## INDUSTRIAL PICO-ITX

**conga-PA3**

- Compact and complete for small Industry 4.0
- 3rd Generation Intel® Atom™ / Celeron® Processor
- Low Power 5 to 10 Watt TDP
- Enhanced Intel HD Graphics Generation 7
- Long life components for 24/7 embedded use
- Smallest SBC computing and connecting device
- Extended Temperature

### Formfactor

| pico-ITX Singleboard Computer | 100x72 mm |

### CPU

<table>
<thead>
<tr>
<th>Processor</th>
<th>Frequency</th>
<th>Cache</th>
<th>TDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Atom™ E3845</td>
<td>1.91 GHz Quad Core</td>
<td>2 MB L2 Cache</td>
<td>10W TDP</td>
</tr>
<tr>
<td>Intel® Atom™ E3826</td>
<td>1.46 GHz Dual Core</td>
<td>1 MB L2 Cache</td>
<td>7W TDP</td>
</tr>
</tbody>
</table>

### DRAM Memory

Single Channel up to 4GB on board DDR3L with 1333 MHz

### Chipset

Integrated in SoC

### Ethernet

LAN Gig / 100 Mbit / 10 Mbit | Intel Gigabit Ethernet i211 controller (i210 for industrial temperature)

### Sound

High Definition Audio Interface* | Realtek ALC888S-VD | 7.1-channel

### Graphics

Next Generation Intel® HD Graphics

### Graphic Interfaces

1x 24-bit Dual Channel LVDS Interface (via eDP to LVDS converter PTN3460) | 1x DisplayPort DP++ | resolution up to 1920x1200 with 60Hz

### Internal Connectors

1x mPCIe Half Size | 1x mPCIe Half Size shared with mSATA | 1x SATA (3G) (no SATA power) | 2x USB 2.0
1x LVDS* 2x24bit | 1x Backlight power connector | 1x Line Out | 1xMic In | 1x S/PDIF Out | 1x Power In (+12V)
1x COM (RS-232) | 1x Fan Connector | 1x Feature Connector | micro SD Card | MIPI-CSI 2.0

### External Connectors (Frontpanel)

1x DisplayPort DP++ | 1x LAN RJ45 | 2x USB 3.0 | 1x DC-In (external input)*

### congatec embedded Controller

Multi-stage Watchdog | non-volatile User Data Storage | Manufacturing and Board Information | Board Statistics | BIOS Setup Data Backup
PC 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

### Power Specification

Power Supply 12V | 1 x FAN | RTC battery*

### Operating Systems

Microsoft® Windows 10 | Microsoft® Windows 10 IoT Enterprise | Microsoft® Windows 10 IoT Core | Microsoft® Windows 8 | Microsoft® Windows 7 Linux | Microsoft® Windows® 7/8 embedded Standard | Android | Yocto | MoonIsland / WindRiver IDP

### Operating Temperature:

**Commercial:** 0 .. +60°C
**Industrial:** -40° + 85°C

### Humidity Operating:

Operating: 10 - 90% r. H. non cond.

### Size

100 x 72 mm (3.9” x 2.8”)

* see User-Manual for detailed informations
**conga-PA3 | Connectors**

- I2C
- MIPI-CSI 2.0
- GPIO
- USB
- Audio
- micro SD Card
- mPCIe / mSATA (half size)
- Buttons, LEDs
- mPCIe (half size)
- SATA
- RTC battery
- Power input

**conga-PA3 | Block diagram**

- Intel Bay Trail SoC
- SATA
- SDIO
- SPI
- USB 2.0
- Ethernet
- DP++
- SPI Flash
- Memory
- Pin Assignments
- Multimedia Features
- Display Interfaces
- Display Port 1.2
- HDMI 1.4 (3D, 4k)
- Embedded DP
- Display Interfaces
- SDIO
- SPI
- USB 2.0
- LPC Bus
- PCIe
- GPIOs
- USB 3.0
- (I2C/Watchdog)
- (Buttons/LEDs)
- 3-wire
- CPU FAN
- Backlight
- Onboard DDR3L
- Memory

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* The mSATA/mPCIe connector supports both mPCIe and mSATA devices. The devices are detected automatically.

* Industrial variants are equipped with Intel i210 controller.

* Revision B.x and later are equipped with a multiprotocol transceiver.
# conga-PA3 Order Information

<table>
<thead>
<tr>
<th>Article PN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>conga-PA3/E3845-4G</td>
<td>047700 pico-ITX board based on Intel® Atom™ E3845 quad core processor with 1.91GHz, 2MB L2 cache and 4GB 1333MT/s onboard memory.</td>
</tr>
<tr>
<td>conga-PA3/E3826-2G</td>
<td>047701 pico-ITX board based on Intel® Atom™ E3826 dual core processor with 1.46GHz, 1MB L2 cache and 2GB 1066MT/s onboard memory.</td>
</tr>
<tr>
<td>conga-PA3/i-E3845-4G</td>
<td>047720 pico-ITX board based on Intel® Atom™ E3845 quad core processor with 1.91GHz, 2MB L2 cache and 4GB 1333MT/s onboard memory. Extended temperature version -40°C to 85°C without audio functionality.</td>
</tr>
<tr>
<td>conga-PA3/i-E3826-2G</td>
<td>047721 pico-ITX board based on Intel® Atom™ E3826 dual core processor with 1.46GHz, 1MB L2 cache and 2GB 1066MT/s onboard memory. Extended temperature version -40°C to 85°C without audio functionality.</td>
</tr>
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<tr>
<th>Accessories PN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>conga-PA3/HSP</td>
<td>047750 Heatspreader solution conga-PA3. All standoffs are with 2.7 mm hole.</td>
</tr>
<tr>
<td>conga-PA3/CSP</td>
<td>047753 Passive cooling solution for conga-PA3. Includes conga-PA3/HSP heatspreader and heat sink with 12mm fins. All standoffs are with 2.7mm bore hole.</td>
</tr>
<tr>
<td>17'' LVDS Panel G170EG01 V1</td>
<td>10000132 1280 x 1024 px</td>
</tr>
<tr>
<td>kab-LCD-Backlight-PA3</td>
<td>14000130 Backlight cable from PA3 baseboard to LCD panel (+12V LCD) with harddrive Molex outbound connection for +12V/+5V volt devices.</td>
</tr>
<tr>
<td>PA3 - LVDS data cable</td>
<td>14000167 LVDS data cable only conga-PA3.</td>
</tr>
<tr>
<td>Lithium Coin Battery</td>
<td>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.</td>
</tr>
</tbody>
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<th>Cables PN</th>
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<tr>
<td>conga-PA3 Cable Kit</td>
<td>14000162 Cable Kit for conga-PA3 containing cab-Pico-ITX-USB2.0-Twin</td>
</tr>
<tr>
<td>cab-Pico-ITX-RS422</td>
<td>14000153 RS422 cable adapter for Pico-ITX, DSUB9 Male, 15 cm</td>
</tr>
<tr>
<td>cab-Pico-ITX-RS485</td>
<td>14000154 RS485 cable adapter for Pico-ITX, DSUB9 Male, 15 cm</td>
</tr>
<tr>
<td>cab-Pico-ITX-LVDS</td>
<td>14000167 LVDS data cable for Pico-ITX to connect LCD panel AUO G170EG01 V1 (Item# 10000132; Item name 17'' LVDS Panel G170EG01 V1).</td>
</tr>
<tr>
<td>cab-Pico-ITX-Power</td>
<td>14000172 Internal power cable for industrial versions of Pico-ITX, 15 cm</td>
</tr>
<tr>
<td>cab-Pico-ITX-Backlight</td>
<td>14000130 Backlight power cable for Pico-ITX to connect LCD panel AUO G170EG01 V1 (Item# 10000132; Item name 17'' LVDS Panel G170EG01 V1).</td>
</tr>
</tbody>
</table>

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