



# PMC675

## Intelligent Dual 100BaseFX Ethernet

### Features

- Onboard RISC co-processor
- Two 100FX fiber Ethernet ports
- Options for SC, ST, or LC Fiber connectors
- Failover
  - Embedded TCP/IP firmware
- PCI 64/66 MHz
- 64 Mbytes of DDR memory

Incorporating state-of-the-art technology, the PMC675, which replaces the PMC665, sets a new standard for high performance data exchange. Two 100BaseFX Ethernet controllers are combined with a local RISC processor (PPC @400 MHz w/DDR memory) and PCI bridge system. The result is a very high performance, extremely flexible solution to a variety of data transfer requirements. Designed using standard protocols (100 Mbit Ethernet and PCI/PMC), the PMC675 is intrinsically economical, both in terms of direct unit cost and ability to utilize commodity LAN hubs and switches.

### Application Specific Intelligence

Users can add application specific functionality to the onboard firmware, migrating appropriate control into the PMC675.

### Local Intelligence

The onboard RISC processor allows the PMC675 to be utilized in a wide range of applications. The most common use of this is "dual rail" access, where the choice of physical access is automatically switched by the PMC675 "fail-over" firmware. In the PMC675's simplest mode, all control can be kept in the system host with the PMC675 providing dual Ethernet access. Other options include "embedded TCP/IP" providing TCP/IP capabilities to the host board processor.

### Failover Firmware

Many applications have requirements for fault tolerance in the network connections. Some have traditionally used FDDI, which had dual physical connections as part of the basic specification.

Since FDDI has become end-of-life, both existing and new applications need a replacement. A GE Fanuc Embedded Systems IEC (Intelligent Ethernet Controller) with Failover (FOB) firmware is one solution, designed specifically as an evolutionary step that can be rapidly integrated into existing network systems.

Running on one of the GE Fanuc Embedded Systems Intelligent Dual Ethernet cards (either copper or fiber media), there is an ACTIVE port (on which Ethernet activity takes place) and a BACKUP port (which maintains the Ethernet controller in a suspended state). In the event of a failure of the ACTIVE port, the FOB firmware suspends this controller and activates the BACKUP controller. As all characteristics of the connection (e.g. MAC address) are maintained, no other machine on the LAN will be aware of this transfer. Transition occurs when a failure on the link is detected, either from physical indication or watchdog timeout. When responding to link errors the failover is very fast (<50 ms).

Integration with existing operating systems is easy because the FOB firmware allows the IEC to appear as a single Ethernet device, which is consistent with the current standards. This is a critical issue as the network system is complex and generally not easy to modify. By having the IEC as a simple network controller, integration falls into a well defined, existing category.

Failover compatible drivers are available for the following: VxWorks®, HP-UX®, Linux®, LynxOS®, QNX®, Solaris® and Windows®.



# PMC675 Intelligent Dual 100BaseFX Ethernet

## Specifications

### Components

- PCI Bridge: Intel 21555
- Processor: IBM 440GP

### Power Specifications

- Power: 5.5 watts
  - @ 3.3 V 0.9 amps
  - @ 5 V 0.5 amps

### Ethernet Characteristics

- Ports: 2 x 100 BaseFX
- Port routing: Front SC/LC/ST

### PCI Bus Characteristics

- Signaling: 3V & 5 V
- Specification: 2.1
- Speed: 3 MHz
- Width: 32

### Form Factor

- Single slot PMC

### Mean Time Between Failures (MTBF)

- MIL 217-F Nav Shel 25 Deg. C: 263000 Hours

### Temperature

- Operating: 0 to +60 °C
- Storage: -40 to +85 °C

### Humidity

- Operating: 5% to 95% noncondensing
- Storage: 5% to 95% noncondensing

### Conformal Coating

- Yes, additional charge

### Operating System Support

- Windows®
- Linux®
- VxWorks®
- LynxOS®
- Solaris®
- QNX®
- HP-UX®

## Ordering Information

<b>PMC675-FWFOB</b>	Dual fiber, SC connector, failover firmware
<b>PMC675LC-FWFOB</b>	Dual fiber, LC connector, failover firmware
<b>PMC675ST-FWFOB</b>	Dual fiber, ST connector, failover software

-CC may be applied to any part to indicate conformal coating

## Media Kit Information

<b>M-EFO-SEH-ARA</b>	Failover driver for HP/UX
<b>M-EFO-SEI-ARP</b>	Failover driver for Linux (x86)
<b>M-EFO-SEL-ARC</b>	Failover driver for LynxOS (PPC)
<b>M-EFO-SEL-ARP</b>	Failover driver for LynxOS (x86)
<b>M-EFO-SES-ARP</b>	Failover driver for Solaris(x86)
<b>M-EFO-SES-ARS</b>	Failover driver for Solaris(SPARC)
<b>M-EFO-SEV-ARC</b>	Failover driver for vxWorks(PPC)
<b>M-EFO-SEV-ARP</b>	Failover driver for vxWorks(x86)

## 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](http://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](http://www.gefanucembedded.com)



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