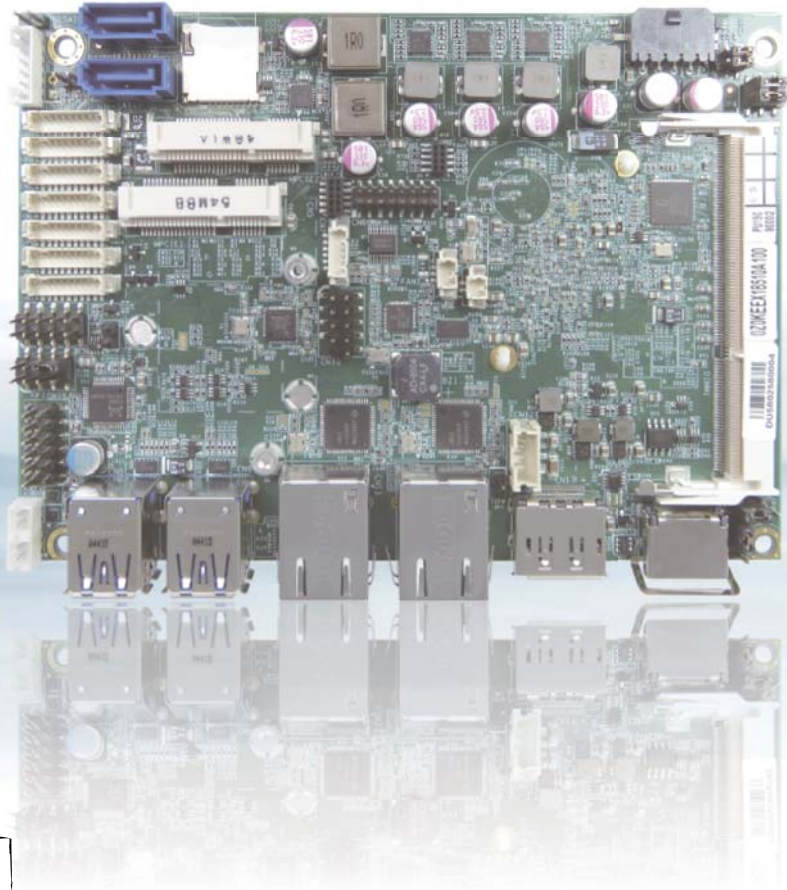


ECX-BSW

EXTENDED TEMPERATURE SUPPORT



Ordered & Served at
Kontron Asia

3.5" SINGLE BOARD COMPUTER WITH INTEL® CELERON® N31XX / N30XX PROCESSORS

- ▶ 1x LVDS / VGA, 1x HDMI, 1x DP for display output
- ▶ 2x GbE LAN for Ethernet
- ▶ 4x USB 3.0, 2x USB 2.0, 2x RS232/422/485, 4x RS232, 1x 8-bit DIO for peripherals
- ▶ Up to 2x SATA 3.0, up to 1x mSATA, 1x Micro-SD Cage for storage
- ▶ Up to 2x mPCIe for expansion

ECX-BSW

3.5" SINGLE BOARD COMPUTER WITH INTEL® CELERON® N31XX / N30XX PROCESSORS

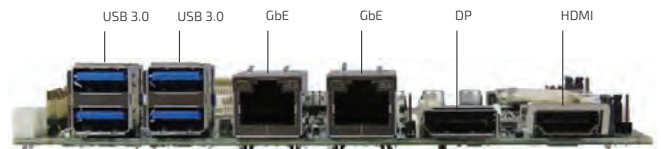
ECX-BSW is a 3.5" single board computer equipped with Intel® Celeron® N31xx / N30xx SoC Processors, offering a performance-improved and cost-efficient solution. It features 1x DP, 1x HDMI, 1x VGA / 1x LVDS for display support, 4x USB 3.0, 2x USB 2.0, 2x RS232/422/485, 4x RS232, 8-bit DIO for peripheral applications, 2x GbE LAN, up to 2x mPCIe expansion slot for Ethernet / wireless

expansion, and up to 2x SATA 3.0, up to 1x mSATA, 1x Micro SD cage for storage support.

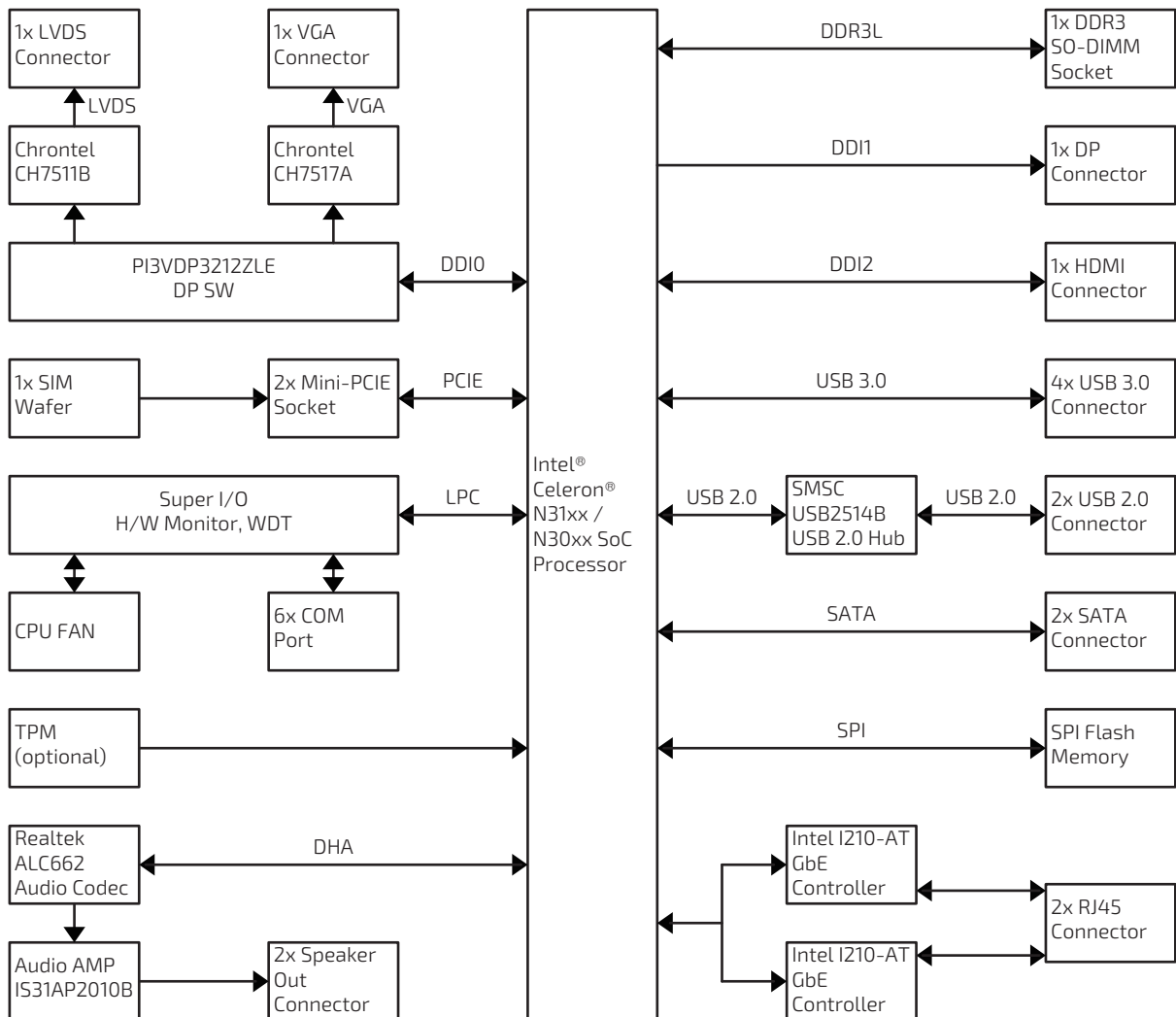
In addition, extended temperature models are available and allow for operation under extreme high, low or radically fluctuating temperatures, which is common in industrial environments.

PRODUCT HIGHLIGHTS

- ▶ Intel® Celeron® N31xx / N30xx SoC Processors
- ▶ 1x DDR3L SO-DIMM memory socket
- ▶ 1x LVDS / VGA, 1x HDMI, 1x DP for triple display support
- ▶ 2x GbE LAN for Ethernet
- ▶ 4x USB 3.0, 2x USB 2.0 for USB device connection
- ▶ 2x RS232/422/485, 4x RS232 for serial device connection
- ▶ 8-bit DIO for device / signal control
- ▶ Up to 2x SATA 3.0, up to 1x mSATA, 1x Micro-SD Cage for storage
- ▶ Up to 2x mPCIe for expansion
- ▶ Extended temperature model available: -20 °C ~ 70 °C



BLOCK DIAGRAM



TECHNICAL INFORMATION

| | | | |
|--|------------------------------|--|---|
| SYSTEM | PROCESSOR | Intel® Celeron® N3160 (Quad Core, 2M Cache, up to 2.24 GHz, FCBGA1170, 6 W TDP) Intel® Celeron® N3060 (Dual Core, 2M Cache, up to 2.48 GHz, FCBGA1170, 6 W TDP) 1x DDR3L 1600 SO-DIMM Socket up to 8 GByte | |
| VIDEO | MEMORY | | |
| | GRAPHICS | Intel® HD Graphics 400 | |
| | DISPLAY INTERFACE | 1x LVDS (24-bit, 2-ch, 1920 x 1200 @ 60 Hz) 1x VGA (by header, 1920 x 1200 @ 60 Hz) 1x HDMI (on rear, 2560 x 1600 @ 60 Hz) 1x DP (on rear, 3840 x 2160 @ 30 Hz / 2560 x 1600 @ 60 Hz) Triple: LVDS / VGA + HDMI + DP | |
| | MULTIPLE DISPLAY | | |
| AUDIO | AUDIO CODEC | Realtek ALC662 | |
| | AUDIO INTERFACE | 2x Speaker-out (3 W) 1x Line-in (by header) 1x Line-out (by header) 1x Mic-in (by header) | |
| NETWORK CONNECTION | ETHERNET | 2x GbE LAN (RJ45 on rear, Intel® I210-AT) | |
| PERIPHERAL CONNECTION | USB | 4x USB 3.0 (Type A on rear) 2x USB 2.0 (by header) | |
| | SERIAL PORT | 2x RS232/422/485 (by header) 4x RS232 (by header) | |
| | OTHER I/Os | 1x 8-bit DIO (by wafer) | |
| STORAGE & EXPANSION | | Configuration 1 | Configuration 2 |
| | | 2x SATA 3.0 1x Micro SD Crad Cage 2x mPCIe (1x full size, 1x half size) 1x SIM Card Cage (by wafer) | 1x SATA 3.0 1x mSATA (full size) 1x Micro SD Crad Cage 1x mPCIe (full size) 1x SIM Card Cage (by wafer) |
| POWER | CONNECTOR | 1x 4-pin Lockable Wafer | |
| | INPUT VOLTAGE | DC 12 V | |
| FIRMWARE | BIOS | AMI uEFI BIOS w/ 64 Mb SPI Flash | |
| | WATCHDOG | Programmable WDT to generate system reset event | |
| | H/W MONITOR | Voltages, Temperatures | |
| | REAL TIME CLOCK | SoC integrated RTC | |
| | TPM | Optional (Infi neon SLB 9635 TPM 1.2) | |
| SYSTEM CONTROL & MONITORING | FRONT PANEL HEADER | 1x Header for Reset Button, HDD LED & External Speaker 1x Header for Power Button, Power LED & SM bus 1x Header for mPCIe Activity LED | |
| COOLING | FAN | 1x Wafer for CPU Smart Fan | |
| SOFTWARE | OS SUPPORT | Windows 7, Windows 8, Windows 10, Linux | |
| MECHANICAL | DIMENSION (L x W) | ECX (146 mm x 105 mm / 5.75" x 4.13") | |
| ENVIRONMENTAL | OPERATION TEMPERATURE | 0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -20 °C ~ 70 °C / -4 °F ~ 158 °F (Extended) | |
| | STORAGE TEMPERATURE | -20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Extended) | |
| | HUMIDITY | 0 % ~ 95 % | |
| CERTIFICATION | EMC & SAFETY | CE Class A, FCC Class A | |

▶ ORDERING INFORMATION

| ARTICLE | DESCRIPTION |
|-------------------------|---|
| ECX-BSW-N3160 (1x SATA) | Intel® Celeron® N3160, 1x SATA, 1x mPCIe (full), 1x mSATA (full), Op. Temp.: 0 °C ~ 60 °C |
| ECX-BSW-N3160 (2x SATA) | Intel® Celeron® N3160, 2x SATA, 2x mPCIe (1x full, 1x half), Op. Temp.: 0 °C ~ 60 °C |
| ECX-BSW-N3060 | Intel® Celeron® N3060, 2x SATA, 2x mPCIe (1x full, 1x half), Op. Temp.: 0 °C ~ 60 °C |
| ECX-BSW-N3160-ET | Intel® Celeron® N3160, 2x SATA, 2x mPCIe (1x full, 1x half), Op. Temp.: -20 °C ~ 70 °C |
| ECX-BSW-N3060-ET | Intel® Celeron® N3060, 2x SATA, 2x mPCIe (1x full, 1x half), Op. Temp.: -20 °C ~ 70 °C |

OPTIONAL ACCESSORIES - CABLING

| | |
|-----------------------------|--|
| PS/2 CABLE | Y-cable, 6-pin pitch 2.0 mm wafer connector to KB & MS connector, L = 25 cm |
| COM PORT CABLE | 10-pin pitch = 1.25 mm to DB-9 connector, L = 35 cm |
| DIO CABLE | WL1025H-10P(S1021) 1x10P 1.25 pitch to F83N-3.81-10P 1x10P + F736-3.81-10P 1x10P, L = 100 mm |
| USB CABLE (2 PORT) | 2.54 mm 2x5P to 2x USB connectors, L = 34 cm |
| SATA POWER CABLE | SATA 1x15P Pitch: 1.27 mm, L = 460 mm |
| SATA CABLE | 7-pin connector with lock, L = 46 cm |
| AUDIO CABLE | WL6008H 2x6P 2.54 pitch to EAR phone jack x3 pitch: 3.5 mm, L = 35 cm |
| DC IN CABLE | 2.5 DC Jack w/ 2 mm nut, 0.5 mm washer to H-300F-XX 1x4P 3.0 pitch, L = 30 cm |
| VGA CABLE | WL2004H-2x8P 2x8P 2.0 pitch to D-SUB 15P, L = 300 mm |
| 3G MINI SIM CARD HOLDER KIT | W/ SIM card holder x1, 3G SIM card cable x1 |