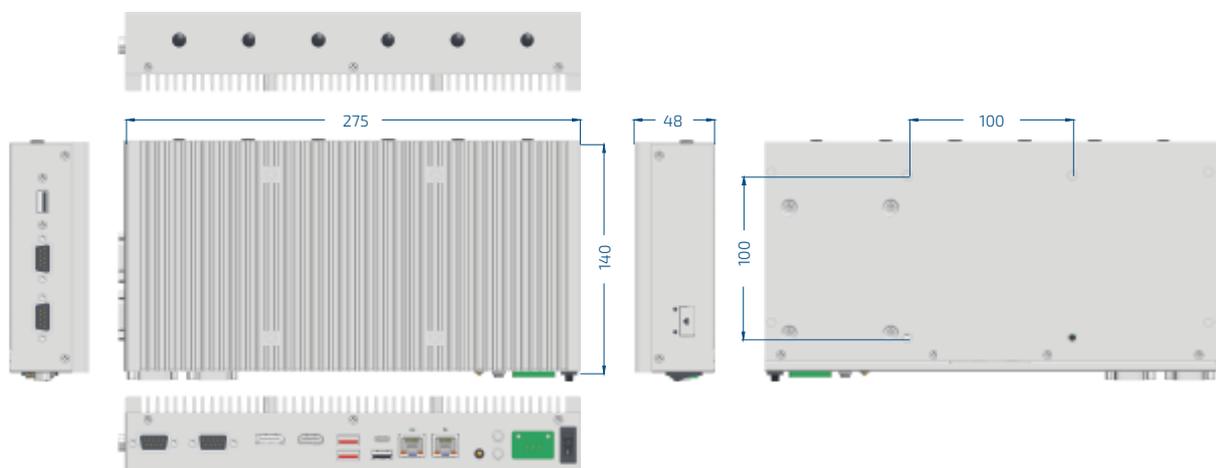
KBox E-310-AMH/ADH is a fanless industrial computer powered by Intel® Atom® x7000RE Series (codenamed Amston Lake), Intel® Core™ i3 N-Series and Intel® N-Series Series (codenamed Alder Lake N) processors with integrated Graphics and AI acceleration features. It can deliver upgraded performance, enhanced media transcoding and faster AI inference for intelligent Industry 4.0, edge computing and industrial IoT applications.

KBox E-310-AMH/ADH features a special mechanical design allowing it to be converted to a computing box module that can be mounted on any of Kontron's display modules to transform into a panel PC. System integrators and application developers can benefit from the design to develop two possible applications based on one platform. In addition, they can easily address specific display size and aspect ratio requirements tailored for a particular application or use case when integrating a panel PC.

- ▶ Intel® Atom® x7000RE Series Processors
- ▶ Intel® Core™ i3 N-Series Processors
- ▶ Intel® N-Series Processors
- ▶ 1x DDR5 SO-DIMM memory support
- ▶ 2x DP (1x full DP, 1x USB-C), 1x HDMI 2.0 for triple display
- ▶ 2x 2.5 GbE LAN for Ethernet
- ▶ 3x USB 3.2 Gen 2 / Gen 1 (2x Type A, 1x Type C), 2x USB 2.0
- ▶ 4x RE232/422/485 for serial device connection
- ▶ 1x 2.5" SATA 3.0 HDD / SSD support
- ▶ 1x M.2 Key B for SSD / WWAN expansion
- ▶ 1x M.2 Key E for WLAN / Bluetooth expansion
- ▶ 1x M.2 Key M for SSD storage
- ▶ TPM 2.0 support
- ▶ Passive cooling design without fans nor vents
- ▶ Wide voltage input range: DC 9 V ~ 36 V
- ▶ Extended temperature model available: -30 °C ~ 70 °C
- ▶ Convertible to a computing box module of a panel PC



Mechanical Dimensions



unit: mm

SYSTEM	PROCESSOR	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) 1x DDR5 4800 SO-DIMM up to 16 GByte
	MEMORY	
VIDEO	GRAPHICS	Intel® UHD Graphics Gen12
	DISPLAY INTERFACE	2x DP (4096 x 2160 @ 60 Hz, 1x Full-size DP + 1x DP USB-C on front)
	MULTIPLE DISPLAY	1x HDMI 2.0 (4096 x 2160 @ 60 Hz, on front) Triple Display
AUDIO	AUDIO CODEC	TSI 92HD91B
	AUDIO INTERFACE	1x Line-out (on front) 1x Mic-in (on front)
NETWORK CONNECTION	ETHERNET	2x 2.5 GbE LAN (RJ45 on front, Intel® I226-V/IT, TSN support*)
PERIPHERAL CONNECTION	USB	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)
	SERIAL PORT	2x USB 2.0 (1x Type A on front, 1x Type A on left) 2x RS232(full signal)/422/485 (DB9 on left, COM3 & COM4) 2x RS232(Tx/Rx only)/422/485 (DB9 on front, COM1 & COM2)
STORAGE & EXPANSION	SATA	1x 2.5" SATA 3.0 HDD / SSD
	M.2	1x M.2 Key B (Type 2242 / 3042 / 3052 / 2280, w/ PCIe x1 / USB 2.0 / UIM) 1x M.2 Key E (Type 2230, w/ PCIe x1 / USB 2.0 / CNVi**) 1x M.2 Key M (Type 2280, w/ SATA 3.0 (default) / PCIe x1 (optional))
	SIM CARD HOLDER	1x SIM Card Holder (optional, by header)
POWER	INPUT VOLTAGE	DC 9 V ~ 36 V
	CONNECTOR	3-pin Terminal Block (on front)
FIRMWARE	BIOS	AMI uEFI BIOS w/ 256 Mb SPI Flash
	WATCHDOG	Programmable WDT to generate system reset event
	H/W MONITOR	Voltages, Temperatures
	REAL TIME CLOCK	Processor integrated RTC
	SECURITY	dTPM 2.0 (Infineon SLB 9672)
SYSTEM CONTROL & MONITORING	BUTTON, SWITCH & INDICATOR	1x Power Switch (on front) 1x Power LED (on rear front) 1x Standby LED (on rear front) 1x Storage LED (on rear front) 1x 2-pin Terminal Block for External Power Button (on right)
COOLING	COOLING METHOD	Passive
SOFTWARE	OS SUPPORT	Windows 11, Windows 10, Linux
MECHANICAL	CONSTRUCTION	Metal Chassis + Aluminum Heatsink
	DIMENSION (W x D x H)	275.0 mm x 140.0 mm x 48.0 mm / 10.83" x 5.51" x 1.89"
	WEIGHT	1,900 g / 4.19 lb
	MOUNTING	VESA Mount (100 mm x 100 mm) Desktop Mounting on Kontron Display Module (a paired bottom cover required)
ENVIRONMENTAL	OPERATING TEMPERATURE	0 °C ~ 50 °C / 32 °F ~ 122 °F (Standard) -30 °C ~ 70 °C / -22 °F ~ 158 °F (Extended)
	STORAGE TEMPERATURE	-20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) -55 °C ~ 85 °C / -67 °F ~ 185 °F (Extended)
	HUMIDITY	0 % ~ 95 %
COMPLIANCE	EMC	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	LAN CHIP	TSN	USB-C 3.2	OPERATING TEMPERATURE
KBox E-310-ADH-0-N97	Intel® N97	Intel® I226-V	No	1x Gen 2	0 °C ~ 50 °C
KBox E-310-ADH-1-i3-N305	Intel® Core™ i3-N305	Intel® I226-V	No	1x Gen 2	0 °C ~ 50 °C
KBox E-310-AMH-0-x7211RE-ET*	Intel® Atom® x7211RE	Intel® I226-IT	Yes	1x Gen 1	-30 °C ~ 70 °C
KBox E-310-AMH-1-x7433RE-ET*	Intel® Atom® x7433RE	Intel® I226-IT	Yes	1x Gen 1	-30 °C ~ 70 °C

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

Accessories

ARTICLE	DESCRIPTION
POWER ADAPTER*	Input: AC 90 V ~ 264 V, Output: 19 V @ 4.74 A max. 90 W, open wire
POWER CORD*	EU / US / UK / JP / CN / AU type depending on country
VESA MOUNTING KIT*	2x bracket (Hole pattern: 100 mm x 100 mm & 75 mm x 75 mm), 4x screw
WI-FI + BLUETOOTH EXPANSION KIT*	Wi-Fi 2.4 GHz / 5 GHz, Bluetooth 4.0 Class I, M.2 Key A/E, 2x antenna

The asterisk (*) means optional item.

Product Contact Point

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