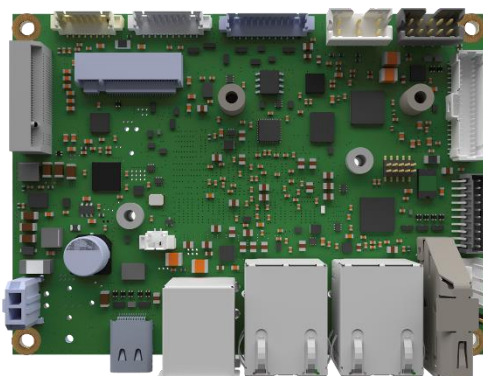


INDUSTRIAL PICO-ITX

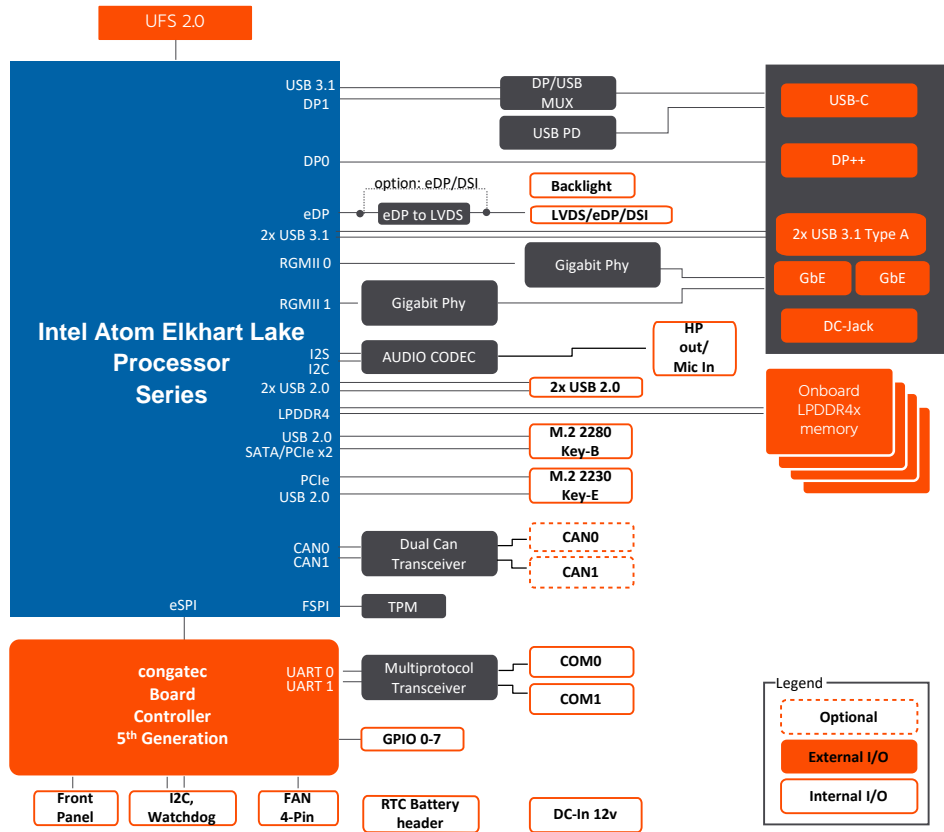
conga-PA7



- 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
- UFS 2.0 for higher bandwidth and data processing

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	UFS 2.0 onboard flash up to 64 GB (optional up to 512 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 I ² C 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



conga-PA7 | Order Information

Article	PN	Description
conga-PA7/x6425E-8G-UFS64	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 UFS 2.0 onboard flash
conga-PA7/x6413E-4G-UFS32	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 UFS 2.0 onboard flash.
conga-PA7/x6211E-4G-UFS32	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 UFS 2.0 onboard flash.
conga-PA7/i-x6425RE-8G-UFS64	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 UFS 2.0 onboard flash. Industrial grade temperature range from -40°C to 85°C.
conga-PA7/i-x6414RE-4G-UFS32	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 UFS 2.0 onboard flash. Industrial grade temperature range from -40°C to 85°C.
conga-PA7/i-x6212RE-4G-UFS32	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 UFS 2.0 onboard flash. Industrial grade temperature range from -40°C to 85°C.
conga-PA7/J6425-8G-UFS64	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 UFS 2.0 onboard flash.
conga-PA7/J6413-4G-UFS32	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 UFS 2.0 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