4-Channel High-Speed Serial I/O PCI-104 Adapter

The 4-Channel High-Speed Serial I/O PCI-104 Adapter provides four channels of simultaneous, ultra-high-speed (>16 Mbps), bi-directional serial communications, plus two UART (Universal Asynchronous Receiver/Transmitter) (<1 Mbps) channels. All channels are configurable as RS232/422/485.

The adapter is available in three air-cooled versions : ruggedised, industrial and commercial. The ruggedised version is ideally suited for environments with high temperature, shock and vibration levels.

Architecture

The 4-Channel High-Speed Serial I/O PCI-104 Adapter is an intelligent adapter with onboard CPU and uses the Motorola MPC8260 PowerQUICC II Integrated PowerPC Microprocessor as a communication controller. The PowerQUICC processor can easily be configured to implement different serial protocols, thus allowing the adapter to keep up with technological advances.

Features

- Cost-effective and flexible option for systems that require both high-speed, real-time communication links as well as some low-speed serial links.
- Offers independent I/O processing offboard the host.

Ruggedised PCI-104 Adapters

The 4-Channel High-Speed Serial I/O 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

Availability in Other Formfactors

The 4-Channel High-Speed Serial I/O 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).

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4-Channel High-Speed Serial I/O PCI-104 Adapter Specifications

Bus Interface	32-bit, 33 MHz PCI-bus Complies with PCI-104 Version 1.0 specification
Serial Interface	RS232/422/485 configurable
Serial Channels	4 x SCCs (Serial Communication Controllers) for high-speed serial links - Synchronous or Asynchronous 2 x SMCs (Serial Management Controllers) for UART serial links - Asynchronous only
CPU	1 x Motorola MPC8260 PowerQUICC II - Integrated PowerPC Microprocessor
EEPROM	EEPROM for board ID (Plug-and-Play) and configuration options
Bit Rates	User-programmable up to 4 Mbps
I/O Addresses	Automatic assigned to the slot by PCI Rev. 2.2 Plug-and-Play
Dimensions	95,89 mm x 90,17 mm x 23,80 mm in accordance with PC104 Plus V2.0
Power Requirement	12V at 1 mA and 3,3V at 1,0 A
MTBF	Figures according to MIL-HDBK-217F, Parts Count Method : Ground, Mobile T_j = 65 C T_a = 45 C 26 000 hrs Naval, Sheltered T_j = 60 C T_a = 40 C 40 000 hrs Airborne, Inhabited Cargo T_j = 75 C T_a = 55 C 28 000 hrs
Software Drivers	Various software drivers offered including for VxWorks, Linux, Windows NT, Windows 2000* and Windows XP* operating systems as standard; others are costed options. (*Standard PC HAL only)
Protocols	• HDLC • SDLC • Async • BiSync
Supporting Software	• Sample driver usage software (C/C++ source code)

Environmental Specifications

	Commercial	**Industrial**	**Ruggedised**
Temperature - Operating - Storage	 0 C to +55 C -40 C to +85 C	 -15 C to +75 C -40 C to +85 C	 -40 C to + 85 C -55 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 - Random	 2 g (peak) 10 Hz to 100 Hz 0,04 g²/Hz at 15 Hz to 2 kHz	 10 g (peak) 5 Hz to 2 kHz 0,1 g²/Hz at 15 Hz to 2 kHz	 10 g (peak) 5 Hz to 2 kHz 0,1 g²/Hz at 15 Hz to 2 kHz

Designations

CCII/SIO/PC104/4P/COM	Commercial	RS422/485/232
CCII/SIO/PC104/4P/IND	Industrial	RS422/485/232
CCII/SIO/PC104/4P/RGD	Ruggedised	RS422/485/232