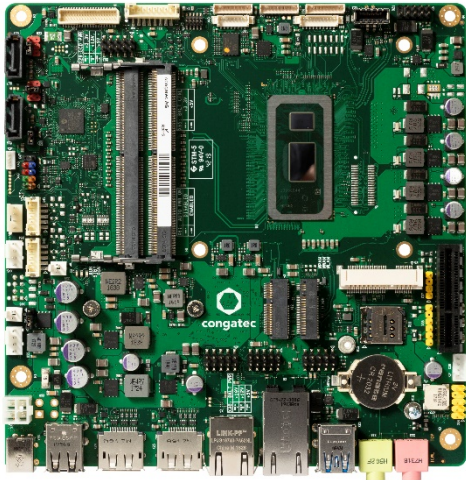


INDUSTRIAL THIN MINI-ITX BOARD

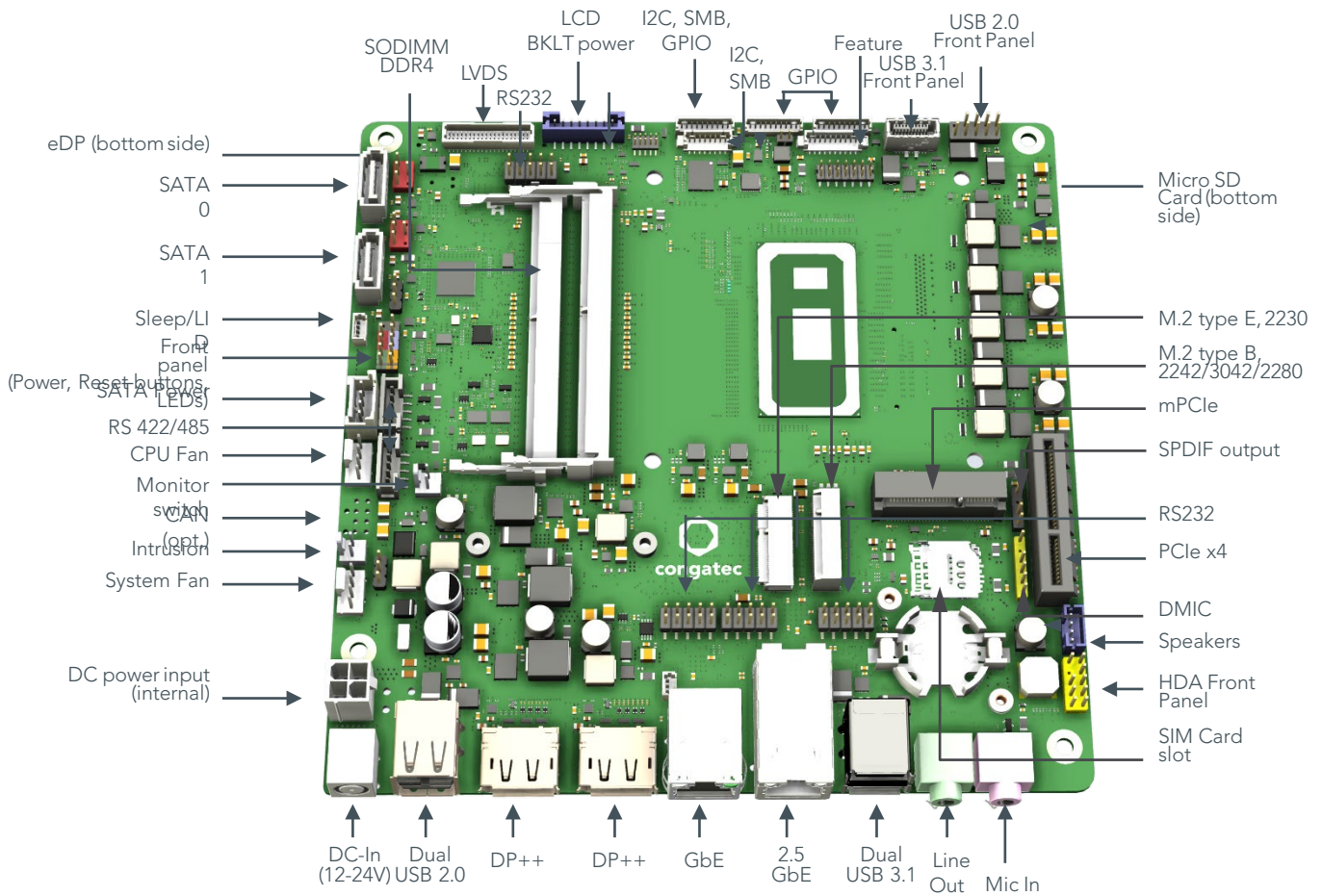
conga-IC370



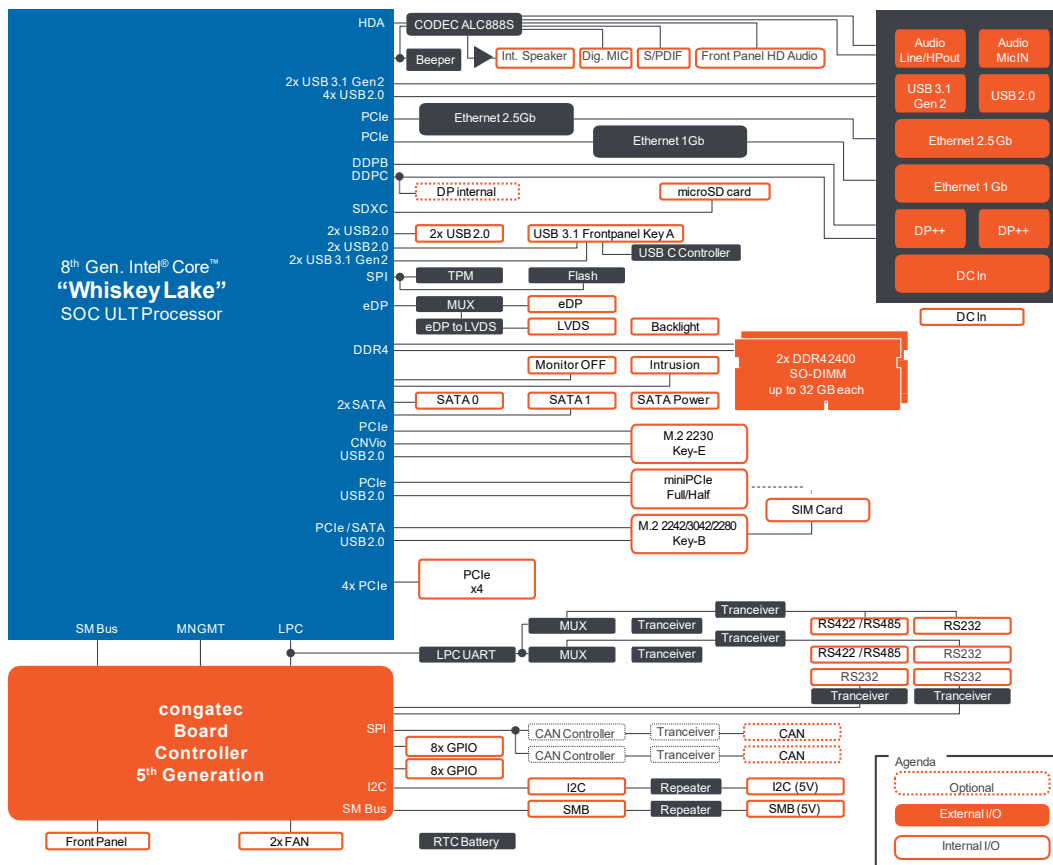
- Highest Performance Thin Mini-ITX Board
- 8th Generation Intel® Core™ SOC processors with up to 4 cores
- Intel® UHD-Graphics 610/620, up to 24 Execution Units
- Up to 64 GByte dual channel DDR4 2400 MT/s
- Flexible internal and external Video interfaces
- 2.5 GbE with TSN Support
- Wide Range Power Input 12 – 24V
- congatec embedded Board Controller Features

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---------------------------|---------------------|---------------------------|------------|--------------------------|------------------------|---------------------|---------------------------|------------|--------------------------|------------------------|---------------------|---------------------------|------------|--------------------------|------------------------|---------------------|---------|------------|----------|
| Formfactor | Industrial Thin Mini-ITX 170 x 170 x 20 mm ³ | | | | | | | | | | | | | | | | | | | | |
| CPU | <table border="0"> <tr> <td>Intel® Core™ i7-8665UE</td> <td>4 Cores 8 Threads</td> <td>1.7 GHz 4.4 GHz (turbo)</td> <td>8 MB Cache</td> <td>15 W TDP (12.5-25W cTDP)</td> </tr> <tr> <td>Intel® Core™ i5-8365UE</td> <td>4 Cores 8 Threads</td> <td>1.6 GHz 4.1 GHz (turbo)</td> <td>6 MB Cache</td> <td>15 W TDP (12.5-25W cTDP)</td> </tr> <tr> <td>Intel® Core™ i3-8145UE</td> <td>2 Cores 4 Threads</td> <td>2.2 GHz 3.9 GHz (turbo)</td> <td>4 MB Cache</td> <td>15 W TDP (12.5-25W cTDP)</td> </tr> <tr> <td>Intel® Celeron® 4305UE</td> <td>2 Cores 2 Threads</td> <td>2.0 GHz</td> <td>2 MB Cache</td> <td>15 W TDP</td> </tr> </table> | Intel® Core™ i7-8665UE | 4 Cores 8 Threads | 1.7 GHz 4.4 GHz (turbo) | 8 MB Cache | 15 W TDP (12.5-25W cTDP) | Intel® Core™ i5-8365UE | 4 Cores 8 Threads | 1.6 GHz 4.1 GHz (turbo) | 6 MB Cache | 15 W TDP (12.5-25W cTDP) | Intel® Core™ i3-8145UE | 2 Cores 4 Threads | 2.2 GHz 3.9 GHz (turbo) | 4 MB Cache | 15 W TDP (12.5-25W cTDP) | Intel® Celeron® 4305UE | 2 Cores 2 Threads | 2.0 GHz | 2 MB Cache | 15 W TDP |
| Intel® Core™ i7-8665UE | 4 Cores 8 Threads | 1.7 GHz 4.4 GHz (turbo) | 8 MB Cache | 15 W TDP (12.5-25W cTDP) | | | | | | | | | | | | | | | | | |
| Intel® Core™ i5-8365UE | 4 Cores 8 Threads | 1.6 GHz 4.1 GHz (turbo) | 6 MB Cache | 15 W TDP (12.5-25W cTDP) | | | | | | | | | | | | | | | | | |
| Intel® Core™ i3-8145UE | 2 Cores 4 Threads | 2.2 GHz 3.9 GHz (turbo) | 4 MB Cache | 15 W TDP (12.5-25W cTDP) | | | | | | | | | | | | | | | | | |
| Intel® Celeron® 4305UE | 2 Cores 2 Threads | 2.0 GHz | 2 MB Cache | 15 W TDP | | | | | | | | | | | | | | | | | |
| DRAM | Dual channel DDR4 up to 2400 MT/s 2x SO-DIMM up to 2x 32 GByte | | | | | | | | | | | | | | | | | | | | |
| Chipset | Integrated in SoC | | | | | | | | | | | | | | | | | | | | |
| Ethernet | Intel® Gigabit Ethernet with AMT support Intel® 2.5 Gigabit Ethernet (optional TSN support under Linux) | | | | | | | | | | | | | | | | | | | | |
| Sound | High Definition Audio Interface Realtek ALC888S-VD Audio Codec | | | | | | | | | | | | | | | | | | | | |
| Graphics | Intel® UHD-Graphics 610/620 Graphics, up to 24 Execution Units | | | | | | | | | | | | | | | | | | | | |
| Expansion Sockets | PCIe slot (PCIe x4) miniPCIe card slot full/half-size (PCIe/USB/opt. SIM) M.2 key B size 2242/3042/2280 (PCIe x2/USB/SATA/SIM/Intel® Optane™) M.2 key E size 2230 (PCIe/CNVi/USB) microSIM card slot microSD card slot | | | | | | | | | | | | | | | | | | | | |
| Internal Connectors | LVDS 24bit Dual channel or eDP opt. internal DP (shared with external DP++) Backlight (power/control) 2x SATA/eSATA/SATADOM (6Gbs) with support for VCC pin 7 and 8 SATA power Dual USB 2.0 USB 3.1 Gen. 2 Front panel connector (Key-A) monitor off HDA front panel HD audio internal stereo speaker SPDIF header 2x COM ports (RS232/422/485) 2x COM ports (RS232) opt. 2x CAN 2x 8Bit general purpose I/O opt. Feature connector (Mgmt. pins) I ² C/SM Bus Front panel (power switch, LEDs, reset,...) Intrusion (case open) CPU fan system fan internal power DC-In (12-24 V) | | | | | | | | | | | | | | | | | | | | |
| External Connectors (Front Panel) | 1x DC-In (12-24 V) 2x USB 3.1 Gen.2 (10 Gb/s) 2x DisplayPort DP++ 1x LAN Gbit 1x LAN 2.5 Gbit 2x USB 2.0 Audio In Line Out | | | | | | | | | | | | | | | | | | | | |
| congatec embedded Board Controller | Multi Stage Watchdog non-volatile User Data Storage Manufacturing and Board Information Board Statistics I ² C bus (fast mode, 400 kHz, multi-master) Power Loss Control Hardware Health Monitoring POST Code redirect | | | | | | | | | | | | | | | | | | | | |
| Embedded BIOS | AMI Aptio® 2.X (UEFI) BIOS SM-BIOS BIOS Update Logo Boot Quiet Boot HDD Password | | | | | | | | | | | | | | | | | | | | |
| Security | Trusted Platform Module (TPM 2.0) Secure Root of Trust Secure Memory Encryption Secure Encrypted Virtualization | | | | | | | | | | | | | | | | | | | | |
| Power Specification | Power Supply 12-24V Power Management ACPI S3/S4/S5/DeepS5/S5e Wake on time from S3/S5 FAN monitored & controlled see user's guide for full details | | | | | | | | | | | | | | | | | | | | |
| Operating Systems | Microsoft® Windows 10 (64bit only) Microsoft® Windows 10 IoT Enterprise (64bit only) Linux | | | | | | | | | | | | | | | | | | | | |
| Temperature | Operating Temperature: 0 to +60°C Storage Temperature: -20 to +70°C | | | | | | | | | | | | | | | | | | | | |
| Extended Temperature | Screening service on request: -25 to +80°C (burn-in & cold-soak) -40 to +85°C (burn-in & cold-soak) | | | | | | | | | | | | | | | | | | | | |
| Humidity | Operating: 10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond. | | | | | | | | | | | | | | | | | | | | |
| Size | 170 x 170 x 20 mm ³ | | | | | | | | | | | | | | | | | | | | |

conga-IC370 | Connectors



conga-IC370 | Block diagram



conga-IC370 | Order Information

| Article | PN | Description |
|---|----------|--|
| conga-IC370/i7-8665UE | 053001 | Thin Mini-ITX board based on Intel® Core™ i7-8665UE quad core processor with 1.7GHz, 8MB Intel® Smart Cache, Intel® UHD Graphics 620 and 2400MT/s dual channel DDR4 memory interface (Whiskey Lake) |
| conga-IC370/i5-8365UE | 053002 | Thin Mini-ITX board based on Intel® Core™ i5-8365UE quad core processor with 1.6GHz, 6MB Intel® Smart Cache, Intel® UHD Graphics 620 and 2400MT/s dual channel DDR4 memory interface (Whiskey Lake-UE) |
| conga-IC370/i3-8145UE | 053003 | Thin Mini-ITX board based on Intel® Core™ i3-8145UE dual core processor with 2.2GHz, 4MB Intel® Smart Cache, Intel® UHD Graphics 620 and 2400MT/s dual channel DDR4 memory interface (Whiskey Lake-UE) |
| conga-IC370/4305UE | 053005 | Thin Mini-ITX board based on Intel® Celeron® 4305UE dual core processor with 2.0GHz, 2MB Intel® Smart Cache, Intel® UHD Graphics 610 and 2133MT/s dual channel DDR4 memory interface (Whiskey Lake-UE) |
| ICx/CSA | 052252 | Active cooling solution for conga-IC97/170/175/370 with 12V fan and Thin Mini-ITX height, to be used with conga-ICx/Retention Frame PN 052254 |
| ICx/Retention Frame | 052254 | Retention frame for lcx/CSA 052252 |
| conga-IC370 IO Shield Standard Size | 053060 | IO shield for conga-IC370 with Standard Mini-ITX height |
| conga-IC370 IO Shield Thin Size | 053061 | IO shield for conga-IC370 with Thin Mini-ITX height. |
| DDR4-SODIMM-2666 (4GB) | 067780 | DDR4 SODIMM memory module with 2666 MT/s and 4GB RAM |
| DDR4-SODIMM-2666 (8GB) | 067781 | DDR4 SODIMM memory module with 2666 MT/s and 8GB RAM |
| DDR4-SODIMM-2666 (16GB) | 067782 | DDR4 SODIMM memory module with 2666 MT/s and 16GB RAM |
| DDR4-SODIMM-2666 (32GB) | 068806 | DDR4 SODIMM memory module with 2666 MT/s and 32GB RAM |
| cab-ThinMini-ITX-LVDS, 1:1 | 14000129 | edP cable, configuration 1:1, micro-coax, length = 300 mm, for conga-IC370 |
| cab-LVDS SHDR-40V, Open End | 14000254 | Cable for LVDS Panel with JST SHDR-40V connector and Open End, 50cm, for conga-IC370 |
| cab-Backlight ZHR-8, Open End | 14000127 | Cable for Backlight connector and Open End, 30cm, for conga-IC370 |
| cab-LVDS SHDR-40V FI-X30HL, 50cm | 14000256 | Cable for LVDS with JST SHDR-40V and JAE FI-X30HL connectors, 50cm, for Panel AUO G170EG01 (Article 10000132), for conga-IC370 |
| cab-ThinMini-ITX-BKLT 0511460600 | 14000272 | Cable for Backlight with JST PHR-8 and Molex 51146-0600 connectors, 50cm for Panel 17" LVDS Panel G170EG01 V.1AUO (Article 10000132), for conga-IC370 |
| conga-Thin MITX/eDP to DP Adapter | 052231 | eDP to standard DisplayPort evaluation adapter, for conga-IC370 |
| conga-Thin MITX/eDP to HDMI Adapter | 052232 | eDP to standard HDMI evaluation adapter, for conga-IC370 |
| conga-Thin MITX/eDP to LVDS Adapter | 052234 | eDP to LVDS evaluation adapter, for conga-IC370 |
| cab-ThinMini-ITX-RS232 | 14000121 | RS232 cable with 9pin DSUB, for conga-IC370 |
| cab-ThinMini-ITX-RS422 | 14000257 | RS422 cable with 9pin DSUB, for conga-IC370 |
| cab-ThinMini-ITX-RS485 | 14000258 | RS485 cable with 9pin DSUB, for conga-IC370 |
| cab-ThinMini-ITX-USB20-Twin | 14000123 | USB2.0 cable – Twin, 20cm, for conga-IC370 |
| USB C to internal USB 3.1 cable, right-angled, 45cm | 14000265 | Cable adapter from internal USB 3.1 connector to USB type C (right-angled), approx. 45cm, for conga-IC370 |
| cab-PicoITX-GPIO Cable | 14000151 | GPIO Cable, Open end, 15 cm, for conga-IC370 |
| SATA Data Cable | 48000030 | SATA III cable, 30 cm, with data transfer rate of up to 6 Gbps, Connector: down / straight, for conga-IC370 |
| cab-ThinMini-ITX-Front Panel | 14000273 | Cable adapter for Front Panel (Power button, Reset button, Power LED, SATA LED), length 15cm, for conga-IC370 |
| Power Supply Unit 90W; 19V / 4.74A | 10000146 | NB Power Supply; 90W; 19V@4.74A Plug 7.4x5.1x12.5mm (right-angled), power cable C6 not included, for conga-IC370 |

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