The VPXtreme3 SBC310 is the latest member of GE Fanuc Intelligent Platforms’ growing portfolio of 3U VPX Single Board Computers targeted at the most demanding applications in embedded computing.

The VPXtreme3 product family offers PowerPC SBCs in 3U VPX form factor and is designed to offer long term program support by maintaining a common hardware and software interface between family members, easing customer’s integration of future family members.

The SBC310’s processor node features the very latest Freescale™ dual core integrated processor which is ideal for small form factor cards, delivering impressive system level performance.

The VPX form factor allows for high speed PCI Express connections to other cards in the system. The SBC310 supports two 4-lane PCI Express ports across the backplane, providing high speed data communication to other single board computers, graphics cards, PCI Express switches and PMC/XMC carrier cards in order to build complex systems.

Available in five air- and conduction-cooled build levels, the SBC310 is fully supported by comprehensive Deployed Test Software (BIT and BCS) and OS support for VxWorks® and other popular operating systems such as LynxOS®, Integrity and Linux®.
SBC310 3U VPX Single Board Computer

Specifications

Processor
- PowerPC 8641D @ 1.0 GHz (Dual core)
- 1 Mbyte L2 full speed on-chip cache per core

DDR2 SDRAM
- Up to 1 Gbyte DDR2 SDRAM with ECC

Flash Memory
- Up to 256 Mbyte flash memory
- Write-protection options

Fabric Interface
- Two 4-lane PCI Express ports (2.5 GHz)

Gigabit Ethernet
- Two 10/100/1000 Base-T ports

Serial I/O
- Two UART ports (RS232)

General-Purpose I/O
- Four General-Purpose I/O (GPIO) lines each capable of generating an interrupt

USB
- Two USB 2.0 ports

PMC Extension Slots
- One IEEE 1386/1386.1-2001 compatible extension slots
- PMC – up to 64-bit/133 MHz PCI-X
- XMC compliant
- 64 IO pins to P2
- XMC PCIe x4 Support

NVRAM/Real-Time Clock/Watchdog/ETI
- 128 Kbyte non-volatile RAM with Autostore
- Real-time clock
- Watchdog timer
- Elapsed Time Indicator (records cycles and on-time)

Temperature Sensors
- CPU die and ambient temperature

Power Requirements
- +5 V and 3.3 V – required
- ±12 V – only if required by mounted PMC module

Environmental

<table>
<thead>
<tr>
<th>Level</th>
<th>Cooling Method</th>
<th>Conformal Coating</th>
<th>High/Low Temp</th>
<th>Operational</th>
<th>Random Vibration</th>
<th>Shock</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Convection</td>
<td>Optional</td>
<td>0 to 55°C</td>
<td>(300 ft/m)</td>
<td>0.002g/Hz**</td>
<td>20g***</td>
</tr>
<tr>
<td>2</td>
<td>Convection</td>
<td>Standard</td>
<td>-20 to +65°C</td>
<td>(300 ft/m)</td>
<td>0.002g/Hz**</td>
<td>20g***</td>
</tr>
<tr>
<td>3</td>
<td>Convection</td>
<td>Standard</td>
<td>-40 to +75°C</td>
<td>(600 ft/m)</td>
<td>0.04g/Hz***</td>
<td>20g***</td>
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<tr>
<td>4</td>
<td>Conduction</td>
<td>Standard</td>
<td>-40 to +75°C</td>
<td>At cold wall</td>
<td>0.1g/Hz**</td>
<td>40g***</td>
</tr>
<tr>
<td>5</td>
<td>Conduction</td>
<td>Standard</td>
<td>-40 to +85°C</td>
<td>At cold wall</td>
<td>0.1g/Hz**</td>
<td>40g***</td>
</tr>
</tbody>
</table>

**With a flat response to 1000 Hz, 6 dB/Oct roll-off from 1000 to 2000 Hz
** From 10 to 1000 Hz
*** Peak sawtooth 11 ms duration

About GE Fanuc Intelligent Platforms
GE Fanuc Intelligent Platforms is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is headquartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you’re looking for one of our standard products or a fully custom solution, GE Fanuc Intelligent Platforms has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanuc.com.

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