

# KBox B-202-CFL

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High-end computing with expansion capabilities –  
for noise sensitive environments

- ▶ High performance: 8th/9th Gen Intel® Core™ i3/i5/i7
- ▶ Low noise design
- ▶ RAID with up to four storage devices
- ▶ Two PCIe expansion slots
- ▶ Removable 2.5" SSD

POSSIBILITIES START HERE

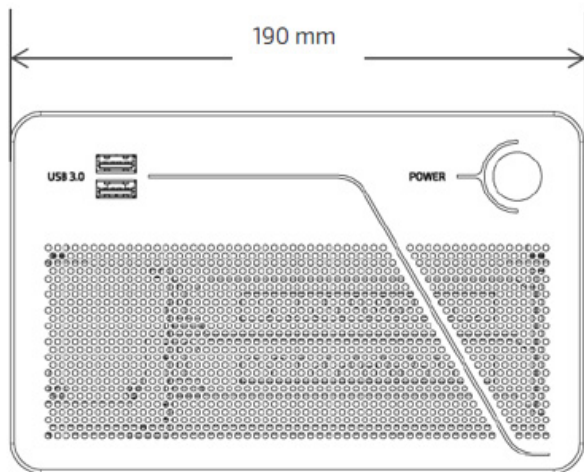


## TECHNICAL INFORMATION

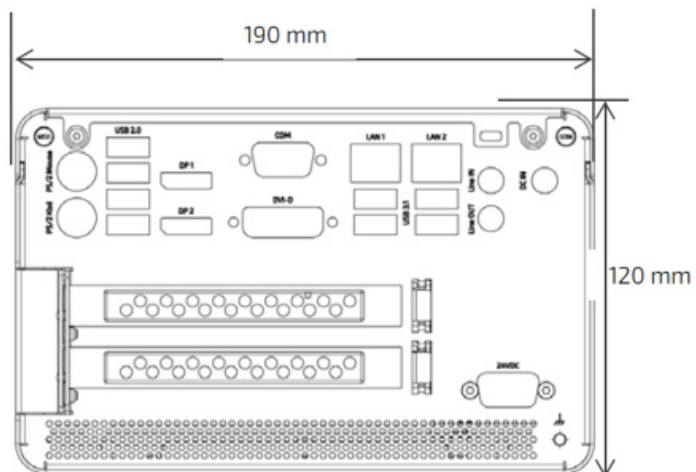
<b>PROCESSOR SYSTEM</b>	<b>CPU</b>	8th Gen Intel® Core™ i3/i5/i7 Socket LGA1151, max. 65 W TDP Intel® i3-8100 4x 3.6 GHz Intel® i5-8500 6x 3.0 GHz (Max. Turbo 4.1 GHz) Intel® i7-8700 6x 3.2 GHz (Max. Turbo 4.6 GHz) 9th Gen Intel® Core™ i3/i5/i7 Intel® i3-9100E 4x 3.1 GHz (Max. Turbo 3.7 GHz) Intel® i5-9500E 6x 3.0 GHz (Max. Turbo 4.2 GHz) Intel® i7-9700E 8x 2.6 GHz (Max. Turbo 4.4 GHz) <b>SYSTEM CHIPSET</b> Intel® Q370 Express Chipset (Smart line) Intel® H310 Express Chipset (Value line) <b>BIOS</b> AMI® Aptio 5.x
<b>MEMORY</b>	<b>TECHNOLOGY</b> <b>CAPACITY</b> <b>SOCKET</b>	DDR4-2666 MHz non ECC 8/16/32 GByte 2x SODIMM
<b>GRAPHICS</b>	<b>GRAPHICS CORE</b> <b>MAX. RESOLUTION</b>	Internal Intel® UHD 630 Graphics, DX12 4096x2304 @60 Hz
<b>FRONT I/O</b>	<b>POWER ON/OFF</b> <b>USB</b>	Power Button with status LED 2x USB 3.0
<b>REAR I/O</b>	<b>GRAPHICS PORTS</b> <b>AUDIO</b>	1x DVI-D, 2x DisplayPort V1.2 1x Line in, 1x Line out
	<b>USB</b>	Realtek ALC671, 5,1-channel, High Definition Audio Codec 4x USB 2.0, 2x USB 3.1 Gen 1, 2x USB 3.1 Gen 2 (Smart) 3x USB 2.0, 2x USB 3.1 Gen1 (Value) 2x LAN 10/100/1000 MBit/s
	<b>ETHERNET</b> <b>CONTROLLER</b> <b>FEATURES</b>	Intel® i219LM & i210AT AMT 12.0* / vPro Support*, Wake-on-LAN, PXE Support, BIOS MAC Address Display, Teaming Support
	<b>PS/2</b> <b>SERIAL PORTS</b>	1x PS/2 Mouse, 1x PS/2 Keyboard 1x Serial (COM1, RS232)
<b>INTERNAL CONNECTORS</b>	<b>M.2</b>	1 x M.2 Key-M for PCIe-based SSD NVME modules; 4x PCIe Gen3 lanes (for 2280, 2260 or 2242 modules)
	<b>mPCIe</b> <b>PCIe</b>	1x Mini-PCIe supporting PCIe Gen3 & USB 2.0 (half-size / full size) 1x PCIe x16 or 2x PCIe x8* (full-height, half-length)
<b>STORAGE</b>	<b>REMOVABLE DRIVE</b> <b>INTERNAL DRIVES</b>	1x 2.5" SSD SATA III / SATA-600 Up to 2x M.2 SSD, up to 2x 2.5" SSD (RAID support*)
<b>SOFTWARE SUPPORT</b>	<b>OPERATING SYSTEM</b>	Windows® 10 IoT Enterprise LTSC 2019 pre-installed Ubuntu Linux on request
<b>SECURITY</b>	<b>FEATURES</b>	Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial- / USB- Port Access Protection, Boot Sector Virus Warning, Write Protection for Flash BIOS, EraseDisk (BIOS Feature), TPM V2.0 (Infineon SLB9670SPI; TCG compliant) Based on WIBU Systems on request
	<b>KONTRON APPROTECT</b>	
<b>MIDDLEWARE</b>	<b>KEAPI</b>	Kontron KEAPI board support package
<b>POWER SUPPLY (EXTERNAL)</b>	<b>INPUT VOLTAGE</b>	90 to 264 VAC (external power supply) 24 VDC (on request)
<b>MECHANICAL</b>	<b>CONSTRUCTION</b> <b>FRONT</b> <b>COOLING</b> <b>DIMENSIONS (WXHxD)</b> <b>WEIGHT</b>	Continuously hot-dip zinc coated mild steel sheet, according EN10215 Aluminum Internal silent fan 190 x 120 x 190 mm Approx. 3 kg
<b>ENVIRONMENT</b>	<b>OPERATING TEMPERATURE</b> <b>STORAGE TEMPERATURE</b> <b>RELATIVE HUMIDITY</b> <b>OPERATING VIBRATION</b> <b>OPERATING SHOCK</b> <b>ALTITUDE</b> <b>NOISE LEVEL</b> <b>MTBF</b> <b>MAX. POWER</b>	0 °C to +45 °C (32 °F to 113 °F) -20 °C to +80 °C (-4 °F to 176 °F) 93 % @ 40 °C, non-condensing 5-500 Hz, 1G acc. IEC 60068-2-6 half sine, 15 g, 11 ms acc. IEC 60068-2-27 5000 m (16400 ft) ≤ 34 dB(A) at 25 °C, Sea level, 1 m, Full CPU/GPU load 62257h @40 °C Main board 96 W max., SSD 4 W (varies by processor type) 150 W max. provided by the external power supply
<b>APPROVALS</b>	<b>CE, CB, NRTL</b>	EMC: EN 55032:2012, class B, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 55024:2010 NOTE: with external power supply provided by Kontron Safety: IEC 62368-1:2014, EN 62368-1:2014, UL 62-368-1:2014-12, CAN/CSA-C22.2 No. 62368-1:2014-12 NOTE: with external power supply provided by Kontron
<b>POWER SUPPLY (EXTERNAL)</b>	<b>INPUT VOLTAGE RANGE</b>	90 to 264 VAC (external power supply) 24 VDC (on request)

\* Feature only supported by Smart Line (Q370 Chipset); Value line (H310 chipset)

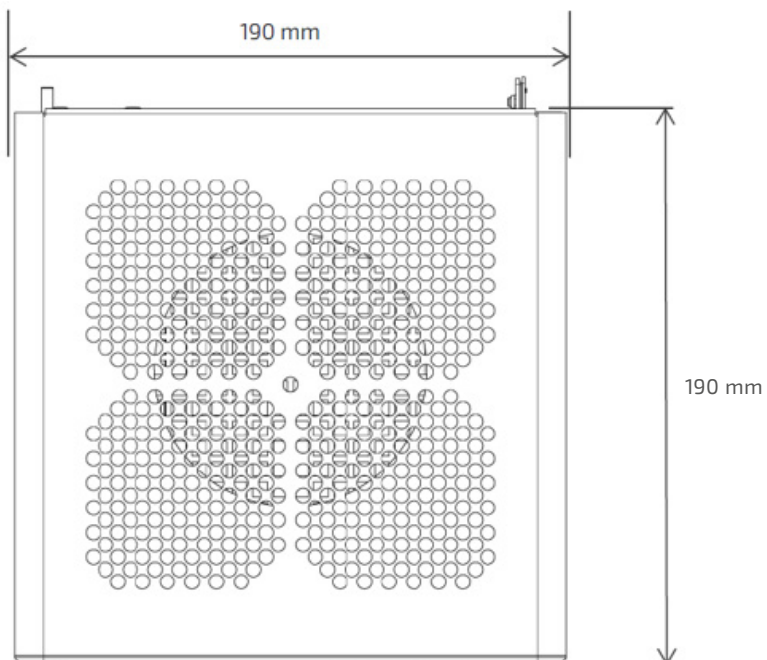
► DIMENSIONS



// Front Panel



// Rear Panel



// Top Cover

## ORDERING INFORMATION

ARTICLE	PART NO.	DESCRIPTION
<b>KBOX B-202-CFL VERSION</b>	KBox-B-202-CFL-V KBox-B-202-CFL-S	Value version Smart version
<b>POWER SUPPLY (CATEGORY B)</b>	A D	External 150 W PSU Internal AC PSU (on project request) Internal 24 V DC PSU (on project request)
<b>PROCESSOR (CATEGORY C)</b>	- 1 - 2 - 3 - 4 - 5 - 6	i3-8100 Coffee Lake 4x 3.60 GHz, 65 W i5-8500 Coffee Lake 6x 3.00 GHz, 65 W i7-8700 Coffee Lake 6x 3.20 GHz, 65 W i3-9100E Coffee Lake 4x 3.10 GHz, 65 W i5-9500E Coffee Lake 6x 3.00 GHz, 65 W i7-9700E Coffee Lake 8x 2.60 GHz, 65 W
<b>MEMORY (CATEGORY D)</b>	1 2 3	8 GByte DDR4-2666 SODIMM 16 GByte DDR4-2666 SODIMM 32 GByte DDR4-2666 SODIMM
<b>M.2 SSD (CATEGORY E)</b>	0 1 2 3 4 5	No M.2 Storage 128 GByte M.2 SSD 256 GByte M.2 SSD 512 GByte M.2 SSD 1 TByte M.2 SSD 2 TByte M.2 SSD
<b>2.5" SSD SLOT (CATEGORY F)</b>	0 1 2 3 4 5 6 7	No 2.5" SSD Storage 512 GByte 2.5" SSD 1 TByte 2.5" SSD 2 TByte 2.5" SSD 2x 256 GByte M.2 SSD modules SATA RAID 1 2x 512 GByte 2.5" SSD (only Smart line) 2x 1 TByte 2.5" SSD (only Smart line) 2x 2 TByte 2.5" SSD (only Smart line)
<b>mPCIe CARD (CATEGORY G)</b>	- 0 - 1	No Wifi WIFI (on request)
<b>RISER CARD (CATEGORY H)</b>	0 1 2	No Riser Card 1x PCIe x16 2x PCIe x8 (only Smart line)
<b>PCIe SLOT 1 (CATEGORY I)</b>	0 1 2 3 4	No Expansion Card NVIDIA QUADRO P620 (PCIe x16) 2-Port 1 GBE RJ45 (PCIe x8) 2-Port 10 GBE RJ45 (PCIe x8) 4-Port 1 GbE RJ45 (PCIe x8)
<b>PCIe SLOT 2 (SMART LINE ONLY) (CATEGORY J)</b>	0 1 2 3	No Expansion Card 2-Port 1 GBE RJ45 (PCIe x8) 2-Port 10 GBE RJ45 (PCIe x8) 4-Port 1 GbE RJ45 (PCIe x8)
<b>SOFTWARE (CATEGORY K)</b>	- 0 - 1 - 2 - 5	No OS WIN10 IoT Enterprise Entry for i3/i5 WIN10 IoT Enterprise High End for i7 Linux Ubuntu 18.04 (on request)
<b>MOUNTING (CATEGORY L)</b>	- 0 - 1	Desktop Wall Mount

e.g. KBox B-202-CFL-S(B)-(CDEF)-(GHU)-(K)-(L)

e.g. KBox B-202-CFL-V(B)-(CDEF)-(GHU)-(K)-(L)

Notes: Letters in brackets are the category letters; due to mechanical limitations, configurations must be approved by sales support

### ACCESSORIES

<b>AC POWER SUPPLY</b>	1064-8948	90 to 264 VAC, 150 W PSU
<b>POWER CORD EU</b>	0-0064-2173	Euro (Type A), 2.5 m
<b>POWER CORD UK</b>	0-0064-4173	UK (Type C), 2.5 m
<b>POWER CORD US</b>	0-0064-4317	US, 2 m

## Global Headquarters

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