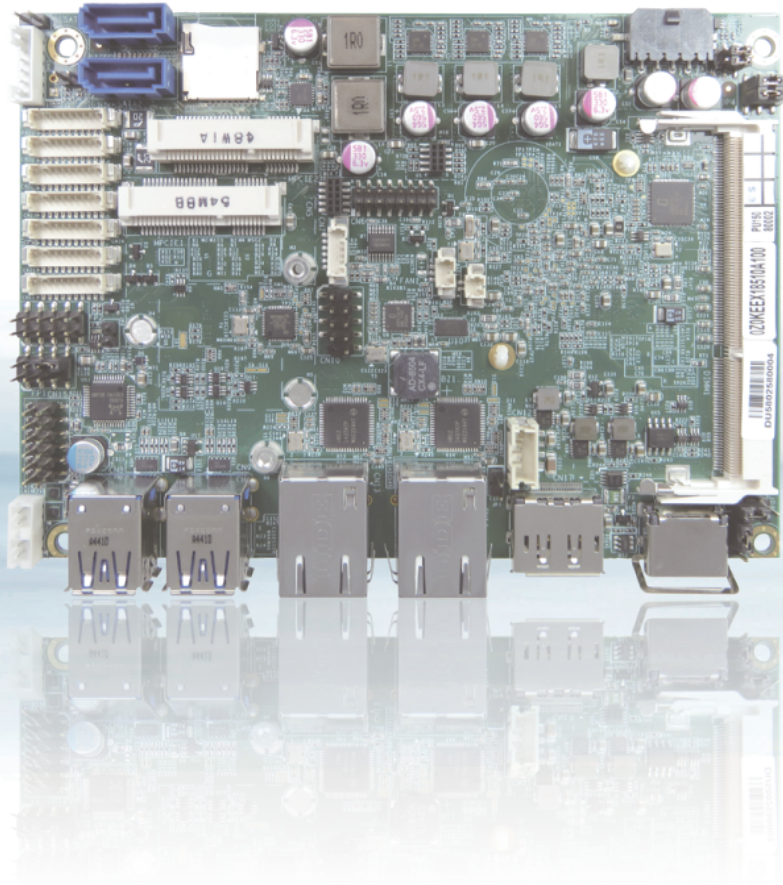


# ECX-BSW

## EXTENDED TEMPERATURE SUPPORT

---



### 3.5" SINGLE BOARD COMPUTER WITH INTEL® CELERON® N3160 PROCESSOR

- ▶ 1x LVDS / VGA, 1x DP, 1x HDMI for triple display support
- ▶ 2x GbE LAN for Ethernet
- ▶ 4x USB 3.2 Gen 1, 2x USB 2.0, 2x RS232/422/485, 4x RS232, 8x 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

POSSIBILITIES START HERE



# ECX-BSW

## 3.5" SINGLE BOARD COMPUTER WITH INTEL® CELERON® N3160 PROCESSOR

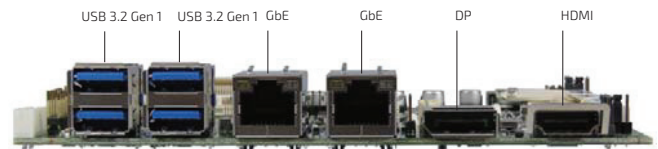
ECX-BSW is a 3.5" single board computer equipped with Intel® Celeron® N3160 SoC Processor, offering a performance-improved and cost-efficient solution. It features 1x DP, 1x HDMI, 1x VGA / 1x LVDS for display support, 4x USB 3.2 Gen 1, 2x USB 2.0, 2x RS232/422/485, 4x RS232, 8x DIO for peripheral applications, 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.

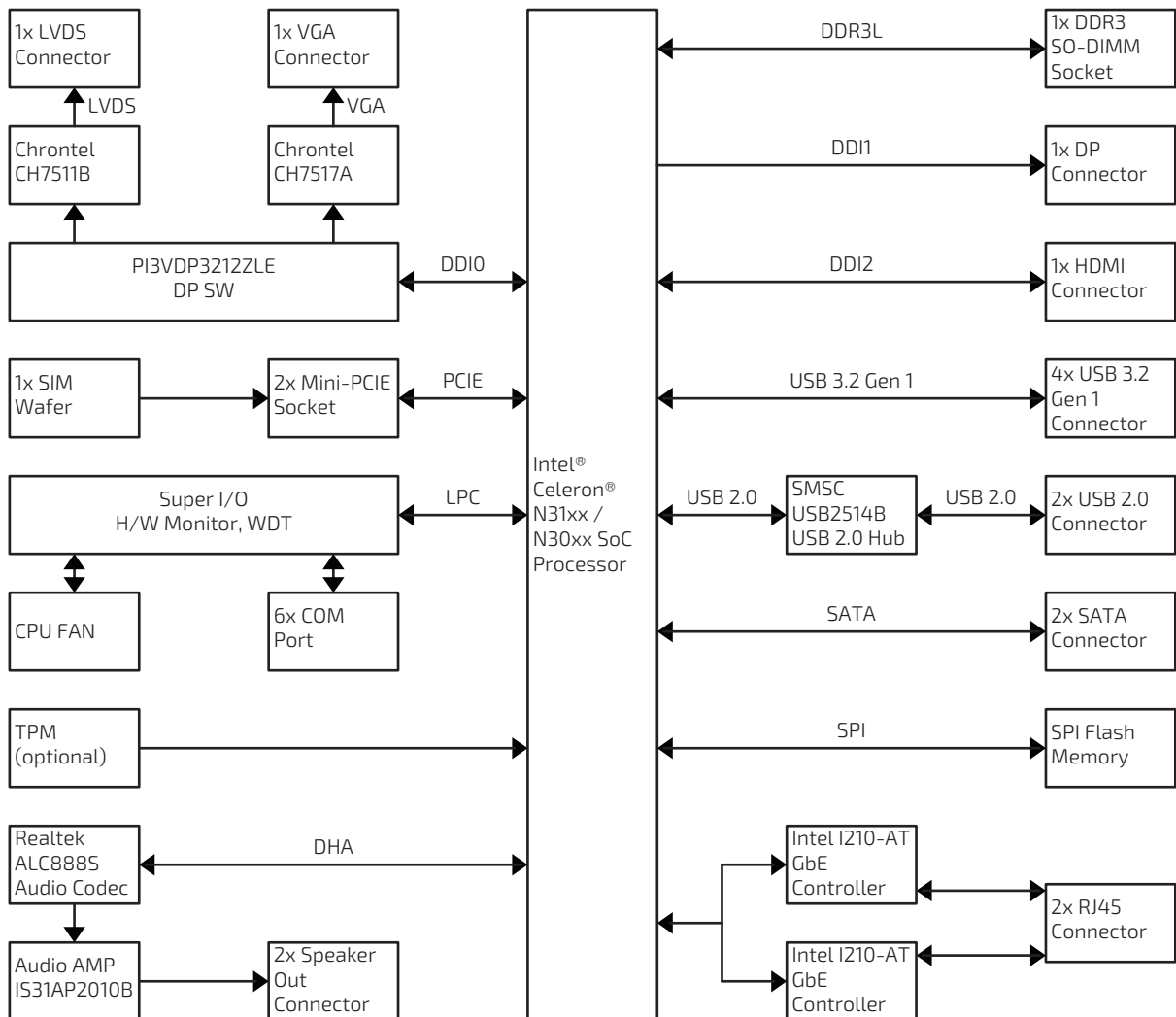
In addition, extended temperature models are available and allow for operation under extreme high, low or radically fluctuating temperatures, which is common in industrial environments.

### ▶ PRODUCT HIGHLIGHTS

- ▶ Intel® Celeron® N3160 SoC Processor
- ▶ 1x DDR3L SO-DIMM memory socket
- ▶ 1x LVDS / VGA, 1x DP, 1x HDMI for triple display support
- ▶ 2x GbE LAN for Ethernet
- ▶ 4x USB 3.2 Gen 1, 2x USB 2.0 for USB device connection
- ▶ 2x RS232/422/485, 4x RS232 for serial device connection
- ▶ 8x 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

<b>SYSTEM</b>	<b>PROCESSOR</b> <b>MEMORY</b>	Intel® Celeron® N3160 (Quad Core, 2M Cache, 1.60 / 2.24 GHz, FCBGA1170, 6 W TDP) 1x DDR3L 1600 SO-DIMM Socket up to 8 GByte												
<b>VIDEO</b>	<b>GRAPHICS</b> <b>DISPLAY INTERFACE</b>  <b>MULTIPLE DISPLAY</b>	Intel® HD Graphics 400 1x LVDS (24-bit, 2-ch, 1920 x 1200 @ 60 Hz) 1x DP (on rear, 3840 x 2160 @ 30 Hz / 2560 x 1600 @ 60 Hz) 1x HDMI (on rear, 2560 x 1600 @ 60 Hz) 1x VGA (by header, 1920 x 1200 @ 60 Hz) Triple: LVDS / VGA + HDMI + DP												
<b>AUDIO</b>	<b>AUDIO CODEC</b> <b>AUDIO INTERFACE</b>	Realtek ALC888S 1x Speaker-out (Sterep, 3 W, by header) 1x Line-in (by header) 1x Line-out (by header) 1x Mic-in (by header)												
<b>NETWORK CONNECTION</b>	<b>ETHERNET</b>	2x GbE LAN (RJ45 on rear, Intel® I210-AT)												
<b>PERIPHERAL CONNECTION</b>	<b>USB</b> <b>SERIAL PORT</b> <b>OTHER I/Os</b>	4x USB 3.2 Gen 1 (Type A on rear) 2x USB 2.0 (by header) 2x RS232/422/485 (by header) 4x RS232 (by header) 8x DIO (by wafer)												
<b>STORAGE &amp; EXPANSION</b>		<table border="0"> <tr> <td><b>Configuration 1</b></td> <td><b>Configuration 2</b></td> </tr> <tr> <td>2x SATA 3.0</td> <td>1x SATA 3.0</td> </tr> <tr> <td>1x Micro SD Crad Cage</td> <td>1x mSATA (full size)</td> </tr> <tr> <td>2x mPCIe (1x full size, 1x half size)</td> <td>1x Micro SD Crad Cage</td> </tr> <tr> <td>1x SIM Card Cage (by wafer)</td> <td>1x mPCIe (full size)</td> </tr> <tr> <td></td> <td>1x SIM Card Cage (by wafer)</td> </tr> </table>	<b>Configuration 1</b>	<b>Configuration 2</b>	2x SATA 3.0	1x SATA 3.0	1x Micro SD Crad Cage	1x mSATA (full size)	2x mPCIe (1x full size, 1x half size)	1x Micro SD Crad Cage	1x SIM Card Cage (by wafer)	1x mPCIe (full size)		1x SIM Card Cage (by wafer)
<b>Configuration 1</b>	<b>Configuration 2</b>													
2x SATA 3.0	1x SATA 3.0													
1x Micro SD Crad Cage	1x mSATA (full size)													
2x mPCIe (1x full size, 1x half size)	1x Micro SD Crad Cage													
1x SIM Card Cage (by wafer)	1x mPCIe (full size)													
	1x SIM Card Cage (by wafer)													
<b>POWER</b>	<b>INPUT VOLTAGE CONNECTOR</b>	DC 12 V 1x 4-pin Lockable Wafer												
<b>FIRMWARE</b>	<b>BIOS</b> <b>WATCHDOG</b> <b>H/W MONITOR</b> <b>REAL TIME CLOCK</b> <b>SECURITY</b>	AMI uEFI BIOS w/ 64 Mb SPI Flash Programmable WDT to generate system reset event Voltages, Temperatures SoC integrated RTC TPM 1.2 (optional, Infineon SLB 9635)												
<b>SYSTEM CONTROL &amp; MONITORING</b>	<b>FRONT PANEL HEADER</b>	1x Header for Reset Button, HDD LED & External Speaker 1x Header for Power Button, Power LED & SM bus 1x Header for mPCIe Activity LED												
<b>COOLING</b>	<b>FAN</b>	1x Wafer for CPU Smart Fan												
<b>SOFTWARE</b>	<b>OS SUPPORT</b>	Windows 7, Windows 8, Windows 10, Linux												
<b>MECHANICAL</b>	<b>DIMENSION (L x W)</b>	ECX (146 mm x 105 mm / 5.75" x 4.13")												
<b>ENVIRONMENTAL</b>	<b>OPERATING TEMPERATURE</b> <b>STORAGE TEMPERATURE</b> <b>HUMIDITY</b>	0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -20 °C ~ 70 °C / -4 °F ~ 158 °F (Extended) -20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Extended) 0 % ~ 95 %												
<b>COMPLIANCE</b>	<b>EMC &amp; SAFETY</b>	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), Operating Temperature: 0 °C ~ 60 °C
ECX-BSW-N3160 (2x SATA)	Intel® Celeron® N3160, 2x SATA, 2x mPCIe (1x full, 1x half), Operating Temperature: 0 °C ~ 60 °C
ECX-BSW-N3160-ET (1x SATA)	Intel® Celeron® N3160, 1x SATA, 1x mPCIe (full), 1x mSATA (full), Operating Temperature: -20 °C ~ 70 °C
ECX-BSW-N3160-ET (2x SATA)	Intel® Celeron® N3060, 2x SATA, 2x mPCIe (1x full, 1x half), Operating Temperature: -20 °C ~ 70 °C

### OPTIONAL ACCESSORIES - CABLING

ARTICLE	PART NO.	DESCRIPTION
PS/2 CABLE	0C5020002500010L	Y-cable, 6-pin pitch 2.0 mm wafer connector to KB & MS connector, L = 25 cm
COM PORT CABLE	0C5020000005130L	10-pin pitch = 1.25 mm to DB-9 connector, L = 35 cm
DIO CABLE	0C5020000003360L	D-SUB-9P (Female) to MX51021-10P 1x10P 1.25 pitch, L = 200 mm
USB CABLE (2 PORT)	0C5020000005700L	2.54 mm 2x5P to 2x USB connectors, L = 250 mm
SATA POWER CABLE	0C5020000004230L	PH 2.0 HSG 1x4P 2.0 mm pitch to SATA 1x15P Pitch: 1.27 mm, L = 460 mm
SATA CABLE	0C5020000004240L	7-pin connector with lock, L = 46 cm
AUDIO CABLE	0C5020000002050L	WL6008H 2x6P 2.54 pitch to EAR phone jack x3 pitch: 3.5 mm, L = 35 cm
DC IN CABLE	0C5020000004220L	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	0C5020000003450L	DB-15HD 1*15P (180°) to DP 2.0 2x8P (180°), L = 150 mm
3G MINI SIM CARD HOLDER KIT	0ZHK12003GSIM003	W/ SIM card holder x1, 3G SIM card cable x1

## ▶ PRODUCT CONTACT POINT

### KONTRON ASIA INC.

4F, No. 415, Ti-Ding Blvd., Sec. 2,  
 Neihu District, Taipei, Taiwan 114741  
 Tel.: + 886 2 2799 2789  
 Fax: + 886 2 2799 7399  
 SalesAsia@kontron.com  
[www.kontron.com](http://www.kontron.com)