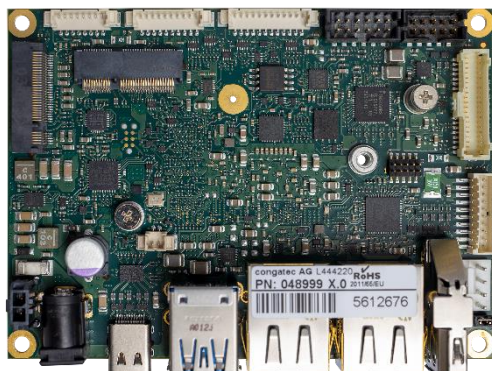


INDUSTRIAL PICO-ITX

conga-PA7



- Pico-ITX SBC based on Intel® Atom® x6000E Series and Intel® Pentium® and Celeron® J Series processors (code-named Elkhart Lake)
- High performance Intel® UHD Graphics (Gen11)
- Options for Industrial Temperature Range -40°C to 85°C
- Time Sensitive Networking and Time Coordinated Computing enable improved Realtime Capability
- Up to 4.267 MT/s Memory Support with Inband ECC

Form Factor

Pico-ITX Single Board Computer | 100 x 72 mm

CPU

Processor	TDP	Cores/Threads	Base Frequency/max. Turbo	Gfx Gen11	Intel Use Condition
J6413	10W	4 / 4	1.8 GHz / 3.0 GHz	16 EU	PC Client
J6425	10W	4 / 4	1.8 GHz / 3.0 GHz	32 EU	PC Client
x6211E	6W	2 / 2	1.2 GHz / 3.0 GHz	16 EU	Embedded
x6413E	9W	4 / 4	1.5 GHz / 3.0 GHz	16 EU	Embedded
x6425E	12W	4 / 4	1.8 GHz / 3.0 GHz	32 EU	Embedded
x6212RE	6W	2 / 2	1.2 GHz / ---	16 EU	Industrial
x6414RE	9W	4 / 4	1.5 GHz / ---	16 EU	Industrial
x6425RE	12W	4 / 4	1.9 GHz / ---	32 EU	Industrial

DRAM

up to 4 Channels onboard LPDDR4x with up to 4,267 MT/s | max. system capacity 16 GB

Chipset

Integrated in SoC

Ethernet

2x LAN Gbit / 100 Mbit / 10 Mbit with TSN support and Out-Of-Band Management | 2x real-time trigger

Mass Storage

eMMC 5.1 onboard flash up to 64 GB (optional up to 128 GB)

Sound

Intel® LPE Audio via I2S

Graphics

Intel® UHD Graphics (Gen11)

Internal Connectors

2x USB 2.0 | 1x LVDS 18/24bit or eDP (opt) or MIPI-DSI (opt) | 1x Backlight power connector (5V, 12V) | 1x Audio Connector (HP/Line Out, MIC In, opt. DMIC) | 1x Power In (+12V) | 2x COM (RS232/422/485) | 1x Fan Connector with PWM | 3x Feature Connector | 1x M.2 key ID B type 2280 (2 PCIe lanes/SATA, USB 2.0) | 1x M.2 key ID E (1 PCIe lane, USB 2.0) | 2x CAN (opt.)

External Connectors

1x DisplayPort DP++ | 2x LAN RJ45 | 1x USB 3.1 Gen2 Type C (with Power Delivery and DP) | 2x USB 3.1 Gen2 Type A | 1x DC-In

congatec Board controller

Multistage watchdog | non-volatile user data storage | manufacturing and board Information | board statistics | fast mode and multi-master I2C bus | power loss control

Embedded BIOS Feature

AMI Aptio® UEFI firmware | 32 Mbyte serial SPI with congatec Embedded BIOS features | OEM Logo | OEM CMOS Defaults LCD Control | Display Auto Detection | Backlight Control | Flash Update

Security

TPM 2.0

Power Management

ACPI 5.0 compliant | Smart Battery Management

Operating Systems

Microsoft® Windows 10 | Microsoft® Windows 10 IoT Enterprise | Microsoft® Windows IoT 10 Core | Linux | Android | Yocto | RTS Hypervisor

Power Consumption

tbd. | see manual for full details

Temperature Range

Commercial:	Operating Temperature: 0 to +60°C	Storage Temperature: -20 to +85°C
Industrial:	Operating Temperature: -40 to +85°C	Storage Temperature: -40 to +85°C

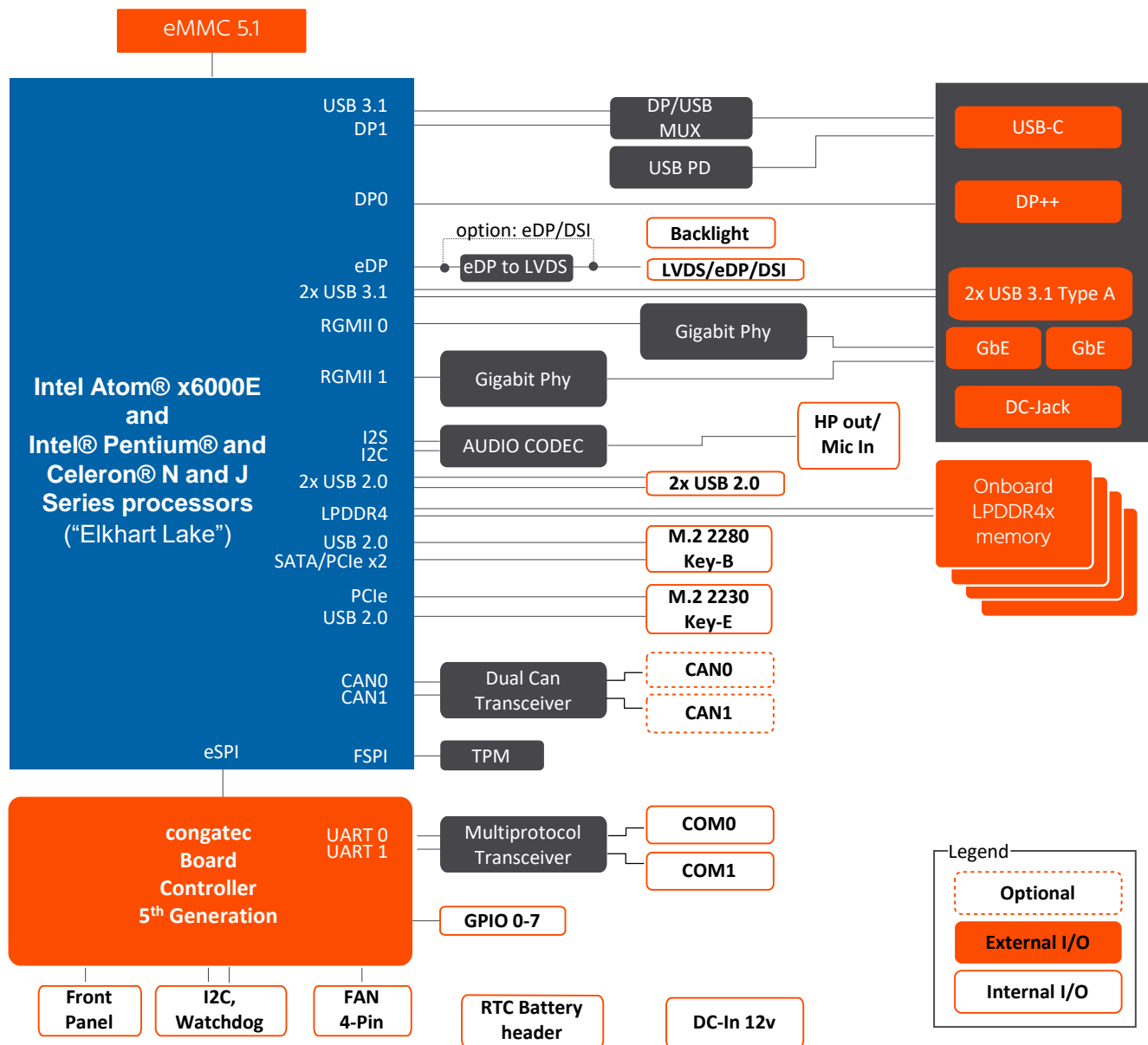
Humidity

Operating:	10 to 90% r. H. non cond.
Storage:	5 to 95% r. H. non cond.

Size

100 x 72 mm (approx. 3.9 x 2.8")

conga-PA7 | Block Diagram



Note: * Assembly options on request only

conga-PA7 | Order Information

Article	PN	Description
conga-PA7/x6425E-8G eMMC64	048900	Pico-ITX board with Intel® Atom® x6425E quad core processor with 1.8GHz core frequency up to 3.0GHz, 1.5MB cache, 8GB 4267MT/s LPDDR4x onboard memory and 64GB eMMC 5.1 onboard flash
conga-PA7/x6413E-4G eMMC32	048901	Pico-ITX board with Intel® Atom® x6413E quad core processor with 1.5GHz core frequency up to 3.0GHz, 1.5MB cache, 4GB 4267MT/s LPDDR4x onboard memory and 32GB eMMC 5.1 onboard flash
conga-PA7/x6211E-4G eMMC32	048902	Pico-ITX board with Intel® Atom® x6211E dual core processor with 1.2GHz core frequency up to 3.0GHz, 1.5MB cache, 4GB 4267MT/s LPDDR4x onboard memory and 32GB eMMC 5.1 onboard flash
conga-PA7/i-x6425RE-8G eMMC64	048910	Pico-ITX board with Intel® Atom® x6425RE quad core processor with 1.9GHz core frequency, 1.5MB cache, 8GB 4267MT/s LPDDR4x onboard memory and 64GB eMMC 5.1 onboard flash. Industrial grade temperature range from -40°C to 85°C
conga-PA7/i-x6414RE-4G eMMC32	048911	Pico-ITX board with Intel® Atom® x6414RE quad core processor with 1.5GHz core frequency, 1.5MB cache, 4GB 4267MT/s LPDDR4x onboard memory and 32GB eMMC 5.1 onboard flash. Industrial grade temperature range from -40°C to 85°C
conga-PA7/i-x6212RE-4G eMMC32	048912	Pico-ITX board with Intel® Atom® x6212RE dual core processor with 1.2GHz core frequency, 1.5MB cache, 4GB 4267MT/s LPDDR4x onboard memory and 32GB eMMC 5.1 onboard flash. Industrial grade temperature range from -40°C to 85°C
conga-PA7/J6425-8G eMMC64	048920	Pico-ITX board with Intel® Pentium® J6425 quad core processor with 1.8GHz core frequency up to 3.0GHz, 1.5MB cache, 8GB 3733MT/s LPDDR4x onboard memory and 64GB eMMC 5.1 onboard flash
conga-PA7/J6413-4G eMMC32	048921	Pico-ITX board with Intel® Celeron® J6413 quad core processor with 1.8GHz core frequency up to 3.0GHz, 1.5MB cache, 4GB 4267 MT/s LPDDR4x onboard memory and 32GB eMMC 5.1 onboard flash
conga-PA7/HSP-T	048950	Heatspreader solution for conga-PA7 based on open silicon Intel Pentium and Celeron J and N processors . All standoffs are M2.5 thread
conga-PA7/i-HSP-T	048951	Heatspreader solution for conga-PA7 based on lidded silicon Intel Atom x6000E processors. All standoffs are M2.5 thread
conga-PA7/CSP-T	048952	Passive cooling solution for conga-PA7 based on open silicon Pentium and Celeron J and N processors. All standoffs are M2.5 thread
conga-PA7/i-CSP-T	048953	Passive cooling solution for conga-PA7 based on lidded silicon Atom X6000E processors. All standoffs are M2.5 thread
conga-PA7/HSP-B	048954	Heatspreader solution for conga-PA7 based on open silicon Intel Pentium and Celeron J and N processors. All standoffs are with 2.7mm borehole
conga-PA7/i-HSP-B	048955	Heatspreader solution for conga-PA7 based on lidded silicon Intel Atom x6000E processors. All standoffs are with 2.7mm borehole



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