

IoT Gateways/Embedded Box PC

KBox Family

IoT Gateways/Embedded Box PC

Kontron's KBox family offers a comprehensive range of Box PCs starting from compact low-power platforms which are used as intelligent gateways for IoT edge applications up to high-performance systems for control, inspection and data collection tasks. All systems are long-term available, feature a robust system concept with a maximum of flexibility and expansion capabilities.

The KBox A-series describes the most compact Box PC family for a variety of applications in the industrial environment. It comprises IoT gateways for edge analytics or remote monitoring as well as systems for control and process optimization. All systems are based on Intel low-power platforms, come with a fanless system design and provide a multitude of I/Os and expansion capabilities.



› KBox A-Series Compact and flexible Box PC for IoT Gateway Applications

- › Intelligent IoT gateways for edge analytics, data acquisition & remote monitoring
- › Scalable processor performance from Intel Atom® to 13th Gen Intel® Core™ i3/i5/i7
- › Compact, fanless system designs
- › Broad range of interfaces and expansion capabilities
- › Options for Fieldbus, Wi-Fi, LTE or 5G
- › Various mounting options e.g. DIN rail, desktop, wallmount, cabinet

The KBox B-series is based on Kontron's long-term available motherboards offering highest performance by using latest CPUs. All systems use a low noise fan which draws in the air and distributes it to all system internal components for optimal cooling. Therefore the KBox B systems can be used for various applications such as high-end image processing, SCADA/MES applications, Artificial Intelligence and Machine Learning.



› KBox B-Series High Performance Embedded Box PC with Versatile Expansion Capabilities

- › High processing power: 14th Gen Intel® Core™ i3/i5/i7/i9 and Intel® Processor 300
- › Whisper quiet operation with special cooling concept
- › Compact form factor based on mITX motherboard
- › Several storage options incl. RAID
- › PCIe expansion slots for graphics or network cards
- › Smart Storage version with flexible drive bays and maximum storage capacity of up to 20TB
- › Wi-Fi option



› KBox B-301-RPL High-Performance Industrial PC for AI Applications

- › Powerful Industrial PC for machine learning, AI workflows and graphics-hungry applications
- › Based on Kontron µATX motherboard with high-performance 14th Gen Intel® Core™ i3/i5/i7/i9 processors
- › PCIe slots for high class network cards and performant graphics cards
- › Industrial-grade: shock/vibration resistant, 24/7, long-term availability
- › Optimized wall mount form factor

The KBox C-series describes a family of highly scalable and flexible industrial PCs that offer high-end performance for industrial automation applications such as control, data collection or inspection. The systems are extremely flexible and adaptable by using a modular system design that comprises a baseboard + COMe module as base, together with a variety of expansion and I/O modules to define the individual system. The system family offers a broad range of interfaces, various storage capabilities incl. RAID options and a multitude of expansion capabilities by specifically designed I/O modules or integration of 3rd party hardware.



› KBox C-Series Powerful Industrial Box PC for Control, Inspection and Data Collection

- › Processor performance up to 13th Gen Intel® Core™ for demanding applications
- › Highest system availability: Fanless up to 65 °C, redundant PSU option, goldcap backup
- › Optimized for control applications: Fieldbus integration & NVRAM option
- › High flexibility and expandability: Up to 4x PCIe Slots, mPCIe & M.2, 4x 2.5 GbE, 6x USB, up to 3x DP, ...

Kontron's KBox R-series is a robust and highly adaptable Industrial PC series designed for use in harsh environments, such as railroads and other public transport systems. The systems are based on a fanless and min. IP54 compliant system design, making it suitable for tough environments while minimizing maintenance needs. The multitude of communication interfaces, such as GbE, USB, Serial Ports, DisplayPort but also wireless connectivity with Wi-Fi and LTE/5G enables usage in a large number of applications and easy integration into existing installations.



› KBox R-Series High-End Industrial PC with EN 50155 Certification and 5G Connectivity for harsh Environments

- › Powerful 11th Gen Intel® Core™ i7-1185GRE/i5-1145GRE or Intel Atom® x6425RE/x6212RE processor
- › Versatile wireless and storage options via M.2: e.g. 5G/LTE, BT, Wi-Fi, GNSS, LPWA, SSD
- › Up to 6 antenna connectors (SMA, QMA)
- › USB-C providing DisplayPort, USB and power signals
- › Fanless operation at extended temperature range from -40 °C...+70 °C, +85 °C for 10 minutes
- › Full wide range railway certified PSU (24-110V DC nominal) EN50155 Class S2



About Kontron

Kontron AG is a leading IoT technology company. For more than 20 years, Kontron has been supporting companies from a wide range of industries to achieve their business goals with intelligent solutions. From automated industrial operations, smarter and safer transport to advanced communications, connectivity, medical, and energy solutions, the company delivers technologies that add value for its customers. With the acquisition of Katek SE in early 2024, Kontron significantly strengthens its portfolio with the new GreenTec division, focusing on solar energy and eMobility, and grows to around 7,000 employees in over 20 countries worldwide. Kontron is listed on the SDAX® and TecDAX® of the German Stock Exchange.

For more information, please visit: www.kontron.com

About the Intel® Partner Alliance

From modular components to market-ready systems, Intel and the over 1,000+ global member companies of the Intel® Partner Alliance provide scalable, interoperable solutions that accelerate deployment of intelligent devices and end-to-end analytics. Close collaboration with Intel and each other enables Alliance members to innovate with the latest IoT technologies, helping developers deliver first-in-market solutions.

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KBox Family

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PLATFORM	KBox A-251-AML/ADN
MAINTENANCE-FREE	pITX 1) 4) 6)

KBox A-151-EKL	3.5" SBC 1) 4) 6)
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KBox A-151-AML/ADN	3.5" SBC 1) 4) 6)
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KBox A-151-TGL	3.5" SBC 1) 4) 6)
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KBox A-151-RPL	mITX 1) 4) 6)
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KBox B-201-RPL	mITX 2) 4) 6)
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KBox B-202-RPL	mITX 2) 4) 6)
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KBox B-203-RPL	mITX 2) 4) 6)
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KBox B-204-RPL	µATX 2) 4) 6)
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KBox B-301-RPL	µATX 2) 4) 6)
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KBox C-104-TGL	COM Express™ 1) 2) 3) 4) 5) 6)
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KBox C-104-RPL	COM Express™ 1) 2) 3) 4) 5) 6)
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KBox R-101-EKL/TGL	COM Express™ 1) 2) 3) 4) 5) 6)
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PROCESSOR	CPU	Intel® N97 or Intel® Core™ i3-N305 or Intel® Atom® x7211RE / x7433RE / x7835RE
	MAX. NUMBER OF CORES	Octa-Core
	MAX. SPEED	2.0 GHz/3.8 GHz (Burst)
	SYSTEM CHIPSET	Integrated
	BIOS	AMI® Aptio V5
MEMORY	MEMORY TECHNOLOGY	DDR5
	MAX. CAPACITY	16 GByte
	SOCKET	soldered
GRAPHICS	GRAPHICS CORE	Intel® UHD Graphics
ETHERNET	MAX. RESOLUTION	7680 x 4320
	CONTROLLER	Intel® I226-V/IT
	IEEE1588	yes
	TEAMING / FAILOVER	yes / yes
INTERFACES	2.5GbE / 1GbE/ 100Mbit	2(4*) / 0 / 0
	HDMI / DVI / DP / VGA	0 / 0 / 1 / 0
	RS232 / RS422 / RS485	1(4*)/ 0(2*) / 0(2*)
	USB TYPE-C	-
	USB 3.2 / 3.0 / 2.0	3 / 0 / 0
	AUDIO	-
	MISCELLANEOUS	Power Button & LED
OPTIONAL INTERFACES	IO EXPANSION	Options for additional GbE, Serial Ports, 8x Digital I/Os
EXPANSION SLOTS	FIELDBUS	CAN, EtherCAT
	WIRELESS TECHNOLOGY	Wi-Fi, LTE or 5G
STORAGE	MINI PCIE / PCIE / M.2	0 / 0 / 1
	2.5" SSD	-
	MSATA / M.2 (SATA/NVME)	0 / 1
	mSD CARD / CF/AST EXPRESS	-
	eMMC	-
SOFTWARE	MICROSOFT WINDOWS	Win 11 IoT LTSC 2024
	LINUX	Debian 12.8
	TOOLSET	KontronOS**, KontronGrid***
	KEAPI	on request
SECURITY	SECURITY	TPM 2.0
WATCHDOG	WATCHDOG TIMER	yes
POWER	INPUT VOLTAGE	24 V DC (9..36 V DC)
	AC ADAPTER	External AC/DC adapter optional, 90 to 264 V AC, 65 W
MECHANICS	MOUNTING	DIN Rail, Rugged DIN Rail, Desktop
	DIMENSION (W x H x D)	137 x 50 x 95 mm (5.39" x 1.97" x 3.73")
	WEIGHT	approx. 1 kg (2.20 lbs)
ENVIRONMENT	COOLING	Fanless
	OPERATING TEMPERATURE	Standard: 0 °C to +60 °C (32 °F to 140 °F) Extended: -40 °C to +60 °C (-40 °F to 140 °F)
	RELATIVE HUMIDITY	93 % @ 40 °C non-condensing
	VIBRATION	Vibration operational: IEC 60068-2-6 10-150 Hz, 1 G
	SHOCK	Shock operational: IEC 60068-2-27 half sine 11 ms 15 G
	IP PROTECTION CLASS	IP 20
APPROVALS	COMPLIANCE	UL/CB/FCC/CE/UKCA

PROCESSOR	CPU	Intel Atom® x6212RE / x6425RE or Celeron® J6413
	MAX. NUMBER OF CORES	Quad-Core
	MAX. SPEED	1.9 GHz
	SYSTEM CHIPSET	Integrated
	BIOS	AMI® Aptio V5
MEMORY	MEMORY TECHNOLOGY	DDR4
	MAX. CAPACITY	32 GByte
	SOCKET	2x SODIMM
GRAPHICS	GRAPHICS CORE	Intel® UHD Graphics for 10th Gen Intel® Processors
ETHERNET	MAX. RESOLUTION	4096 x 2160
	CONTROLLER	Intel® I226-IT
	IEEE1588	yes
	TEAMING / FAILOVER	yes / yes
INTERFACES	2.5GbE / 1GbE/ 100Mbit	2(4*) / 0 / 0
	HDMI / DVI / DP / VGA	0 / 0 / 2 / 0
	RS232 / RS422 / RS485	2(4*)/2(4*)/2(4*)
	USB TYPE-C	-
	USB 3.2 / 3.0 / 2.0	2 / 0 / 2
	AUDIO	Line-Out*, Speaker Out*
	MISCELLANEOUS	Power Button & LED
OPTIONAL INTERFACES	IO EXPANSION	Options for additional GbE, Serial Ports, 8x Digital I/Os
EXPANSION SLOTS	FIELDBUS	CAN, EtherCAT
	WIRELESS TECHNOLOGY	Wi-Fi, LTE or 5G
STORAGE	MINI PCIE / PCIE / M.2	0 / 0 / 2
	2.5" SSD	-
	MSATA / M.2 (SATA/NVME)	0 / 1
	mSD CARD / CF/AST EXPRESS	-
	eMMC	-
SOFTWARE	MICROSOFT WINDOWS	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024
	LINUX	Debian 12.4
	TOOLSET	on request
	KEAPI	yes
SECURITY	SECURITY	TPM 2.0
WATCHDOG	WATCHDOG TIMER	yes
POWER	INPUT VOLTAGE	24 V DC (9..30 V DC)
	AC ADAPTER	External AC/DC adapter optional, 90 to 264 V AC, 65 W
MECHANICS	MOUNTING	DIN Rail, Book mount
	DIMENSION (W x H x D)	180 x 70 x 123 mm (7.09" x 2.76" x 4.84")
	WEIGHT	approx. 2.0 kg (4.41 lbs)
ENVIRONMENT	COOLING	Fanless
	OPERATING TEMPERATURE	Standard: 0 °C to +60 °C (32 °F to 140 °F) Extended: -40 °C to +60 °C (-40 °F to 140 °F)
	RELATIVE HUMIDITY	93 % @ 40 °C non-condensing
	VIBRATION	Vibration operational: IEC 60068-2-6 10-150 Hz, 1 G
	SHOCK	Shock operational: IEC 60068-2-27 half sine 11 ms 15 G
	IP PROTECTION CLASS	IP 20
APPROVALS	COMPLIANCE	UL/CB/FCC/CE/UKCA

PROCESSOR	CPU	Intel® N97 or Intel® Core™ i3-N305 or Intel® Atom® x7211RE / x7433RE / x7835RE
	MAX. NUMBER OF CORES	Octa-Core
	MAX. SPEED	2.0 GHz/3.8 GHz (Burst)
	SYSTEM CHIPSET	Integrated
	BIOS	AMI® Aptio V5
MEMORY	MEMORY TECHNOLOGY	DDR5
	MAX. CAPACITY	16 GByte
	SOCKET	1x SODIMM
GRAPHICS	GRAPHICS CORE	Intel® UHD Graphics
ETHERNET	MAX. RESOLUTION	7680 x 4320
	CONTROLLER	Intel® I226-V/IT
	IEEE1588	yes
	TEAMING / FAILOVER	yes / yes
INTERFACES	2.5GbE / 1GbE/ 100Mbit	1(3*) / 1 / 0
	HDMI / DVI / DP / VGA	0 / 0 / 2 / 0
	RS232 / RS422 / RS485	0 / 0 / 2 / 0
	USB TYPE-C	2(4*)/0(2*)/0(2*)
	USB 3.2 / 3.0 / 2.0	-
	AUDIO	3 / 0 / 1
	MISCELLANEOUS	Line-Out*, Speaker Out*
OPTIONAL INTERFACES	IO EXPANSION	Options for additional GbE, Serial Ports, 8x Digital I/Os
EXPANSION SLOTS	FIELDBUS	CAN, EtherCAT
	WIRELESS TECHNOLOGY	Wi-Fi, LTE or 5G
STORAGE	MINI PCIE / PCIE / M.2	0 / 0 / 2
	2.5" SSD	-
	MSATA / M.2 (SATA/NVME)	0 / 1
	mSD CARD / CF/AST EXPRESS	-
	eMMC	-
SOFTWARE	MICROSOFT WINDOWS	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024
	LINUX	Debian 12.8
	TOOLSET	on request
	KEAPI	yes
SECURITY	SECURITY	TPM 2.0
WATCHDOG	WATCHDOG TIMER	yes
POWER	INPUT VOLTAGE	24 V DC (10..34 V DC)
	AC ADAPTER	External AC/DC adapter optional, 90 to 264 V AC, 65 W
MECHANICS	MOUNTING	DIN Rail, Rugged DIN Rail, Book mount
	DIMENSION (W x H x D)	180 x 70 x 123 mm (7.09" x 2.76" x 4.84")
	WEIGHT	approx. 2.0 kg (4.41 lbs)
ENVIRONMENT	COOLING	Fanless
	OPERATING TEMPERATURE	Standard: 0 °C to +60 °C (32 °F to 140 °F) Extended: -40 °C to +60 °C (-40 °F to 140 °F)
	RELATIVE HUMIDITY	93 % @ 40 °C non-condensing
	VIBRATION	Vibration operational: IEC 60068-2-6 10-150 Hz, 1 G
	SHOCK	Shock operational: IEC 60068-2-27 half sine 11 ms 15 G
	IP PROTECTION CLASS	IP 20
APPROVALS	COMPLIANCE	UL/CB/FCC/CE/UKCA

PROCESSOR	CPU	11th Gen Intel® Core™ i3-1115G4E / i5-1145G7E / i5-1145G7E / i7-1185G7E / i7-1185G7E or Intel® Processor U300E
	MAX. NUMBER OF CORES	Deca-Core
	MAX. SPEED	1.7 GHz / 4.9 GHz (Burst)
	SYSTEM CHIPSET	Integrated
	BIOS	AMI® Aptio V5
MEMORY	MEMORY TECHNOLOGY	DDR5
	MAX. CAPACITY	64 GByte
	SOCKET	2x SODIMM
GRAPHICS	GRAPHICS CORE	Intel® Iris® Xe Graphics
ETHERNET	MAX. RESOLUTION	7680 x 4320
	CONTROLLER	Intel® I226-LM/IT, Intel® I210-AT/IT
	IEEE1588	yes
	TEAMING / FAILOVER	yes / yes
INTERFACES	2.5GbE / 1GbE/ 100Mbit	1(3*) / 1 / 0
	HDMI / DVI / DP / VGA	0 / 0 / 2 / 0
	RS232 / RS422 / RS485	2(4*)/0(2*)/0(2*)
	USB TYPE-C	-
	USB 3.2 / 3.0 / 2.0	4 / 0 / 0
	AUDIO	Line-Out*, Speaker Out*
	MISCELLANEOUS	Power Button & LED
OPTIONAL INTERFACES	IO EXPANSION	Options for additional GbE, Serial Ports, 8x Digital I/Os, I/O board w. 2x GbE & 2x DP
EXPANSION SLOTS	FIELDBUS	CAN, EtherCAT
	WIRELESS TECHNOLOGY	Wi-Fi, LTE or 5G
STORAGE	MINI PCIE / PCIE / M.2	0 / 0 / 2
	2.5" SSD	-
	MSATA / M.2 (SATA/NVME)	0 / 1
	mSD CARD / CF/AST EXPRESS	-
	eMMC	-
SOFTWARE	MICROSOFT WINDOWS	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024
	LINUX	Debian 12.4
	TOOLSET	KontronOS**, KontronGrid***
	KEAPI	on request
SECURITY	SECURITY	TPM 2.0
WATCHDOG	WATCHDOG TIMER	yes
POWER	INPUT VOLTAGE	24 V DC (10..34 V DC)
	AC ADAPTER	External AC/DC adapter optional, 90 to 264 V AC, 65 W
MECHANICS	MOUNTING	DIN Rail, Rugged DIN Rail, Book mount
	DIMENSION (W x H x D)	180 x 70 x 123 mm (7.09" x 2.76" x 4.84")
	WEIGHT	approx. 2.0 kg (4.41 lbs)
ENVIRONMENT	COOLING	Fanless
	OPERATING TEMPERATURE	Standard: 0 °C to +60 °C (32 °F to 140 °F) Extended: -40 °C to +60 °C (-40 °F to 140 °F)
	RELATIVE HUMIDITY	93 % @ 40 °C non-condensing
	VIBRATION	Vibration operational: IEC 60068-2-6 10-150 Hz, 1 G
	SHOCK	Shock operational: IEC 60068-2-27 half sine 11 ms 15 G
	IP PROTECTION CLASS	IP 40 on top / IP 30 on sides
APPROVALS	COMPLIANCE	UL/CB/FCC/CE/UKCA

PROCESSOR	CPU	13th Gen. Intel® Core™ i3-1315UE / i5-1345UE / i5-1345UE / i7-1365UE / i7-1365UE or Intel® Processor U300E
	MAX. NUMBER OF CORES	Deca-Core
	MAX. SPEED	1.7 GHz / 4.9 GHz (Burst)
	SYSTEM CHIPSET	Integrated
	BIOS	AMI® Aptio V5
MEMORY	MEMORY TECHNOLOGY	DDR5
	MAX. CAPACITY	64 GByte
	SOCKET	2x SODIMM
GRAPHICS	GRAPHICS CORE	Intel® Iris® Xe Graphics
ETHERNET	MAX. RESOLUTION	7680 x 4320
	CONTROLLER	Intel® I226-LM, Intel® i219LM
	IEEE1588	yes
	TEAMING / FAILOVER	yes / yes
INTERFACES	2.5GbE / 1GbE/ 100Mbit	1(3*) / 1 / 0
	HDMI / DVI / DP / VGA	0 / 0 / 2 / 0
	RS232 / RS422 / RS485	2(4*)/0(2*)/0(2*)
	USB TYPE-C	-
	USB 3.2 / 3.0 / 2.0	7 / 0 / 2
	AUDIO	Line-Out*, Speaker Out*
	MISCELLANEOUS	Power Button & LED
OPTIONAL INTERFACES	IO EXPANSION	Options for additional GbE, Serial Ports, 8x Digital I/Os, I/O board w. 2x GbE & 2x DP
EXPANSION SLOTS	FIELDBUS	CAN, EtherCAT
	WIRELESS TECHNOLOGY	Wi-Fi
STORAGE	MINI PCIE / PCIE / M.2	0 / 0 / 1
	2.5" SSD	1
	MSATA / M.2 (SATA/NVME)	0 / 1
	mSD CARD / CF/AST EXPRESS	-
	eMMC	-
SOFTWARE	MICROSOFT WINDOWS	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024
	LINUX	Debian 12.4
	TOOLSET	on request
	KEAPI	yes
SECURITY	SECURITY	TPM 2.0
WATCHDOG	WATCHDOG TIMER	yes
POWER	INPUT VOLTAGE	24 V DC (10..34 V DC)
	AC ADAPTER	External AC/DC adapter optional, 90 to 264 V AC, 150 W
MECHANICS	MOUNTING	Desktop, Wallmount, VESA, Vertical Stand
	DIMENSION (W x H x D)	190 x 60 x 190 mm (7.48" x 4.72" x 7.48")
	WEIGHT	2 kg (4.4 lbs)
ENVIRONMENT	COOLING	with fan
	OPERATING TEMPERATURE	0 °C to +45 °C (32 °F to 113 °F)
	RELATIVE HUMIDITY	93 % @ 40 °C non-condensing
	VIBRATION	Vibration operational: IEC 60068-2-6 10-500 Hz, 1 G
	SHOCK	Shock operational: IEC 60068-2-27: half sine