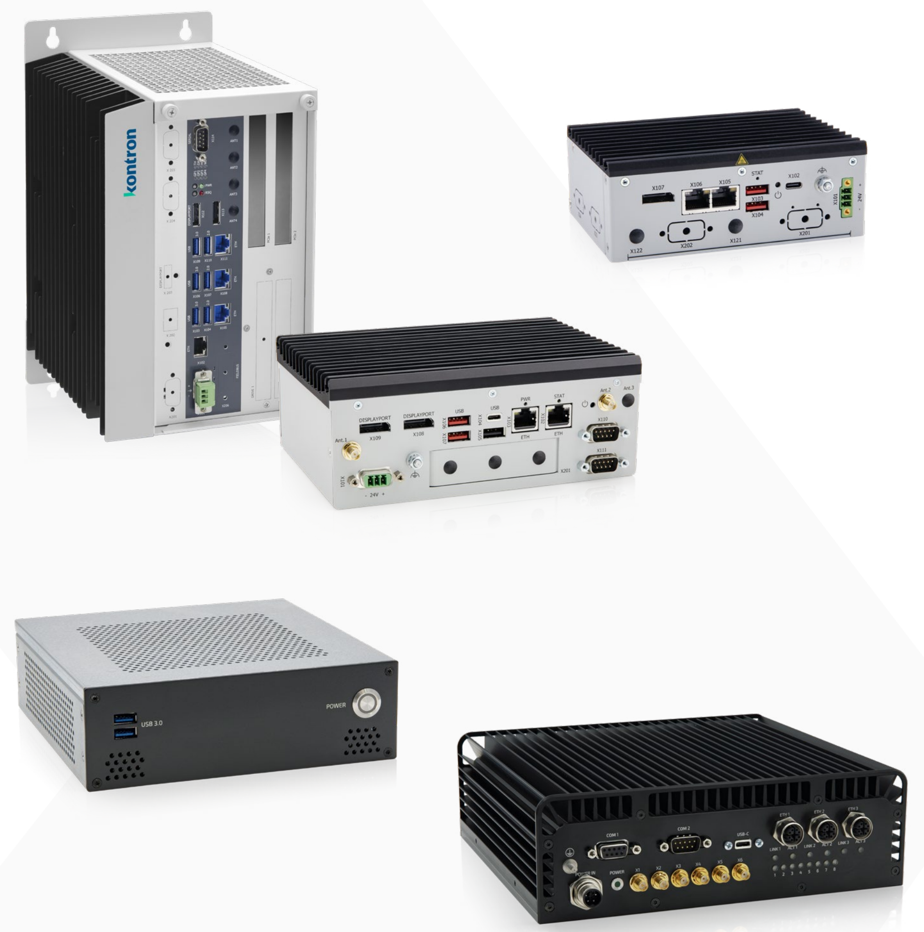


› **Smart Automation**
Industrial IoT applications, edge computing

› **Maintenance free**
Reducing TCO – driving system availability

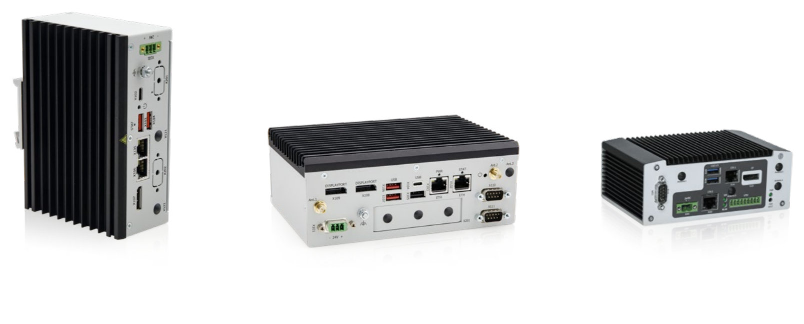
› **Forever young**
Maximum innovation – minimum investment

kontron
The Power of IoT

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 IOs and expansion capabilities.

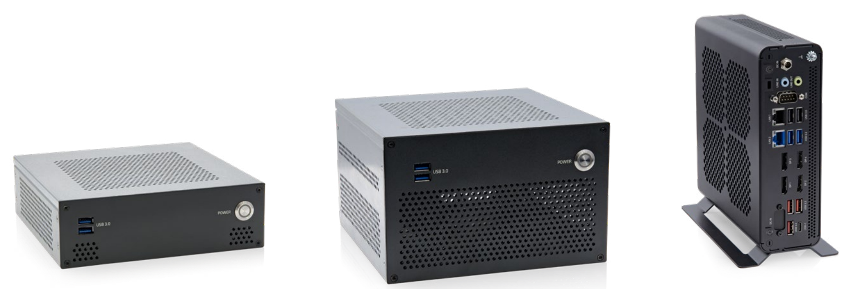


› KBox A-Series

Compact and flexible Box PC for IoT Gateway Applications

- Intelligent IoT gateways for edge analytics, data aquisition & 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 mini-ITX motherboard family offering highest performance by using latest Desktop CPUs. All systems use a low noise fan which draws in the air through the top cover 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.

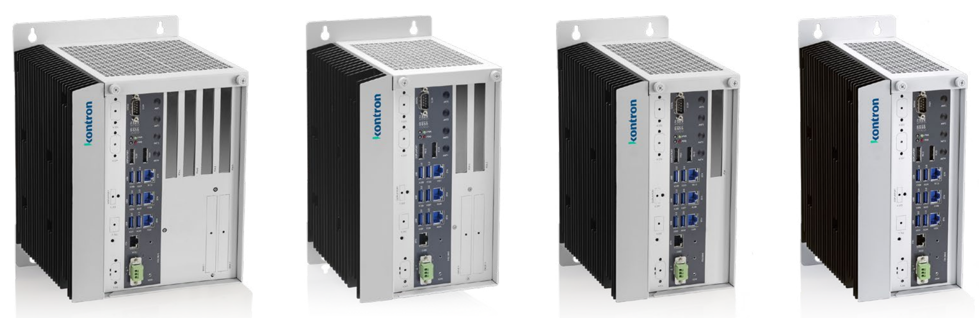


› KBox B-Series

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

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 IO 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 IO modules or integration of 3rd party hardware.

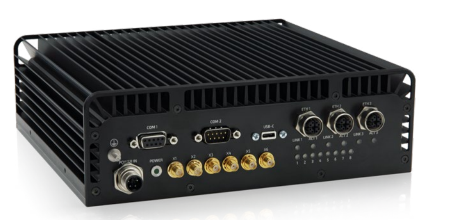


› KBox C-Series

Powerful Industrial Box PC for Control, Inspection and Data Collection

- Processor performance up to 11th Generation Intel® Core™ or Xeon® W 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 mutiltude 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 8,000 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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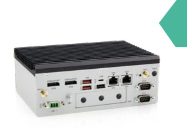
kontron
The Power of IoT

KBox Family

IoT Gateways/Embedded Box PC

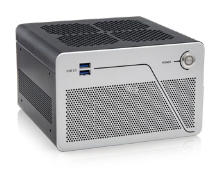
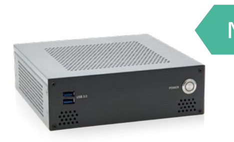
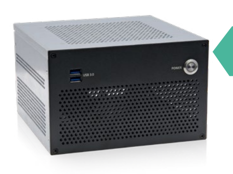


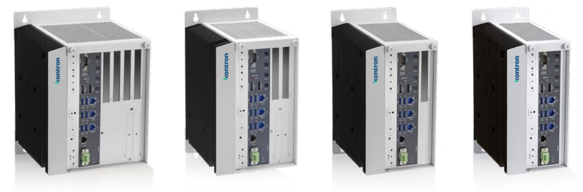
PLATFORM MAINTENANCE-FREE		KBox A-250 pITX 1) 4) 6)	NEW KBox A-251-AML/ADN pITX 1) 4) 6)	KBox A-151-EKL 3.5" SBC 1) 4) 6)	NEW KBox A-151-AML/ADN 3.5" SBC 1) 4) 6)
PROCESSOR	CPU	Intel Atom® x5-E3930 / x5-E3940 / x7-E3950	Intel® N97 or Intel® Core™ i3-N305 or Intel® Atom® x7211RE / x7433RE / x7835RE	Intel Atom® x6212RE / x6425RE or Celeron® J6413	Intel® N97 or Intel® Core™ i3-N305 or Intel® Atom® x7211RE / x7433RE / x7835RE
	MAX. NUMBER OF CORES	Quad-Core	Octa-Core	Quad-Core	Octa-Core
	MAX. SPEED	1.6 GHz/2.0 GHz (Burst)	2.0 GHz/3.8 GHz (Burst)	1.9 GHz	2.0 GHz/3.8 GHz (Burst)
	SYSTEM CHIPSET	Integrated	Integrated	Integrated	Integrated
	BIOS	AMI® Aptio V5	AMI® Aptio V5	AMI® Aptio V5	AMI® Aptio V5
MEMORY	MEMORY TECHNOLOGY	DDR3L ECC	DDR5	DDR4	DDR5
	MAX. CAPACITY	8 Gbyte	16 GByte	32 Gbyte	16 GByte
	SOCKET	1x SODIMM	1x SODIMM	2x SODIMM	1x SODIMM
GRAPHICS	GRAPHICS CORE	Intel® HD Graphics 500	Intel® UHD Graphics	Intel® UHD Graphics for 10th Gen Intel® Core™ Processors	Intel® UHD Graphics
	MAX. RESOLUTION	4096 x 2160	7680 x 4320	4096 x 2160	7680 x 4320
ETHERNET	CONTROLLER	Intel® I210-IT, LAN9500AI	Intel® I226-V/IT	Intel® I226-IT	Intel® I226-V/IT
	IEEE1588	yes	yes	yes	yes
	TEAMING / FAILOVER	yes / yes	yes / yes	yes / yes	yes / yes
INTERFACES	2.5GbE / 1GbE/ 100Mbit	0 / 1 / 1	2 (4*) / 0 / 0	2 (4*) / 0 / 0	2 (4*) / 0 / 0
	HDMI / DVI / DP / VGA	0 / 0 / 1 / 0	0 / 0 / 1 / 0	0 / 0 / 2 / 0	0 / 0 / 2 / 0
	RS232 / RS422 / RS485	1 / 0 / 0	1 (4*)/ 0 (2*) / 0 (2*)	2 (4*)/2 (4*)/2 (4*)	2 (4*)/0 (2*)/0 (2*)
	USB TYPE-C	-	1	-	1
	USB 3.2 / 3.0 / 2.0	0 / 2 / 0	3 / 0 / 0	2 / 0 / 2	3 / 0 / 1
	AUDIO	-	-	Line-Out*, Speaker Out*	Line-Out*, Speaker Out*
	MISCELLANEOUS	Power Button & LEDs, 7x Digital IOs 24 V, 1x Digital Input 24 V	Power Button & LED	Power Button & LED	Power Button & LED
OPTIONAL INTERFACES	IO EXPANSION	-	Options for additional GbE, Serial Ports, 8x Digital IOs	Options for additional GbE, Serial Ports, 8x Digital IOs	Options for additional GbE, Serial Ports, 8x Digital IOs
	FIELDBUS	-	CAN, EtherCAT	CAN, EtherCAT	CAN, EtherCAT
	WIRELESS TECHNOLOGY	WI-FI, LTE	WI-FI, LTE or 5G	WI-FI, LTE or 5G	WI-FI, LTE or 5G
EXPANSION SLOTS	MINI PCIE / PCIE / M.2	2 / 0 / 0	0 / 0 / 1	0 / 0 / 2	0 / 0 / 2
STORAGE	2.5" SSD	-	-	-	-
	MSATA / M.2 (SATA/NVME)	1 / 1	0 / 1	0 / 1	0 / 1
	mSD CARD / CFAST EXPRESS	1 / 0	-	-	-
	eMMC	-	yes	-	-
SOFTWARE	MICROSOFT WINDOWS	Win 10 IoT LTSC 2019	Win 11 IoT LTSC 2024	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024
	LINUX	Yocto	Debian 12.4	yes	Debian 12.4
	TOOLSET	KontronOS** KontronGrid*** Kontron FabEagle®Connect****	on request	on request	on request
	KEAPI	yes	-	yes	yes
SECURITY	SECURITY	TPM 2.0	TPM 2.0	TPM 2.0	TPM 2.0
WATCHDOG	WATCHDOG TIMER	yes	yes	yes	yes
POWER	INPUT VOLTAGE	24 V DC (+/- 20 %)	24 V DC	24 V DC (9..30 V DC)	24 V DC (9..30 V DC)
	AC ADAPTER	External AC/DC adapter optional, 90 to 264 V AC, 65 W	External AC/DC adapter optional, 90 to 264 V AC, 65 W	External AC/DC adapter optional, 90 to 264 V AC, 65 W	External AC/DC adapter optional, 90 to 264 V AC, 65 W
MECHANICS	MOUNTING	DIN RAIL, Desktop, Wallmount, Cabinet	DIN RAIL, Desktop	DIN Rail, Book mount	DIN Rail, Book mount
	DIMENSION (W x H x D)	150 x 58 x 100 mm (5.91" x 2.28" x 3.94")	137 x 50 x 95 mm (5.39"" x 1.97"" x 3.73"")	180 x 70 x 123 mm (7,09" x 2,76" x 4,84")	180 x 70 x 123 mm (7,09" x 2,76" x 4,84")
	WEIGHT	1 kg (2.20 lbs)	approx. 1kg (2.20 lbs)	approx 2.0 kg (4.41 lbs)	approx 2.0 kg (4.41 lbs)
ENVIRONMENT	COOLING	Fanless	Fanless	Fanless	Fanless
	OPERATING TEMPERATURE	0 °C to +50 °C (32 °F to 122 °F)	Standard: 0 °C to +60 °C (32 °F to 140 °F) Extended: -40 °C to +60 °C (-40 °F to 140 °F)	Standard: 0 °C to +60 °C (32 °F to 140 °F) Extended: -40 °C to +60 °C (-40 °F to 140 °F)	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	93 % @ 40 °C non-condensing	93 % @ 40 °C non-condensing	93 % @ 40 °C non-condensing
	VIBRATION	Vibration operational: IEC 60068-2-6: 10–500 Hz, 1 G	Vibration operational: IEC 60068-2-6 10–150 Hz, 1 G	Vibration operational: IEC 60068-2-6 10–150 Hz, 1 G	Vibration operational: IEC 60068-2-6 10–150 Hz, 1 G
	SHOCK	Shock operational: IEC 60068-2-27 half sine 11 ms 15 G	Shock operational: IEC 60068-2-27 half sine 11 ms 15 G	Shock operational: IEC 60068-2-27 half sine 11 ms 15 G	Shock operational: IEC 60068-2-27 half sine 11 ms 15 G
	IP PROTECTION CLASS	IP 20	IP 20	IP 20	IP 20
APPROVALS	COMPLIANCE	UL/CB/FCC/CE/UKCA	UL/CB/FCC/CE/UKCA planned	UL/CB/FCC/CE/UKCA	UL/CB/FCC/CE/UKCA planned



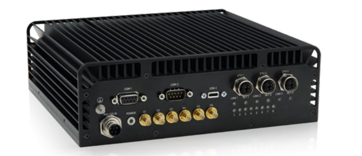
PLATFORM MAINTENANCE-FREE		KBox A-151-TGL 3.5" SBC 1) 4) 6)	NEW KBox A-151-RPL 3.5" SBC 1) 4) 6)	KBox B-201-RPL mITX 2) 4) 6)
PROCESSOR	CPU	11th Gen Intel® Core™ i3-1115G4E / i5-1145GRE / i5-1145G7E / i7-1185GRE/ i7-1185G7E or Celeron® 6305E	13th Gen. Intel® Core™ i3-1315UE / i5-1345UE / i5-1345URE / i7-1365UE / i7-1365URE or Intel Processor U300E	13th / 14th Gen Intel® Core™ i3-14100T / i5-14500T / i7-14700T / i9-14900T or Intel® Processor 300T
	MAX. NUMBER OF CORES	Quad-Core	Deca-Core	24-Core (8x P-Core + 16x E-Core)
	MAX. SPEED	1.8 GHz/4.4 GHz (Burst)	1.7 GHz / 4.9 GHz (Burst)	P-Core: 1.8 GHz/5.2 GHz (Burst) E-Core: 1.3 GHz
	SYSTEM CHIPSET	Integrated	Integrated	Intel® Q670E
	BIOS	AMI® Aptio V5	AMI® Aptio V5	AMI® Aptio V5
MEMORY	MEMORY TECHNOLOGY	DDR4	DDR5	DDR5
	MAX. CAPACITY	64 GByte	96 GByte	64 Gbyte
	SOCKET	2x SODIMM	2x SODIMM	2x SODIMM
GRAPHICS	GRAPHICS CORE	Intel® Core™ i5/i7: Intel® Iris® Xe Graphics; Intel® Core™ i3: Intel® UHD Graphics for 11th Gen Intel® Processors Intel® Celeron: Intel® UHD Graphics	Intel® Iris® Xe Graphics	up to Intel® UHD Graphics 770
	MAX. RESOLUTION	7680 x 4320	7680 x 4320	7680 x 4320
ETHERNET	CONTROLLER	Intel® I226-AT/IT, Intel® I210-AT/IT	Intel® I226-LM/IT	Intel® I226-LM, Intel® i219LM
	IEEE1588	yes	yes	yes
	TEAMING / FAILOVER	yes / yes	yes / yes	yes / yes
INTERFACES	2.5GbE / 1GbE/ 100Mbit	1 (3*) / 1 / 0	2 (4*) / 0 / 0	1 / 1 / 0
	HDMI / DVI / DP / VGA	0 / 0 / 2 / 0	0 / 0 / 2 / 0	0 / 0 / 4 / 0
	RS232 / RS422 / RS485	2 (4*)/2 (4*)/2 (4*)	2 (4*)/0 (2*)/0 (2*)	1 / 0 / 0
	USB TYPE-C	-	-	1
	USB 3.2 / 3.0 / 2.0	0 / 4 / 0	4 / 0 / 0	7 / 0 / 2
	AUDIO	Line-Out*, Speaker Out*	Line-Out*, Speaker Out*	1x Line-Out, 1x Line-In
	MISCELLANEOUS	Power Button & LED	Power Button & LED	Power Button & LED
OPTIONAL INTERFACES	IO EXPANSION	Options for additional GbE, Serial Ports, 8x Digital IOs, I/O board w. 2x GbE & 2x DP	Options for additional GbE, Serial Ports, 8x Digital IOs, I/O board w. 2x GbE & 2x DP	-
	FIELDBUS	CAN, EtherCAT	CAN, EtherCAT	on request
	WIRELESS TECHNOLOGY	WI-FI, LTE or 5G	WI-FI, LTE or 5G	WI-FI
EXPANSION SLOTS	MINI PCIE / PCIE / M.2	0 / 0 / 2	0 / 0 / 2	0 / 0 / 1
STORAGE	2.5" SSD	-	-	1
	MSATA / M.2 (SATA/NVME)	0 / 1	0 / 1	0 / 1
	mSD CARD / CFAST EXPRESS	-	-	-
	eMMC	-	-	-
SOFTWARE	MICROSOFT WINDOWS	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024
	LINUX	yes	Debian 12.4	yes
	TOOLSET	on request	on request	on request
	KEAPI	yes	yes	-
SECURITY	SECURITY	TPM 2.0	TPM 2.0	TPM 2.0
WATCHDOG	WATCHDOG TIMER	yes	yes	yes
POWER	INPUT VOLTAGE	24 V DC (9..30 V DC)	24 V DC (9..30 V DC)	90 to 264 VAC (external AC/DC adapter provided), 24 V DC*
	AC ADAPTER	External AC/DC adapter optional, 90 to 264 V AC, 65 W	External AC/DC adapter optional, 90 to 264 V AC, 65 W	External AC/DC adapter, 90 to 264 V AC, 150 W
MECHANICS	MOUNTING	DIN Rail, Book mount	DIN Rail, Book mount	Desktop, Wallmount, VESA, Vertical Stand
	DIMENSION (W x H x D)	180 x 70 x 123 mm (7,09" x 2,76" x 4,84")	180 x 70 x 123 mm (7,09" x 2,76" x 4,84")	190 x 60 x 190 mm (7.48" x 2.36" x 7.48")
	WEIGHT	approx 2.0 kg (4.41 lbs)	approx 2.0 kg (4.41 lbs)	2 kg (4.4 lbs)
ENVIRONMENT	COOLING	Fanless	Fanless	with fan
	OPERATING TEMPERATURE	Standard: 0 °C to +60 °C (32 °F to 140 °F) Extended: -40 °C to +60 °C (-40 °F to 140 °F)	Standard: 0 °C to +60 °C (32 °F to 140 °F) Extended: -40 °C to +60 °C (-40 °F to 140 °F)	0 °C to +45 °C (32 °F to 113 °F)
	RELATIVE HUMIDITY	93 % @ 40 °C non-condensing	93 % @ 40 °C non-condensing	93 % @ 40 °C non-condensing
	VIBRATION	Vibration operational: IEC 60068-2-6 10–150 Hz, 1 G	Vibration operational: IEC 60068-2-6 10–150 Hz, 1 G	Vibration operational: IEC 60068-2-6: 10–500 Hz, 1 G
	SHOCK	Shock operational: IEC 60068-2-27 half sine 11 ms 15 G	Shock operational: IEC 60068-2-27 half sine 11 ms 15 G	Shock operational: IEC 60068-2-27: half sine 11 ms 15 G
	IP PROTECTION CLASS	IP 20	IP 20	IP 40 on top / IP 30 on sides
APPROVALS	COMPLIANCE	UL/CB/FCC/CE/UKCA	UL/CB/FCC/CE/UKCA planned	UL 62386 (TÜV)/CB/CE/FCC/UKCA

PLATFORM MAINTENANCE-FREE		KBox B-202-RPL mITX 2) 4) 6)	NEW KBox B-203-RPL mITX 2) 4) 6)	NEW KBox B-204-RPL mITX 2) 4) 6)
PROCESSOR	CPU	13th / 14th Gen Intel® Core™ i3-14100T / i5-14500T / i7-14700T / i9-14900T or Intel® Processor 300T	14th Gen Intel® Core™ i3-14100T / i5-14500T / i7-14700T / i9-14900T or Intel® Processor 300T	14th Gen Intel® Core™ i3-14100T / i5-14500T / i7-14700T / i9-14900T or Intel® Processor 300T
	MAX. NUMBER OF CORES	24-Core (8x P-Core + 16x E-Core)	24-Core (8x P-Core + 16x E-Core)	24-Core (8x P-Core + 16x E-Core)
	MAX. SPEED	P-Core: 1.8 GHz/5.2 GHz (Burst) E-Core: 1.3 GHz	P-Core: 1.8 GHz/5.2 GHz (Burst) E-Core: 1.3 GHz	P-Core: 1.8 GHz/5.2 GHz (Burst) E-Core: 1.3 GHz
	SYSTEM CHIPSET	Intel® Q670E	Intel® Q670	Intel® Q670
	BIOS	AMI® Aptio V5	AMI® Aptio V5	AMI® Aptio V5
MEMORY	MEMORY TECHNOLOGY	DDR5	DDR5	DDR5
	MAX. CAPACITY	64 Gbyte	96 Gbyte	96 Gbyte
	SOCKET	2x SODIMM	2x SODIMM	2x SODIMM
GRAPHICS	GRAPHICS CORE	up to Intel® UHD Graphics 770	up to Intel® UHD Graphics 770	up to Intel® UHD Graphics 770
	MAX. RESOLUTION	7680 x 4320	7680 x 4320	7680 x 4320
ETHERNET	CONTROLLER	Intel® I226-LM, Intel® i219LM	Intel® I226-LM, Intel® i219LM	Intel® I226-LM, Intel® i219LM
	IEEE1588	yes	yes	yes
	TEAMING / FAILOVER	yes / yes	yes / yes	yes / yes
INTERFACES	2.5GbE / 1GbE/ 100Mbit	1 / 1 / 0	1 / 1 / 0	1 / 1 / 0
	HDMI / DVI / DP / VGA	0 / 0 / 4 / 0	0 / 0 / 4 / 0	0 / 0 / 4 / 0
	RS232 / RS422 / RS485	1 / 0 / 0	1 / 0 / 0	1 / 0 / 0
	USB TYPE-C	1	1	1
	USB 3.2 / 3.0 / 2.0	7 / 0 / 2	6 / 0 / 4	6 / 0 / 4
	AUDIO	1x Line-Out, 1x Line-In	1x Line-Out, 1x Line-In	1x Line-Out, 1x Line-In
	MISCELLANEOUS	Power Button & LED	Power Button & LED	Power Button & LED
OPTIONAL INTERFACES	IO EXPANSION	Option for GbE, 10GbE or Graphics Cards	-	Option for GbE, 10GbE or Graphics Cards
	FIELDBUS	on request	on request	on request
	WIRELESS TECHNOLOGY	WI-FI	WI-FI	WI-FI
EXPANSION SLOTS	MINI PCIE / PCIE / M.2	0 / 2 (1*) / 1	0 / 0 / 1	0 / 2 (1*) / 1
STORAGE	2.5" SSD	1 (2*)	1	1 (2*)
	MSATA / M.2 (SATA/NVME)	0 / 1	0 / 1	0 / 1
	mSD CARD / CFAST EXPRESS	-	-	-
	eMMC	-	-	-
SOFTWARE	MICROSOFT WINDOWS	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024
	LINUX	yes	yes	yes
	TOOLSET	on request	on request	on request
	KEAPI	-	-	-
SECURITY	SECURITY	TPM 2.0	TPM 2.0	TPM 2.0
WATCHDOG	WATCHDOG TIMER	yes	yes	yes
POWER	INPUT VOLTAGE	90 to 264 VAC (external AC/DC adapter provided), 24 V DC*	90 to 264 VAC (external AC/DC adapter provided), 24 V DC*	90 to 264 VAC (external AC/DC adapter provided), 24 V DC*
	AC ADAPTER	External AC/DC adapter, 90 to 264 V AC, 150 W or 270 W	External AC/DC adapter, 90 to 264 V AC, 150 W	External AC/DC adapter, 90 to 264 V AC, 150 W or 270 W
MECHANICS	MOUNTING	Desktop, Wallmount	Desktop, Wallmount, VESA	Desktop, Wallmount
	DIMENSION (W x H x D)	190 x 120 x 190 mm (7.48" x 4.72" x 7.48")	190 x 60 x 190 mm (7.48" x 2.36" x 7.48")	190 x 120 x 190 mm (7.48" x 4.72" x 7.48")
	WEIGHT	3 kg (6.6 lbs)	approx. 2 kg (4.4 lbs)	approx 3 kg (6.6 lbs)
ENVIRONMENT	COOLING	with fan	with fan	with fan
	OPERATING TEMPERATURE	0 °C to +45 °C (32 °F to 113 °F)	0 °C to +45 °C (32 °F to 113 °F)	0 °C to +45 °C (32 °F to 113 °F)
	RELATIVE HUMIDITY	93 % @ 40 °C non-condensing	93 % @ 40 °C non-condensing	93 % @ 40 °C non-condensing
	VIBRATION	Vibration operational: IEC 60068-2-6: 10–500 Hz, 1 G	Vibration operational: IEC 60068-2-6: 10–500 Hz, 1 G	Vibration operational: IEC 60068-2-6: 10–500 Hz, 1 G
	SHOCK	Shock operational: IEC 60068-2-27: half sine 11 ms 15 G	Shock operational: IEC 60068-2-27: half sine 11 ms 15 G	Shock operational: IEC 60068-2-27: half sine 11 ms 15 G
	IP PROTECTION CLASS	IP 40 on top / IP 30 on sides	IP 20	IP 20
APPROVALS	COMPLIANCE	UL 62386 (TÜV)/CB/CE/FCC/UKCA	UL 62386 (TÜV)/CB/CE/FCC/UKCA planned	UL 62386 (TÜV)/CB/CE/FCC/UKCA planned



PLATFORM MAINTENANCE-FREE		KBox C-104-TGL Series COM Express® 1) 2) 3) 4) 5) 6)			
PROCESSOR	CPU	11th Gen Intel® Celeron® 6600HE, Core™ i3-11100HE / i5-11500HE / i5-1145GRE / i7-11850HE / i7-1185GRE or Xeon® W-11555MRE / W-11865MRE			
	MAX. NUMBER OF CORES	Octa-Core			
	MAX. SPEED	2.6 GHz / 4.7 GHz (Burst)			
	SYSTEM CHIPSET	Intel® HM570E, QM580E or RM590E			
	BIOS	AMI® Aptio V5			
MEMORY	MEMORY TECHNOLOGY	DDR4 non ECC/ECC			
	MAX. CAPACITY	64 Gbyte			
	SOCKET	2x SODIMM or 1x SODIMM + 1x soldered			
GRAPHICS	GRAPHICS CORE	Intel® Core™ i5-1145GRE/i7-1185GRE: Intel® Iris® Xe Graphics Intel® Celeron®, Core™ i3/i5/i7, Xeon® W: Intel® UHD Graphics for 11th Gen Intel® Processors			
	MAX. RESOLUTION	7681 x 4320			
ETHERNET	CONTROLLER	Intel® I226-IT			
	IEEE1588	yes			
	TEAMING / FAILOVER	yes / yes			
INTERFACES	2.5GbE / 1GbE/ 100Mbit	4 / 0 / 0			
	HDMI / DVI / DP / VGA	0 / 0 / 2 (3*) / 0			
	RS232 / RS422 / RS485	1 (3*) / 1 (3*) / 1 (3*)			
	USB TYPE-C	-			
	USB 3.2 / 3.0 / 2.0	0 / 3 / 3			
	AUDIO	-			
	MISCELLANEOUS	Power & Recovery Button, LEDs			
OPTIONAL INTERFACES	IO EXPANSION	1 MByte NVRAM	Options for 8x Digital IOs, 1 MByte NVRAM, 10GbE		
	FIELDBUS	CAN, PROFIBUS / PROFINET / EtherCAT			
	WIRELESS TECHNOLOGY	WI-FI, LTE or 5G			
EXPANSION SLOTS	MINI PCIE / PCIE / M.2	1 / 4 / 2	1 / 2 / 2	1 / 1 / 2	1 / 0 / 2
STORAGE	2.5" SSD	2 (4*)	2 (4*)	1	1
	MSATA / M.2 (SATA/NVME)	0 / 2			
	mSD CARD / CFAST EXPRESS	1 / 0			
	eMMC	-			
SOFTWARE	MICROSOFT WINDOWS	Win 10 IoT LTSC 2021 Win 11 IoT LTSC 2024			
	LINUX	yes			
	TOOLSET	on request			
	KEAPI	yes			
SECURITY	SECURITY	TPM 2.0			
WATCHDOG	WATCHDOG TIMER	yes			
POWER	INPUT VOLTAGE	24 V DC (17..36 V DC), 2nd 24 V DC Input*			
	AC ADAPTER	External AC/DC adapter optional 90 to 264 V AC, 150 W			
MECHANICS	MOUNTING	Book mount, Sidewall mounting*			
	DIMENSION (W x H x D)	195 x 290 x 210 mm (7.68" x 11.42" x 8.27")	155 x 290 x 210 mm (6.1" x 11.42" x 8.27")	130 x 290 x 210 mm (5.12" x 11.42" x 8.27")	117 x 290 x 210 mm (4.61" x 11.42" x 8.27")
	WEIGHT	approx. 6 kg (13.22 lbs)	4.75 kg (10.47 lbs)	approx. 4.6 kg (10.14 lbs)	3.8 kg (8.38 lbs)
ENVIRONMENT	COOLING	Fanless	Fanless, with Fan*		
	OPERATING TEMPERATURE	with Intel® Core™ i5-1145GRE: -20 °C to + 65 °C (-4 °F to 149 °F) with Intel® Core™ i7-11850HE: -20 °C to + 55 °C (-4 °F to 131 °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			



PLATFORM MAINTENANCE-FREE		KBox R-101-EKL/TGL COM Express® 1) 2) 3) 4) 5) 6)	
PROCESSOR	CPU	Intel Atom® x6212RE / x6425RE	11th Gen. Intel® Core™ i5-1145GRE / i7-1185GRE
	MAX. NUMBER OF CORES	Quad-Core	
	MAX. SPEED	1.9 GHz	1.8 GHz / 4.4 GHz (Burst)
	SYSTEM CHIPSET	Integrated	
	BIOS	AMI® Aptio V5	
MEMORY	MEMORY TECHNOLOGY	DDR4	
	MAX. CAPACITY	32 Gbyte	
	SOCKET	2x SODIMM	1x SODIMM, 1x Soldered
GRAPHICS	GRAPHICS CORE	Intel® UHD Graphics	Intel® Iris® Xe Graphics
	MAX. RESOLUTION	4096 x 2160	7681 x 4320
ETHERNET	CONTROLLER	Intel® I226-IT, MaxLinear GPY115	Intel® I226-IT
	IEEE1588	yes	
	TEAMING / FAILOVER	yes / yes	
INTERFACES	2.5GbE / 1GbE/ 100Mbit	2 / 1 / 0	3 / 0 / 0
	HDMI / DVI / DP / VGA	0 / 0 / 1 / 0	
	RS232 / RS422 / RS485	1 / 1 / 1	
	USB TYPE-C	1	
	USB 3.2 / 3.0 / 2.0	1 / 0 /2	
	AUDIO	-	
	MISCELLANEOUS	Power LED, 8x User LEDs	
OPTIONAL INTERFACES	IO EXPANSION	-	
	FIELDBUS	on request	
	WIRELESS TECHNOLOGY	WI-FI, LTE or 5G	
EXPANSION SLOTS	MINI PCIE / PCIE / M.2	0 / 0 / 2	
STORAGE	2.5" SSD	-	
	MSATA / M.2 (SATA/NVME)	0 / 1	
	mSD CARD / CFAST EXPRESS	0 / 1	
	eMMC	-	
SOFTWARE	MICROSOFT WINDOWS	-	
	LINUX	Debian 12	
	TOOLSET	on request	
	KEAPI	yes	
SECURITY	SECURITY	TPM 2.0	
WATCHDOG	WATCHDOG TIMER	yes	
POWER	INPUT VOLTAGE	24V to 110V DC nominal acc. EN50155	
	AC ADAPTER	-	
MECHANICS	MOUNTING	Wallmount, 19" Mounting KIT*	
	DIMENSION (W x H x D)	220 x 70 x 200 mm 8.66" x 2.76" x 7.87")	
	WEIGHT	approx. 3.1 kg (6.8 lbs)	
ENVIRONMENT	COOLING	Fanless	
	OPERATING TEMPERATURE	-40 °C to +70 °C, +85 °C for 10 min (-40 °F to 158 °F, +185 °F for 10 min)	
	RELATIVE HUMIDITY	+25°C to +55 °C, 95 % acc. EN50155	
	VIBRATION	EN 61373:2010, cat. 1, class B: 30 ms @ 50 m/s²	
	SHOCK	EN 61373:2010, cat. 1, class B: Functional 10 min @ 1.01 m/s²; Long-life: 5 h @ 5.72 m/s²	
	IP PROTECTION CLASS	IP 54	
APPROVALS	COMPLIANCE	EN50155 compliant CE, FCC	

1) No moving parts 2) No battery required 3) Hold up time >10 ms 4) Remote system diagnostics 5) Rescue Button (RSQ) Operation 6) Power On/Off options
*) Optional
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***KontronGrid: Complete fleet management solution for edge devices and container based applications
****Kontron FabEagle®Connect: Low-code integration solution for standardized data interfaces for machines and IoT applications

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