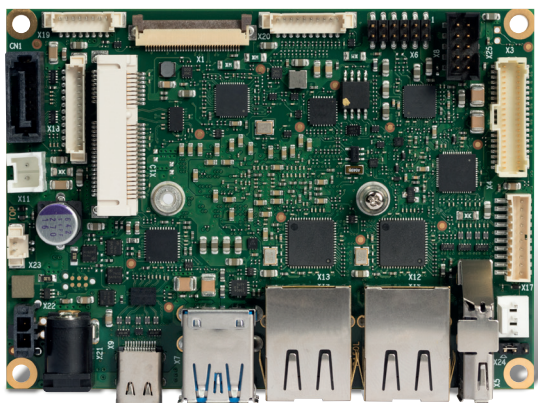


INDUSTRIAL PICO-ITX

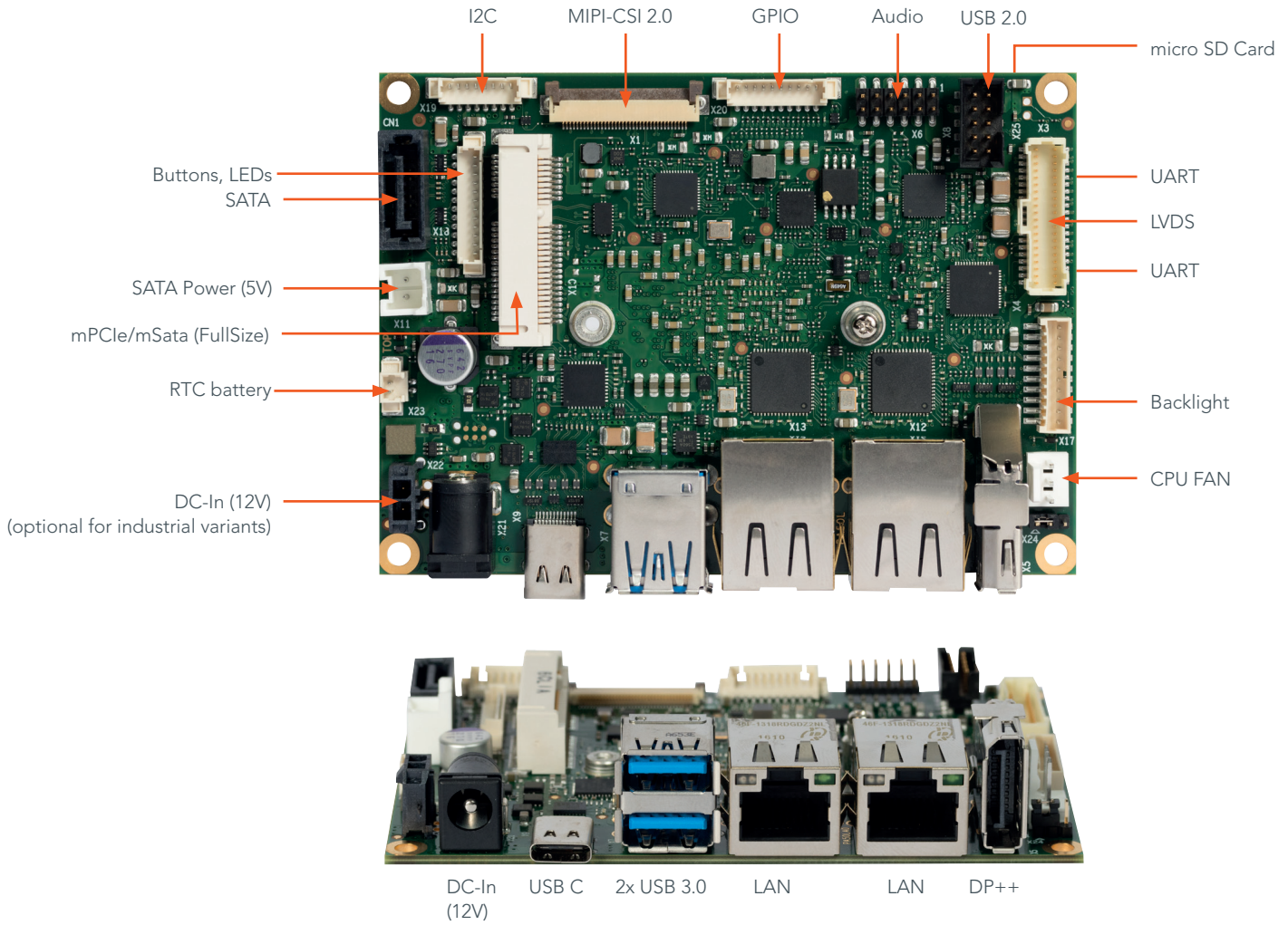
conga-PA5



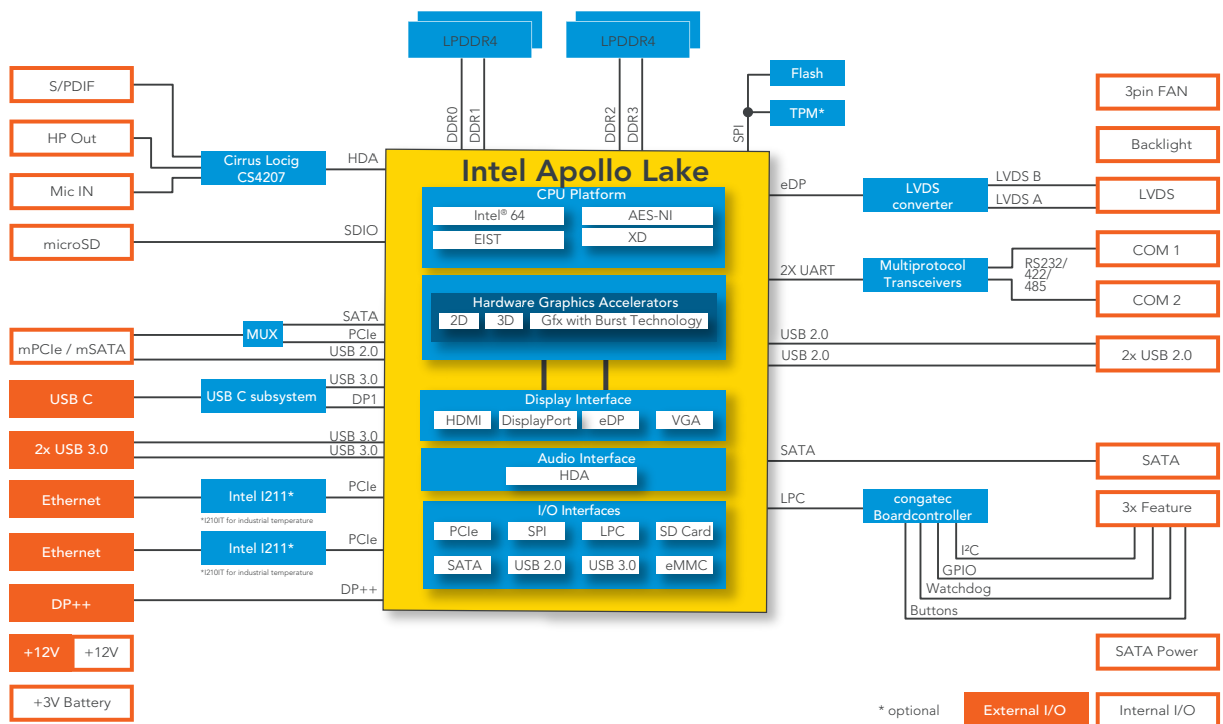
- 5th Generation Intel Atom®, Intel® Celeron® and Intel® Pentium® Processors
- Low Power CPUs 6 to 12 Watt TDP
- Enhanced Intel HD Graphics Generation 9
- Compact design for size-sensitive devices in harsh environments
- Long life components for 24/7 embedded use
- Two Intel® i210/211 Ethernet controllers allowing for enhanced industrial communication
- Extended Temperature variants
- On board TPM for enhanced security

Formfactor	pico-ITX Singleboard Computer 100x72 mm					
CPU	Intel® Atom™ x7-E3950	2.00 GHz (Burst) 1.6 GHz Clock	Quad Core	L2 cache 2MB	12W TDP	
	Intel® Atom™ x5-E3940	1.80 GHz (Burst) 1.6 GHz Clock	Quad Core	L2 cache 2MB	9.5W TDP	
	Intel® Atom™ x5-E3930	1.80 GHz (Burst) 1.3 GHz Clock	Dual Core	L2 cache 2MB	6.5W TDP	
	Intel® Pentium® N4200	2.50 GHz (Burst) 1.1 GHz Clock	Quad Core	L2 cache 2MB	6W TDP	
	Intel® Celeron® N3350	2.40 GHz (Burst) 1.1 GHz Clock	Dual Core	L2 cache 2MB	6W TDP	
	Intel® Celeron® J3455	2.30 GHz (Burst) 1.5 GHz Clock	Quad Core	L2 cache 2MB	10W TDP	
DRAM Memory	up to 4 Channels onboard LPDDR4 (V1.1) with up to 2400 MT/s max. 8 GB					
Chipset	Integrated in SoC					
Ethernet	2x LAN Gbit / 100 Mbit / 10 Mbit Intel Gigabit Ethernet i211 controller (i210 for industrial temperature)					
Sound	High Definition Audio Interface Cirrus Logic CS4207					
Graphics	Intel® Gen 9 HD Graphics with support for DirectX12 OpenGL 4.3 OpenCL 2.0 OpenGLES 3.x MPEG2 full HW acceleration with H.265/HEVC decoding and H.264 encoding VP9 PAVP 3.x HDCP 1.4 MVC and 2x independent display support in 4K (3840 x 2160 px) @30 Hz or WQXGA (2560 x 1600 px) @60 Hz					
Graphic Interfaces	2x 18/24-bit Single/Dual Channel LVDS Interface (via eDP to LVDS converter PTN3460) 1x DisplayPort DP++ up to 4096x2160 @ 60Hz with eDP					
Internal Connectors	1x miniPCIe or mSATA full size 1x SATA (6G) (with auxiliary +5V power connector for 2.5" HDD) 2x USB 2.0 1x LVDS 2x24bit 1x Backlight power connector 1x Line Out 1x Mic In 1x S/PDIF Out 1x Power In (+12V) 2x COM (RS232 / RS-485 / RS422) 1x Fan Connector 3x Feature Connector micro SD Card MIPI-CSI 2.0					
External Connectors (Frontpanel)	1x DisplayPort DP++ 2x LAN RJ45 1x USB 3.0 Type C (with PD and DP++) 2x USB 3.0 1x DC-In (optional for industrial variants)					
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					
Embedded BIOS	AMI Aptio® 2.X (UEFI) BIOS; SM-BIOS BIOS Update Logo Boot Quiet Boot HDD Password					
Security	Integrated Intel® PTT (TPM 2.0). Infineon SLB9670 (SPI TPM 2.0)					
Power Specification	Power Supply 12V RTC battery					
Operating Systems	Microsoft® Windows 10 Microsoft® Windows 10 IoT Enterprise Microsoft® Windows 10 IoT Core Linux Android					
Operating Temperature:	Operating: Commercial: 0 .. +60°C Industrial: -40 .. +85°C		Storage: Commercial: -40 .. +70°C Industrial: -40 .. +85°C			
Humidity Operating:	Operating: 10 - 90% r. H. Storage: 5 - 95% r.H.					
Size	100 x 72 mm (3.9" x 2.8")					

conga-PA5 | Connectors



conga-PA5 | Block diagram



conga-PA5 | Order Information

Article	PN	Description
conga-PA5/E3950-8G	048100	pico-ITX board based on Intel® Atom™ x7-E3950 quad core processor with 2.00 GHz, 2MB cache and 8 GB 2400 MT/s onboard memory.
conga-PA5/E3940-4G	048101	pico-ITX board based on Intel® Atom™ x5-E3940 quad core processor with 1.80 GHz, 2MB cache and 4 GB 2133 MT/s onboard memory.
conga-PA5/E3930-4G	048102	pico-ITX board based on Intel® Atom™ x5-E3930 dual core processor with 1.80 GHz, 2MB cache and 4 GB 2133 MT/s onboard memory.
conga-PA5/i-E3950-8G	048110	pico-ITX board based on Intel® Atom™ x7-E3950 quad core processor with 2.00 GHz, 2MB cache and 8 GB 2400 MT/s onboard memory. Extended temperature version -40°C to 85°C.
conga-PA5/i-E3940-4G	048111	pico-ITX board based on Intel® Atom™ x5-E3940 quad core processor with 1.80 GHz, 2MB cache and 4 GB 2133 MT/s onboard memory. Extended temperature version -40°C to 85°C.
conga-PA5/i-E3930-4G	048112	pico-ITX board based on Intel® Atom™ x5-E3930 dual core processor with 1.80 GHz, 2MB cache and 4 GB 2133 MT/s onboard memory. Extended temperature version -40°C to 85°C.
conga-PA5/N4200-8G	048120	pico-ITX board based on Intel® Pentium® N4200 quad core processor with 2.50 GHz, 2MB cache and 8 GB 2400 MT/s onboard memory.
conga-PA5/J3455-4G	048122	Pico-ITX board based on Intel® Celeron® J3455 quad core processor with 1.52GHz up to 2.30 GHz and 4GB 2400MT/s LPDDR4 on-board memory.
conga-PA5/N4200-4G	048123	Pico-ITX board based on Intel® Pentium® N4200 quad core processor with 1.5/2.5 GHz and 4GB 2400MT/s LPDDR4 onboard memory.
conga-PA5/N3350-4G	048121	pico-ITX board based on Intel® Celeron™ N3350 dual core processor with 2.40 GHz, 2MB cache and 4 GB 2400 MT/s onboard memory.

Accessories	PN	Description
conga-PA5/HSP-T	048150	Heatspreader for Pico ITX board conga-PA5 (for boards with standard -non lidded- CPUs)
conga-PA5/i-HSP-T	048151	Heatspreader for Pico ITX board conga-PA5 (for boards with lidded CPUs -with integrated heat spreader)
conga-PA5/CSP-T	048152	Passive Cooling for Pico ITX board conga-PA5 (for boards with standard (non lidded) CPUs)
conga-PA5/i-CSP-T	048153	Passive Cooling for Pico ITX board conga-PA5 (for boards with lidded CPUs -with integrated heat spreader)
Lithium Coin Battery	46500015	Coin type Lithium battery for high temperature Includes wires and connector, 3M VHB tape, battery is covered by PVC heat shrink tube nominal capacity: 255 mAh temperature range: -40 to +85 °C

This Datasheet should be read in conjunction with "[Errata sheet - congatec xA5 designs](#)", available in the document section of congatec's webportal.

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