

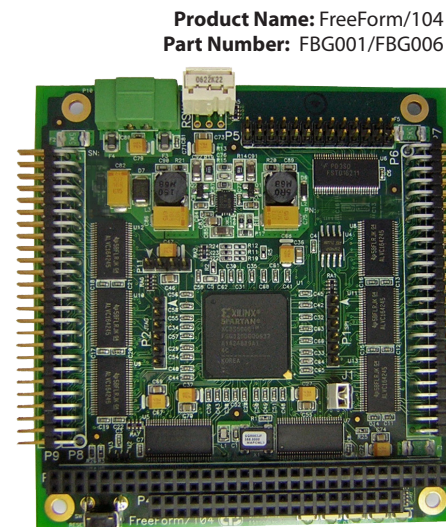
## FreeForm/104

FreeForm/104 is a PC/104 based card that features a reconfigurable FPGA for digital I/O and control applications.

Based on Xilinx's Spartan-3E, Connect Tech's FreeForm/104 offers off-the-shelf flexibility. The FPGA stored on-board in flash memory allows users to accommodate design changes at run-time, which is ideal for high speed and compute-intensive reconfigurable applications.

Customized FPGA configurations can be developed easily by the user with Xilinx's free ISE Webpack software at [http://www.xilinx.com/ise/logic\\_design\\_prod/webpack.htm](http://www.xilinx.com/ise/logic_design_prod/webpack.htm) or through Connect Tech's engineering services.

The versatility and high speed processing core of FreeForm/104 makes it ideal for applications including DSP, software defined radio, aerospace, defense systems, computer hardware emulation, production or laboratory testing and industrial process monitoring and control.



## FEATURES

- ✓ Customizable PC/104 board based on the Xilinx Spartan-3E
- ✓ FPGA configurable through JTAG or SPI flash (4Mb)
- ✓ External 5V power connection for stand alone usage
- ✓ Four user configurable LEDs and on-board reset switch
- ✓ Eight position rotary switch connected to FPGA

### Specifications

<b>Programmable FPGA</b>	Xilinx Spartan-3E, 500,000 gates, 360K RAM <b>Standard FPGA Configurations:</b> Digital I/O: 96 digital I/O (8255 compatible), 6 x 8254 counter/timers <b>Digital I/O Opto-22:</b> 48 Opto-22 (8255 compatible), 6 x 8254 counter/timers
<b>Input Clock</b>	66 MHz, internally scaleable
<b>FPGA Code Storage</b>	4 Mbit SPI Flash
<b>Connectors</b>	<b>2 x 50 pin header:</b> 48 reprogrammable 5V buffered I/O +/- 24mA drive current, each connector has 5V power and a ground pin <b>1 x 26 pin header:</b> 6 bi-directional pins, 12 input pins, 6 ground pins, unbuffered 5V TTL <b>PC/104 header:</b> fully bi-directional, configurable as a master or a slave, 8 bit I/O, 12 address bits, all IRQ's are connected, DMA's 0-3
<b>Programmable I/O</b>	96 high current TTL/CMOS (48 per 50 pin connector), 6 TTL (26 pin connector)
<b>Fixed I/O</b>	12 TTL inputs (26 pin connector)
<b>Interrupts</b>	All PC/104 interrupts are connected to the FPGA
<b>Temperature</b>	<b>Commercial Model:</b> 0°C to 70°C (32°F to 158°F) <b>Industrial Model:</b> -40°C to 85°C (-40°F to 185°F) <b>Humidity:</b> 95% non-condensing
<b>Power Requirements</b>	+5VDC 0.75 W (0.150A@5V) average with standard design 2.75 W (0.550A@5V) maximum with I/O transfers at 10 Mbps Current requirements are design dependant
<b>Dimensions</b>	<b>Length:</b> 9.5885 cm/3.775" <b>Width:</b> 9.017 cm/3.55"
<b>Weight</b>	78 grams
<b>Bus</b>	PC/104 compatible or stand alone
<b>System Requirements</b>	Varies by configuration
<b>Warranty and Support</b>	Lifetime warranty and free technical support