Dual Gigabit Ethernet PCI-104 Adapter

The Dual Gigabit Ethernet PCI-104 Adapter provides dual 10/100/1000 Mbps Ethernet communications links on either copper or fibre media.

The Dual Gigabit Ethernet PCI-104 Adapter is available in three air-cooled versions : ruggedised, industrial and commercial. The ruggedised adapters are ideally suited for environments with high temperature, shock and vibration levels.

Architecture

The Dual Gigabit Ethernet PCI-104 Adapter uses a custom ASIC for the control of the Gigabit Ethernet MACs (Media Access Controllers) thereby removing protocol processing overhead from the host processor, thus providing for higher nett data throughput. Dual channels provide redundant Gigabit Ethernet links for high system reliability with Redundant Link Management implemented in hardware managing unattended and automatic failure recovery of downed links.

I/O Media Types

1000BASE-SX is a fibre media Gigabit Ethernet standard. It operates over multimode fibre using a 850 nm wavelength. The standard specifies a distance capability between endpoints of 220 m over 62,5/125 µm fibre although in practice, with good quality fibre and terminations, 1000BASE-SX will usually work over significantly longer distances.

Features

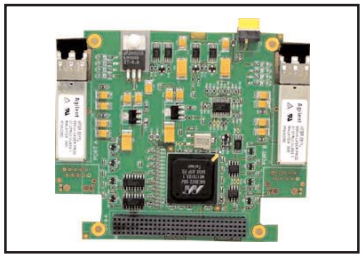
- A state-of-the-art ASIC enables the adapter to support the PCI-bus, ensuring maximum performance, while reducing CPU utilisation.
- The dual link adapter provides redundant Gigabit Ethernet links for high system reliability.
- Redundant Link Management implemented in hardware manages unattended and automatic failure recovery of downed links.
- High data transmission rate.

Ruggedised PCI-104 Adapters

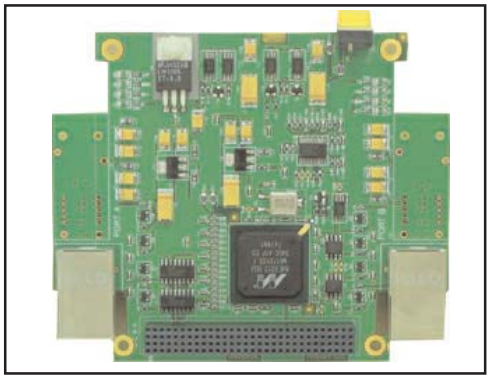
The Dual Gigabit Ethernet PCI-104 Adapter is intended for very rough use and is exceptionally resistant to shock and vibration. The adapters contain an internal heat equilisation layer and can operate in ambient temperatures of -40 C to +85 C.

Applications

- Distributed real-time applications in harsh environments
- Mission-critical applications
- Avionics, Vetronics
- High-speed sensor integration
- High-performance multimedia applications
- Distributed digital voice and video applications



Dual Gigabit Ethernet PCI-104 : Fibre Media



Dual Gigabit Ethernet PCI-104 : Copper Media

Dual Gigabit Ethernet PCI-104 Adapter

Dual Gigabit Ethernet PCI-104 Adapter Specifications

Bus Interface	32-bit, 33 MHz PCI-bus Complies with PCI-104 Version 1.0 specification
Number Interfaces	2 x 10/100/1000Base-T copper or fibre, full duplex or half duplex support
LAN Controller	Custom ASIC
I/O Addresses	Automatic assigned to the slot by PCI Rev. 2.2 Plug-and-Play
I/O Options	RJ45 or SFF
Dimensions	95,89 mm x 90,17 mm x 23,80 mm in accordance with PC104 Plus V2.0
Mass	105 g ± 10 g
Power Requirement	Universal Card (+3,3 V and +5 V compatible) 650 mA @ 5 V
MTBF	Figures according to MIL-HDBK-217F, Parts Stress Method : Ground, Mobile T_j = 65 C T_a = 45 C 25 000 hrs Naval, Sheltered T_j = 60 C T_a = 40 C 35 000 hrs Airborne, Inhabited Cargo T_j = 75 C T_a = 55 C 25 000 hrs
Software Drivers	Various software drivers offered including for VxWorks, Linux, Solaris, Windows 2000, Windows XP and Windows 2003 operating systems as standard; others are costed options.
Protocols	• MAC • IP • TCP/IP • UDP/IP
Supporting Tools	Sample driver usage software (C/C++ source code)

Environmental Specifications

	Commercial	**Industrial**	**Ruggedised**
Temperature			
- Operating	0 C to +55 C	-15 C to +75 C	-40 C to + 85 C
- Storage	-40 C to +85 C	-50 C to +85 C	-60 C to +125 C
Humidity	0% - 90%	0% - 95%	0% - 95%
Shock	N/A	30 g peak for 11 ms	40 g peak for 11 ms
Vibration			
- Sine	2 g (peak) 10 Hz to 100 Hz	10 g (peak) 5 Hz to 2 kHz	10 g (peak) 5 Hz to 2 kHz
- Random	0,04 g²/Hz at 15 Hz to 2 kHz	0,1 g²/Hz at 15 Hz to 2 kHz	0,1 g²/Hz at 15 Hz to 2 kHz

Designations

CCII/GNET/PC104/2P/RJ/COM	Commercial	RJ45	Copper, UTP
CCII/GNET/PC104/2P/RJ/IND	Industrial	RJ45	Copper, UTP
CCII/GNET/PC104/2P/RJ/RGD	Ruggedised	RJ45	Copper, UTP
CCII/GNET/PC104/2P/SX/COM	Commercial	SFF	Fibre, Multimode
CCII/GNET PC104/2P/SX/IND	Industrial	SFF	Fibre, Multimode
CCII/GNET/PC104/2P/SX/RGD	Ruggedised	SFF	Fibre, Multimode

Availability in Other Formfactors

The Dual Gigabit Ethernet PCI-104 Adapters are also available in the PMC and PCI formfactors.

In the PMC formfactor, they are available in conduction-cooled (-40 C to +85 C) and air-cooled versions : ruggedised (-40 C to +85 C), industrial (-15 C to +75 C) and commercial (0 C to +55 C).

In the PCI formfactor, they are available in air-cooled versions : ruggedised (-15 C to +75 C) and commercial (0 C to +55 C).

C²I² Systems (Pty) Ltd • P.O. Box 171 • Rondebosch 7701 • South Africa • Telephone : (+27) (0)21 683 5490 • Facsimile : (+27) (0)21 683 5435 • URL : http://www.ccii.co.za/