Intel® B660 Chipset and
Intel® 12th Gen Core™ i3/i5/i7/i9 Processors

- Cost-effective iB660 platform
- Latest DDR5 memory technology for best-in-class system performance
- Intel® UHD Graphics 7xx driven by Xe Architecture
- Dual M.2 Key-M SSD sockets onboard
- Powerful USB 3.2 Gen2, 1x COM (RS-232)
K3843-B μATX
Extended Lifecycle Series

The Extended Lifecycle Motherboard K3843-B μATX is equipped with the highly performant Intel® B660 Chipset. It also offers a multitude of supporting processors such as the Intel® Core™ i9/7/5/3 (12th Gen) and the Intel® Pentium®/Intel® Celeron® processor series. Designed and approved for 24/7 continuous operation.

► PRODUCT HIGHLIGHTS

► Intel® 12th Gen Core™ Processor Series
► DDR5-4800 UDIMM, max. 128 GByte
► cTDP – Easy & flexible reduction of CPU TDP
► PCI Express® x16 (Gen5 @ CPU, Gen4 @ PCH)
► 1x Intel® GbE LAN
► Intel® UHD Graphics 7xx driven by Xe Architecture;
  4x DisplayPort V1.4a @4k
► Intel® High Definition Stereo Audio; Intel® integrated TPM V2.0
► 1x COM port
► 2x USB 3.2 Gen 2, 4x USB 3.2 Gen1, 4x USB 2.0
► 4x SATA 6G incl. RAID support
► 2x M.2 2280 (Key-M, PCIe/NVME SSD modules)

► TECHNICAL INFORMATION

| SYSTEM | PROCESSOR | Intel® Core™ i9/7/5/3 (12th Gen) processor series
|        |           | Intel® Pentium®/Intel® Celeron® processor series
|        | CHIPSET MEMORY | Socket LGA1700, max. 125 W TDP
|        |           | (For details on supported processors please refer to Kontron FTP Server)
|        |           | Intel® B660 Chipset
|        |               | 4x DIMM Sockets DDR5-4800, max. 128 GByte, Dual Channel unbuffered, non-ECC
|        |               | Effective memory speed of DDR5-4800 modules according Intel® specification:
|        |               | 1x DIMM per channel = max. DDR5-4400
|        |               | 2x DIMM per channel (single rank) = max. DDR5-4000
|        |               | 2x DIMM per channel (dual rank) = max. DDR5-3600
| VIDEO | GRAPHICS | Intel® UHD Graphics 7xx (depends on installed processor), 4x DPP V1.4a
| AUDIO | AUDIO CODEC | Tempo Semiconductor 92HD91B
|      | AUDIO INTERFACE | High Definition Stereo Audio Codec
| NETWORK CONNECTION | ETHERNET | Intel® i219LM with 10/100/1000 MBit/s,
|      |               | Wake-on-LAN (WoL) by interesting Packets, Link Status Change and Magic Packet™,
|      |               | PXE Support, BIOS MAC Address Display
| PERIPHERAL CONNECTION | USB | 2x USB 3.2 Gen 2 (rear I/O, Type-A), 2x USB 3.2 Gen1 (rear I/O, Type-A),
|      | SERIAL PORT | 2x USB 2.0 (rear I/O, Type-A), 2x USB 3.2 Gen1 (by header),
|      |               | 2x USB 2.0 (by header)
|      | M.2 PCIe/NVME | 1x RS232 (rear I/O)
|      | PCIe/PCI SLOTS | 4x Serial ATA III 600 Interface (up to 6Gb/s), NCQ, AHCI, RAID 0/1/5/10
|      | POWER | 2x M.2 2280 (Key-M, PCIe/NVME SSD modules)
|      | | PCIe x16: 1x 16 lanes, Gen5/1x 1 lane, Gen4
|      | | PCIe x1: 2x Gen3, “closed slot”
|      | CONNECTOR INPUT VOLTAGE | ATX (Multirail) plus B-pin socket (12 V for CPU)
TECHNICAL INFORMATION

FIRMWARE

BIOS
AMI Aiptio 5.x (UEFI) BIOS modified and adapted by Kontron; Recovery BIOS, SM-BIOS (OMI), BIOS and CPU Microcode Update, Quick Boot, Logo Boot, Quiet Boot, Plug & Play, Automatic DRAM and PCIe Configuration, BIOS Support for S.M.A.R.T., Advanced Power Management, ACPI S3/S4, Wake on time from S5. HW No legacy OS support, no MBR installation (UEFI only) Integrated TPM V2.0 (Intel® integrated)

REAL TIME CLOCK

TPM

SYSTEM CONTROL

FP HEADER
1x Header for Reset button, HDD LED & External Speaker, Power button, Power LED

SECURITY
Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial/USB- Port Access Protection, Write Protection for Flash BIOS, EraseDisk (BIOS Feature), Trusted Platform Module (TPM)

SOFTWARE

OS SUPPORT
MS Windows 10, MS Windows 11, Linux-64 No legacy OS support, no MBR installation (UEFI only)

MECHANICAL

DIMENSIONS (L x W)
µATX: 9.6” x 9.6" (243.8 x 243.8 mm)

ENVIRONMENTAL

OPERATION TEMPERATURE
10 °C - 50 °C

CERTIFICATION

EMC & SAFETY
cTÜVus acc. IEC62368-1, CE Class B, UKCA

POWER SUPPLY REQUIREMENTS

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>VOLTAGE</th>
<th>MIN. PS LOAD</th>
<th>MAX. VOLTAGE TOLERANCE</th>
<th>MOTHERBOARD CAPACITIVE LOAD</th>
<th>MOTHERBOARD MAX. CURRENT (continuous)*</th>
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</thead>
<tbody>
<tr>
<td>Main Power Supply</td>
<td>+ 12 V</td>
<td>0 A</td>
<td>± 5 %</td>
<td>2.500 µF</td>
<td>26 A</td>
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<tr>
<td></td>
<td>- 12 V</td>
<td>0 A</td>
<td>± 10 %</td>
<td>-</td>
<td>0.3 A</td>
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<tr>
<td></td>
<td>+ 5 V</td>
<td>0 A</td>
<td>± 5 %</td>
<td>1.900 µF</td>
<td>6.0 A</td>
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<tr>
<td></td>
<td>+ 3.3 V</td>
<td>0 A</td>
<td>± 5 %</td>
<td>1.100 µF</td>
<td>0.5 A</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.900 µF</td>
<td>2.5 A</td>
</tr>
<tr>
<td>Aux</td>
<td>+ 5 Vaux</td>
<td>0 A</td>
<td>± 5 %</td>
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</table>

*) Max. motherboard input current incl. processor and DRAM memory. Additional power for drives, USB devices, PCIe cards etc. not included! Note: BIOS provides option to reduce CPU TDP/Turbo power in order to use PSU with limited loadability.

Processor 125 W TDP: Max. Cont. Current = 26 A; max. Surge Current = 39 A (< 10ms)
Processor 65 W TDP: Max. Cont. Current = 23 A; max. Surge Current = 34 A (< 10ms)
Processor 35 W TDP: Max. Cont. Current = 11 A; max. Surge Current = 19 A (< 10ms)

CONNECTOR / SOCKET DIAGRAM

![Connector/Socket Diagram](image-url)
### TECHNICAL INFORMATION

**FEATURES**

- Board Size / Chipset: µATX / B660
- VGA*: DVI / DPP / LVDS / eDP
- Stereo Audio / 5.1 Multichannel Audio / Front Panel Audio
- Buzzer / int. Speaker Support (mono)
- GbE LAN / 2.5GbE LAN / Dual 2.5GbE LAN
- Wat / LAN Boot / Teaming / TSN
- Intel® Standard Manageability / vPro Essentials / I AMT
- SATA / SATA RAID / M.2 SSD (NVME) / NVME RAID
- USB 2.0 / USB 3.2 Gen1 / USB 3.2 Gen2 / USB 3.2 Type-C
- Fan controlled & monitored / CPU / AUX1 / AUX2 / AUX3
- TEMP monitored CPU / Onboard Sensors / External Sensor

**SPECIAL FEATURES**

- Silent Fan / System Guard / cTDP
- Recovery BIOS / Flash Update / Multi Boot
- HDD Password / EraseDisk / TPM V2.0
- BIOS POST Watchdog / BIOS Boot Watchdog / OS HW Watchdog
- Logo Boot Option
- High Efficiency Core Voltage Regulator Design
- Operating Mode 24-7 / 8-5 (hrs per day - days per week)
- Motherboard operating temperature range (chassis inside)***

**INTERNAL CONNECTORS**

- DIMM sockets (DDR5-4800) / ECC-support
- PCI Express® x16: 16 lanes-Gen5 / PCI Express® x16: 1 lane - Gen4
- PCI Express® x1: Gen3+open / PCI Express® x1: Gen3“closed”
- PCI Slots (32 Bit, 33 MHz, Rev. 2.3) / Mini-PCIe
- SATA-600 / M.2 Key M (NVME SSD) / M.2 Key B
- M.2 2230 (Key-E, PCIe & USB2.0 for WLAN/Bluetooth)
- S/PDIF (digital Audio) OUT / IN
- Front Panel Audio (9-Pin, HD Audio)
- USB 2.0 / USB 3.2 (Gen1) / USB 2.0 Stick / USB 3.2 (Gen2) Stick***
- Fan CPU / AUX1 / AUX2 / AUX3
- Intrusion (Case Open) / GPIO 8Bit / SM-Bus (Case Temp.)
- Serial Port Header (COM, RS-232) / Parallel Port Header / PS2 Header
- Front Panel (Power Switch, Reset Switch, LEDs, Intel 10 pin compatible)
- Multirail PSU (24 pin + 6 pin) / Single 12 V PSU

**EXTERNAL CONNECTORS**

- VGA Sub D* / DVI-I / DVI-D / DisplayPort V1.4a
- Audio Mic. In / Line In / Line out (or driver configuration)
- LAN (RJ-45)
- PS/2 Mouse / Keyboard
- USB 2.0 / USB 3.2 (Gen1) / USB 3.2 (Gen2)
- Serial (COM1, RS-232)
- Parallel (EPP/ECP)

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* VGA possible via DP-VGA-converter (dingle)
** Forced cooling required, see technical documentation for details
*** Each internal USB connector (pin header) provides two USB ports (except for USB stick socket)

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### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>ARTICLE</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
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<tr>
<td>K3843-B µATX</td>
<td>F5110-V190</td>
<td>Intel® 12th Gen Core™ Processor Series, Intel® B660 Chipset</td>
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</table>

### ACCESSORIES

| M.2 CARRIER BOARD | F5000-M001 | D3352-A1 |

### GLOBAL HEADQUARTERS

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