INDUSTRIAL THIN MINI-ITX
conga-IC97

- Highest Performance Thin Mini-ITX board
- 5th Generation Intel® Core™ Mobile SOC U-Processors
- Improved Graphics Performance up to GT3 HD6000
- Wide Range Power Input 12-24 Volt

- congatec embedded Board Controller Features

Formfactor
Industrial Thin-Mini-ITX | 170 x 170 mm

CPU
- Intel® Core™ i7-5650U 2.2 GHz Dual Core
- Intel® Core™ i5-5350U 1.8 GHz Dual Core
- Intel® Core™ i3-5010U 2.1 GHz Dual Core Turbo Boost 3.2 GHz 4 MB Cache
- Intel® Celeron® 3765U 1.9 GHz Dual Core

Intel® Turbo Boost Technology | Intel® Hyper-Threading Technology (Intel® HT Technology) | Intel® Advanced Vector Extensions 2.0 (Intel® AVX2),
Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI) | Integrated dual channel memory controller | up to 25.6 GByte/sec.

memory bandwidth | Integrated Intel® HD Graphics 6000 series with dynamic frequency up to 1.1 GHz | Intel® Clear Video HD Technology

Intel® Virtualization Technology (Intel® VT) | Intel® Trusted Execution Technology (Intel® TXT) | Intel® Streaming SIMD Extensions 4.2 (Intel® SSE4.2)

PCLMULQDQ Instruction | Intel® Secure Key | Intel® Transactional Synchronization Extensions (Intel® TSX)

DRAM Memory
Support for 2x SO DIMM Socket (dual channel DDR3L up to 1600 MT/s) | max. 16GB

Ethernet
Dual LAN Gbit / 100 Mbit / 10 Mbit; 1x Intel Gigabit Ethernet PHY Z18LM (with AMT support), 1x Intel Gigabit Ethernet Controller i210/i211

Sound
High Definition Audio Interface | Realtek ALC 888S | 7.1-channel

Graphics
Next Generation Intel® HD Graphics with OpenCL 2.0 | OpenGL 4.X and DirectX11.1 support; up to three independent displays: HDMI 1.4 | DVI, DisplayPort 1.2, High performance hardware MPEG-2 decoding | WMV9 (VC-1) and H 264 (AVC) support Blu-ray support @ 40 MBit/s

Graphic Interfaces
1x 24-bit Dual Channel LVDS Interface or eDP (x4) and 2x DisplayPort

congatec embedded Controller
Multi-Stage Watchdog | non-volatile User Data Storage | Manufacturing and Board Information | Board Statistics | BIOS Setup Data Backup

I²C bus (fast mode 400 kHz | multi-master) | Power Loss Control

External Connectors (Frontpanel)
2x DisplayPort dp++ | Audio In | Line Out | 2x LAN RJ45 | 4x USB 3.0/2.0 | 1x PCIe x4 (via extension card) | 1x DC-In (external input)

Embedded BIOS
AMI Aptio® 2.X (UEFI) BIOS; SM-BIOS | BIOS Setup Data Backup

Power Specifications
Power Management | ACPI S3/S4/DeepSx | Wake on time from S3 | Power Supply 12V - 24V | 2 x FAN (CPU | system) monitored & controlled

Operating Systems
Microsoft® Windows 10 | Microsoft® Windows 10 IoT Enterprise | Microsoft® Windows 8 | Microsoft® Windows 7 | Linux | Microsoft® Windows® 7/8 embedded Standard

Power Consumption
Typ. application: tbd. | see manual for full details

Temperature
Operating: 0...+60°C

Humidity Operating:
Operating: 10...90% r.h. non cond.

Size
170 x 170 mm (6.7" x 6.7")

www.congatec.com
conga-IC97 | Connectors

- 2x USB 2.0
- Panel Power
- Backlight Power
- ccTalk
- SODIMM DDR3L
- USB 2.0
- PCI Express x1/x4
- MiniPCI Express
- Digital Microphone
- internal stereo speaker
- Surround
- Front Panel HD Audio
- opt. SIM Card Slot
- COM 2
- COM 1

conga-IC97 | Block diagram

- Intel® ULT SOC (CPU + PCH)
- 4th/5th Generation Intel® Core™ Processor
- WMV9
- H.264
- OpenCL 2.0
- DirectX 11.1
- OpenGL 4.0
- * Intel® 9 Series PCH-LP
- Digital Display Signals
- High Definition Audio
- ASRC
- HDMI
- Up to 4k resolution eDP
- DP
- SATA USB 2.0
- LPC BusPCIe
- I/O Interfaces
- GPIOs
- USB 3.0
- Low Power Interconnect
### Order Information

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<td>052501</td>
<td>Thin Mini-ITX board based on 5th Gen Intel® Core™ i7-5650U dual core processor with 2.2GHz, 4MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface</td>
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<tr>
<td>conga-IC97/i5-5350U</td>
<td>052502</td>
<td>Thin Mini-ITX board based on 5th Gen Intel® Core™ i5-5350U dual core processor with 1.8GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface</td>
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<td>conga-IC97/i3-5010U</td>
<td>052503</td>
<td>Thin Mini-ITX board based on 5th Gen Intel® Core™ i3-5010U dual core processor with 2.1GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface</td>
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<tr>
<td>conga-IC97/3765U</td>
<td>052504</td>
<td>Thin Mini-ITX board based on Intel® Celeron® 3765U dual core processor with 1.90GHz, 2MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface.</td>
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### Accessories

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<td>conga-IC97/CSA</td>
<td>052252</td>
<td>Active cooling solution for conga-IC97 and with 12V fan and Thin Mini-ITX height</td>
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<td>conga-IC97/Retention Frame</td>
<td>052254</td>
<td>Retention frame for standard cooling (PN: 052252) for conga-IC97</td>
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<td>conga-IC97/OI Shield-Standard</td>
<td>052256</td>
<td>IO shield for conga-IC97 with Standard Mini-ITX height</td>
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<tr>
<td>conga-IC97/OI Shield - Thin</td>
<td>052257</td>
<td>IO shield for conga-IC97 with Thin Mini-ITX height</td>
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<td>DDR3L-SODIMM-1600 (2GB)</td>
<td>068755</td>
<td>DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 2GB RAM</td>
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<tr>
<td>DDR3L-SODIMM-1600 (4GB)</td>
<td>068756</td>
<td>DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 4GB RAM</td>
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<td>DDR3L-SODIMM-1600 (8GB)</td>
<td>068757</td>
<td>DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 8GB RAM</td>
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<tr>
<td>conga-Thin MITX/eDP to DP Adapter</td>
<td>052231</td>
<td>eDP to standard DisplayPort evaluation adapter for congatec Thin Mini-ITX boards</td>
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<tr>
<td>conga-Thin MITX/LVDS Adapter</td>
<td>052233</td>
<td>LVDS pin header evaluation adapter for congatec Thin Mini-ITX boards</td>
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<td>PS65</td>
<td>1000145</td>
<td>65 Watt power supply, 19V, 3.42 A, plug 7.4x5.1x12.5mm</td>
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<tr>
<td>PS90</td>
<td>1000146</td>
<td>90 Watt power supply, 19V, 4.74 A, plug 7.4x5.1x12.5mm</td>
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<td>cab-ThinMini-ITX-UART</td>
<td>1400121</td>
<td>UART cable with 9pin DSUB connector for congatec Thin Mini-ITX family</td>
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<td>cab-ThinMini-ITX-eDP 1.1</td>
<td>1400129</td>
<td>eDP 1.1 cable for congatec Thin Mini-ITX family. Both sides are with 40pin ACES eDP connector plug.</td>
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<td>cab-ThinMini-ITX-LVDS-OE</td>
<td>1400125</td>
<td>LVDS cable with open end for congatec Thin Mini-ITX family. Can be used also for eDP with open end.</td>
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<td>cab-ThinMini-ITX-BKLT</td>
<td>1400127</td>
<td>Backlight cable for congatec Thin Mini-ITX family.</td>
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<td>cab-DP to HDMI Passive</td>
<td>1400128</td>
<td>Passive DisplayPort to HDMI cable</td>
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<td>cab-ThinMini-ITX-USB20-</td>
<td>1400122</td>
<td>Single USB 2.0 cable for congatec Thin Mini-ITX family</td>
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<td>Single</td>
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<td>cab-ThinMini-ITX-USB20-Twin</td>
<td>1400123</td>
<td>Dual USB 2.0 cable for congatec Thin Mini-ITX family</td>
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<td>SATA III cable 30cm, straight/straight</td>
<td>4800029</td>
<td>SATA III cable with 30cm length, shielded, end connectors straight/straight</td>
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<tr>
<td>SATA III cable 30cm, down/straight</td>
<td>4800030</td>
<td>SATA III cable with 30cm length, shielded, end connectors down/straight</td>
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<tr>
<td>cab-ThinMini-ITX-SATA-Power</td>
<td>1400120</td>
<td>SATA power cable for congatec Thin Mini-ITX family. One end 15 pin SATA connector to 3x15 pin SATA connector.</td>
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<td>LEY10 Mini PCIe</td>
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<td>4G / LTE Mini PCI Express card</td>
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<td>HEY10 Mini PCIe</td>
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<td>3G / UMTS / HSPA+ Mini PCI Express card</td>
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<td>SSD 256</td>
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<td>256 GByte Intel® SSD Pro 2500 Series (16mm, MLC)</td>
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<td>SSD 128</td>
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