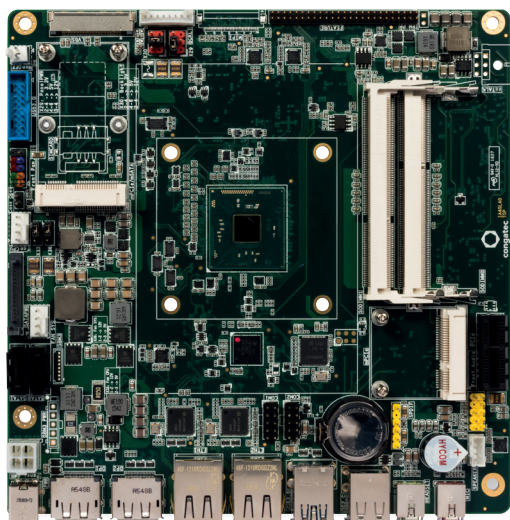


# INDUSTRIAL THIN MINI-ITX

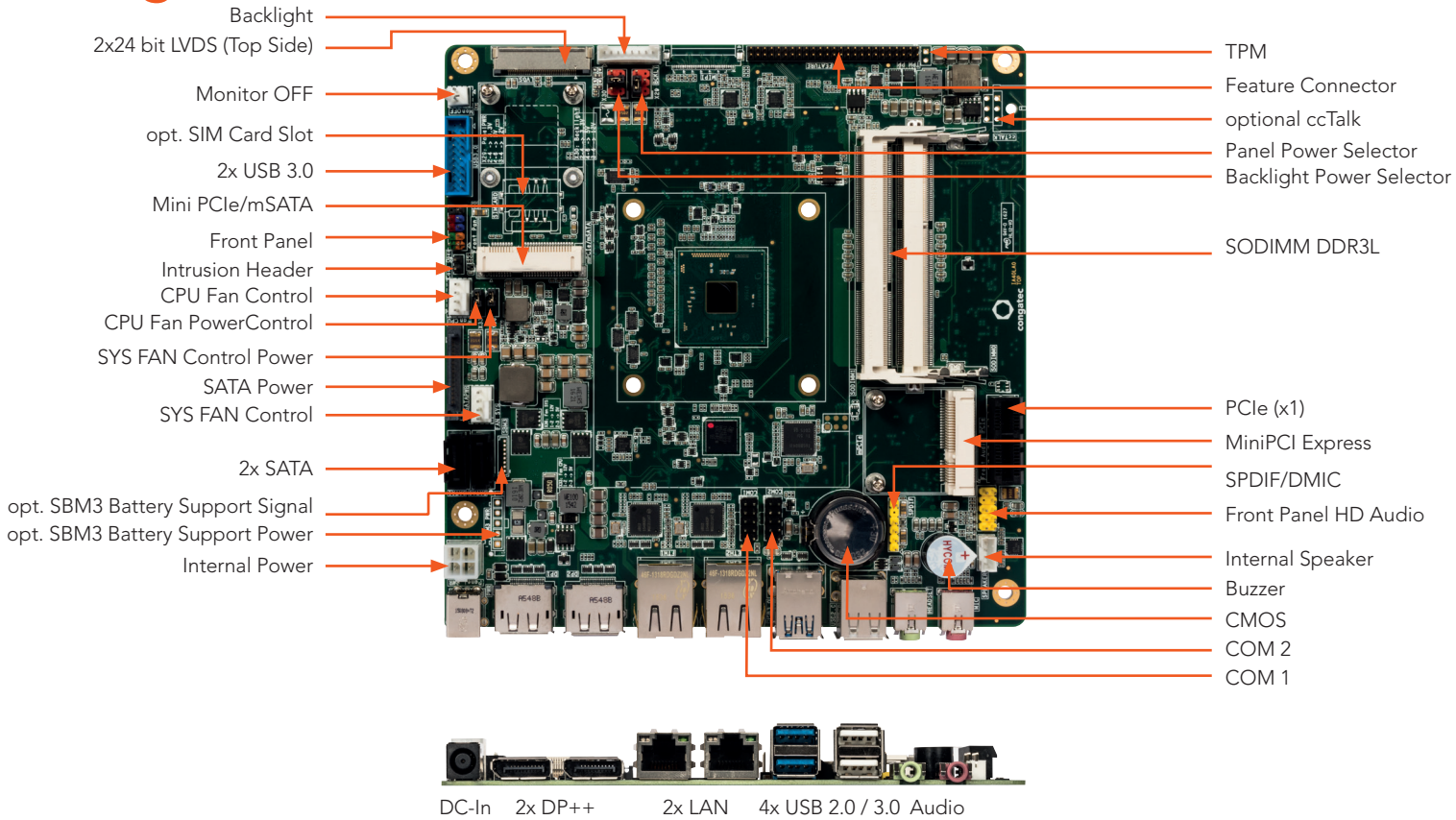
## conga-IA4



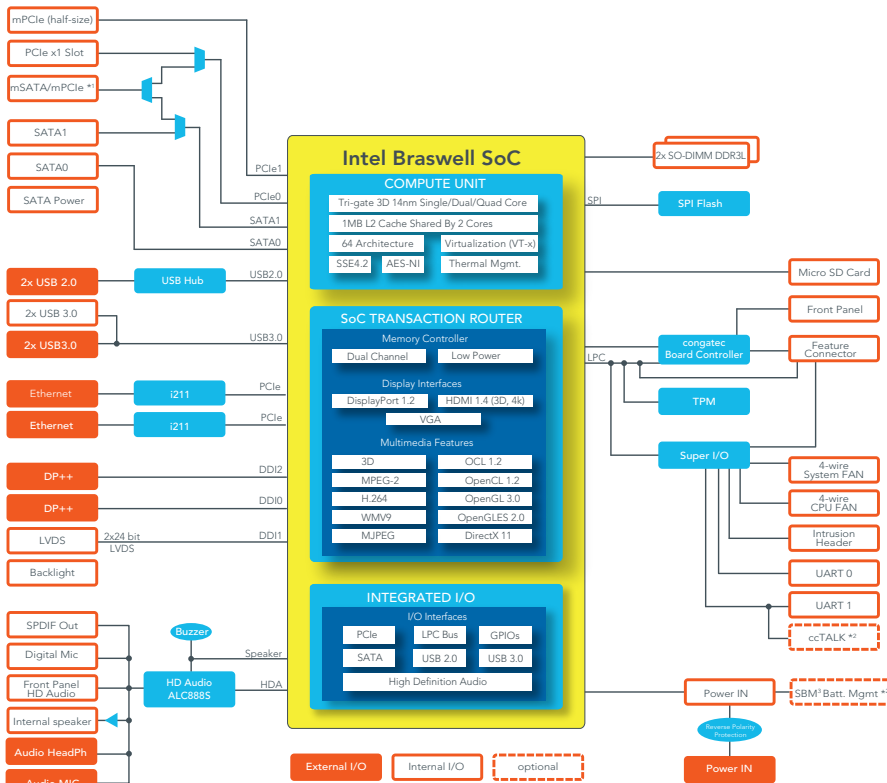
- Next Generation Intel® Celeron® and Pentium® Processor
- Burst Technology
- Low Power 3 to 4 Watt CPU SDP
- Enhanced Intel HD Graphics Generation 8
- Long life components for 24/7 embedded use

Formfactor	Industrial Thin-Mini-ITX   170 x 170 mm																									
CPU	<table border="0"> <tr> <td>Intel® Pentium® N3710</td> <td>2.56 GHz (Burst)   1.6 GHz Clock</td> <td>Quad Core</td> <td>L2 cache 2MB</td> <td>4W SDP   6W TDP</td> </tr> <tr> <td>Intel® Celeron® N3160</td> <td>2.24 GHz (Burst)   1.6 GHz Clock</td> <td>Quad Core</td> <td>L2 cache 2MB</td> <td>4W SDP   6W TDP</td> </tr> <tr> <td>Intel® Celeron® N3060</td> <td>2.48 GHz (Burst)   1.6 GHz Clock</td> <td>Dual Core</td> <td>L2 cache 2MB</td> <td>4W SDP   6W TDP</td> </tr> <tr> <td>Intel® Celeron® N3010</td> <td>2.24 GHz (Burst)   1.04 GHz Clock</td> <td>Dual Core</td> <td>L2 cache 2MB</td> <td>3W SDP   4W TDP</td> </tr> <tr> <td>Intel® Atom™ X5-E8000</td> <td>2.00 GHz (Burst)   1.04 GHz Clock</td> <td>Quad Core</td> <td>L2 cache 2MB</td> <td>4W SDP   5W TDP</td> </tr> </table>	Intel® Pentium® N3710	2.56 GHz (Burst)   1.6 GHz Clock	Quad Core	L2 cache 2MB	4W SDP   6W TDP	Intel® Celeron® N3160	2.24 GHz (Burst)   1.6 GHz Clock	Quad Core	L2 cache 2MB	4W SDP   6W TDP	Intel® Celeron® N3060	2.48 GHz (Burst)   1.6 GHz Clock	Dual Core	L2 cache 2MB	4W SDP   6W TDP	Intel® Celeron® N3010	2.24 GHz (Burst)   1.04 GHz Clock	Dual Core	L2 cache 2MB	3W SDP   4W TDP	Intel® Atom™ X5-E8000	2.00 GHz (Burst)   1.04 GHz Clock	Quad Core	L2 cache 2MB	4W SDP   5W TDP
Intel® Pentium® N3710	2.56 GHz (Burst)   1.6 GHz Clock	Quad Core	L2 cache 2MB	4W SDP   6W TDP																						
Intel® Celeron® N3160	2.24 GHz (Burst)   1.6 GHz Clock	Quad Core	L2 cache 2MB	4W SDP   6W TDP																						
Intel® Celeron® N3060	2.48 GHz (Burst)   1.6 GHz Clock	Dual Core	L2 cache 2MB	4W SDP   6W TDP																						
Intel® Celeron® N3010	2.24 GHz (Burst)   1.04 GHz Clock	Dual Core	L2 cache 2MB	3W SDP   4W TDP																						
Intel® Atom™ X5-E8000	2.00 GHz (Burst)   1.04 GHz Clock	Quad Core	L2 cache 2MB	4W SDP   5W TDP																						
DRAM Memory	2x SO-DIMM sockets (dual channel DDR3L up to 1600 MT/s) to support a max. memory size of 8GB																									
Ethernet	2x Intel® I211 Gigabit Ethernet controller																									
Sound	High Definition Audio Interface   Realtek ALC 888S																									
Graphics	Intel® Gen 8 HD Graphics with support for DirectX11.1   OpenGL 4.2   OpenCL 1.2   OpenGL ES 2.0   MPEG2 full HW acceleration with H.265/HEVC decoding and H.264 encoding   MVC and 2x independent display support in 4K (3840 x 2160 px) @30 Hz or WQXGA (2560 x 1600 px) @60 Hz																									
Graphic Interfaces	1x 24-bit Dual Channel LVDS Interface and 2x DisplayPort 1.2																									
Internal Connectors	1x PCIe x1 Slot shared with mSATA/mPCIe   1x mPCIe Full Size shared with mSATA   1x mPCIe Half Size   2x SATA (3G)   1x mSATA (shared with SATA)   1x SATA Power   2x USB 3.0/2.0 Header   1x LVDS (2x24 bit)   s1x Embedded DisplayPort 1.4   1x Backlight (Power   Control)   1x Front Panel HD Audio   2x Serial Port COM1 (opt. as ccTALK)   1x Frontpanel (Power Switch, LEDs, Reset)   1x FAN CPU   1x FAN System   1x internal power header (12-24V)   1x opt. battery header signal + power (SBM3)																									
Feature Connector	congatec custom (8 Bit General Purpose I/O)   SPI(for external BIOS)   SMB   LPC   ACPI S3/S4																									
External Connectors (Frontpanel)	2x DisplayPort DP++   3.5mm Audio In and 3.5mm Line Out   2x LAN RJ45   2x USB 3.0/2.0   2x USB 2.0   1x DC-In (external input   12-24V)																									
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	The conga-IA4 can be optionally equipped with a discrete "Trusted Platform Module" (TPM 1.2/2.0). It is capable of calculating efficient hash and RSA algorithms with key lengths up to 2,048 bits and includes a real random number generator. Security sensitive applications such as gaming and e-commerce will benefit also with improved authentication   integrity and confidence levels																									
Power Specification	Power Management   ACPI S3/S4/DeepSx   Wake on time from S5   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   Yocto																									
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")																									

# conga-IA4 | Connectors



# conga-IA4 | Block diagram



\*1 The mSATA/mPCIe connector supports both mPCIe and mSATA devices. The devices are detected automatically.  
 \*\* Optional feature.

# conga-IA4 | Order Information

Article	PN	Description
conga-IA4/N3010	052605	Thin Mini ITX Baseboard with Intel® Celeron® N3010 dual core processor with 1.04/2.24GHz, 2MB L2 cache and dual DDR3L-1600 memory interface
conga-IA4/N3060	052606	Thin Mini ITX Baseboard with Intel® Celeron® N3060 dual core processor with 1.6/2.48GHz, 2MB L2 cache and dual DDR3L-1600 memory interface
conga-IA4/N3160	052607	Thin Mini ITX Baseboard with Intel® Celeron® N3160 quad core processor with 1.6/2.24GHz, 2MB L2 cache and dual DDR3L-1600 memory interface
conga-IA4/N3710	052608	Thin Mini ITX Baseboard with Intel® Pentium® N3710 quad core processor with 1.6/2.56GHz, 2MB L2 cache and dual DDR3L-1600 memory interface
conga-IA4/E8000	052609	Thin Mini ITX Baseboard with Intel® Atom™ X5-E8000 quad core processor with 1.04/2.00GHz, 2MB L2 cache and dual DDR3L-1600 memory interface
<b>Accessories</b>		
conga-IA3/CSP	052351	Passive cooling solution suitable for conga IA3 and conga-IA4 with Thin Mini-ITX height
conga-IA3/Retention Frame	052355	Retention frame for standard cooling conga-IA3/CSP (052351) suitable for conga-IA3 and conga-IA4
conga-IA4/IO Shield - Standard	052651	I/O shield for conga-IA4 with Standard Mini-ITX height
conga-IA4/IO Shield - Thin	052652	I/O shield for conga-IA4 with Thin Mini-ITX height
cab-ThinMini-ITX-SATA-Power	14000120	Sata power cable for congatec Thin Mini-ITX family. One end 15 pin SATA connector to to 3x15 pin SATA connector
cab-ThinMini-ITX-UART	14000121	UART cable with 9pin DSUB connector for congatec Thin Mini-ITX family
cab-ThinMini-ITX-USB30-Twin	14000124	Dual USB 3.0 cable for congatec Thin Mini-ITX family
cab-ThinMini-ITX-BKLT	14000127	Backlight cable for congatec Thin Mini-ITX family
cab-ThinMini-ITX-LVDS-OE	14000125	LVDS cable with open end for congatec Thin Mini-ITX family. Can be used also for eDP with open end
cab-ThinMini-ITX-eDP 1-1	14000129	eDP 1-1 cable for congatec Thin Mini-ITX family. Both sides are with 40pin ACES eDP connector plug
cab-DP to HDMI Passive	14000128	Passive DisplayPort to HDMI cable
Dual USB 3.0 Slot Bracket	052442	Dual USB 3.0 Slot Bracket for 19pin USB 3.0 motherboard header, 40cm length, blue color
SATA III cable 30cm, straight/straight	48000029	SATA III cable with 30cm length, shielded, end connectors straight/straight
SATA III cable 30cm, down/straight	48000030	SATA III cable with 30cm length, shielded, end connectors down/straight
conga-Thin MITX/eDP to DP Adapter	052231	eDP to standard DisplayPort evaluation adapter for congatec Thin Mini-ITX boards
conga-Thin MITX/eDP to HDMI Adapter	052232	eDP to standard HDMI evaluation adapter for congatec Thin Mini-ITX boards
conga-Thin MITX/LVDS Adapter	052233	LVDS pin header evaluation adapter for congatec Thin Mini-ITX boards
NB Power Supply; 65W; 19V@3.42A, FSP065-REBN2, Plug 7.4x5.1x12.5mm	10000145	NB Power Supply; 65W; 19V@3.42A, FSP065-REBN2, Plug 7.4x5.1x12.5mm
NB Power Supply; 90W; 19V@4.74A, FSP090-DIEBN2, Plug 7.4x5.1x12.5mm	10000146	NB Power Supply; 90W; 19V@4.74A, FSP090-DIEBN2, Plug 7.4x5.1x12.5mm
2,5" SSD, 60GB SATA III, Toshiba	10000135	2,5" SSD, 60GB Serial ATA interface of 6.0Gbps, cMLC, Toshiba, 0°C- 70°C
2,5" SSD, 128GB SATA III, Samsung	10000136	2,5" SSD, 128GB Serial ATA interface of 6.0Gbps, NAND, Samsung PM851 Series, 0°C- 70°C
2,5" SSD, 256GB SATA III, Samsung	10000137	2,5" SSD, 256GB Serial ATA interface of 6.0Gbps, NAND, Samsung PM851 Series, 0°C- 70°C
DDR3L-SODIMM-1600 (2GB)	068755	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 2GB RAM
DDR3L-SODIMM-1600 (4GB)	068756	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 4GB RAM
DDR3L-SODIMM-1600 (8GB)	068757	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 8GB RAM