The IMP2B is the latest member of the GE Fanuc Embedded Systems family of PowerPact 3U CompactPCI single board computers. Designed for demanding applications with restrictive dimensional requirements, the IMP2B packs a powerful single board computer (SBC) into an extremely space-efficient 3U form factor.

The IMP2B’s impressive processing core is based around a Freescale 7448 PowerPC processor and the very latest Marvell Discovery V Integrated System Controller which combines high bandwidth memory control and PCI bridging with an array of communication peripherals, including USB 2.0, serial and Ethernet ports, all on a single chip.

A range of I/O options is offered including either one 10/100/1000BaseT or two 10/100BaseT ports (software selectable), up to 4 bits of discrete digital I/O, and up to two serial channels, software programmable as RS232/422.

The IMP2B can be factory configured as either a system slot SBC supporting 48 pins of PMC I/O to J2, or a peripheral slot SBC supporting 64 pins of PMC I/O to J2.

Available in six air- and conduction cooled build levels, the IMP2B is fully supported by comprehensive Deployed Test Software (BIT and BCS) and support for popular real time operating systems including VxWorks, Integrity and LynxOS.
IMP2B 3U CPCI Single Board Computer

Specifications

Processor Node
- MPC7448 at 1.4 GHz
- 1 MByte L2 on-chip cache

DDR2 SDRAM
- Up to 1 GByte DDR2 SDRAM with ECC support
- 72-bit 200 MHz memory bus

Flash Memory
- 128 MBytes Flash memory (8 MBytes allocated to boot Flash)
- Write-protection options

CompactPCI Interface
- 32-bit 66MHz CompactPCI Bus (3V3 VIO only)

Gigabit Ethernet
- One 10/100/1000BaseT port or two 10/100BaseT ports

Serial I/O
- Two UART ports to J2
- Software configurable as RS232/422

General-Purpose I/O
- Up to 4 (GPIO) lines each capable of generating an interrupt

USB
- Two USB 2.0 host ports from Discovery V to J2

PMC Extension Slots
- One IEEE 1386/1386.1-2001 compatible extension slots
- PMC - up to 64bit / 133MHz PCI-X (3V3 VIO only)
- 4/8 I/O pins to J2 (in Peripheral model)
- 48 I/O pins to J2 (in System Slot model)

NVRAM / Real-Time Clock / Watchdog / ETI
- 128 KBytes non-volatile RAM with autostore
- Real-time clock with 1 second resolution
- Watchdog timer (programmable 32-bit timer)
- Elapsed time indicator (records power cycles and on-time)

Temperature Sensors
- CPU die and ambient temperature

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

Cooling Method
- Convection
- Conduction

Conformal Coat
- Optional
- Standard

High / low temp operational
- 0 / 55°C (330 ft/m)
- -20 / +65°C (330 ft/m)
- -40 / +75°C (600 ft/m)
- -40 / 75°C at cold wall
- -40 / +85°C at cold wall
- -55 / +85°C at cold wall

Random Vibration
- 0.002g²/Hz*
- 0.002g²/Hz*
- 0.04g²/Hz**
- 1g²/Hz***
- 1g²/Hz***
- 1g²/Hz***

Shack
- 20g***
- 20g***
- 40g***
- 40g***

Humidity
- Up to 95% RH
- Up to 95% RH with varying temperature
- Up to 95% RH with varying temperature
- Up to 95% RH with varying temperature
- Up to 100% Condensing

* from 10-2000Hz  ** with a flat response to1000Hz  *dB/Oct roll-off from 1000-2000Hz  *** Pk Sawtooth 11mSec Duration

About GE Fanuc Embedded Systems
GE Fanuc Embedded Systems 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 Embedded Systems has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanucembedded.com.

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Additional Resources
For more information, please visit the GE Fanuc Embedded Systems web site at:
www.gefanucembedded.com

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