

TAXI I/O Modules

TAXI-200



Model TAXI200

Tekmicro's family of TAXI communications modules is recommended when high-speed communications between two systems without the software overhead or integration costs of network protocols is required.

The TAXI200 PMC uses the AMD TAXI Protocol for transmitting and receiving data. This protocol is widespread and can be found in use in Network Interface Cards and as a communications protocol on the space station. Using SMA coaxial connectors or 1300nm ST fiber optic connectors, the module is easily integrated into either copper or fiber systems.

Optimized for simple point-to-point data transfer, the TAXI200 supports up to 200 Mbps of full-duplex communications between two subsystems with low latency and no software overhead.

TAXI200 modules use Cypress TAXI-compatible HOTLink interfaces. Data bytes are encoded and serialized at the transmitter, and recovered and decoded at the receiver, resulting in a single serial bit stream between modules.

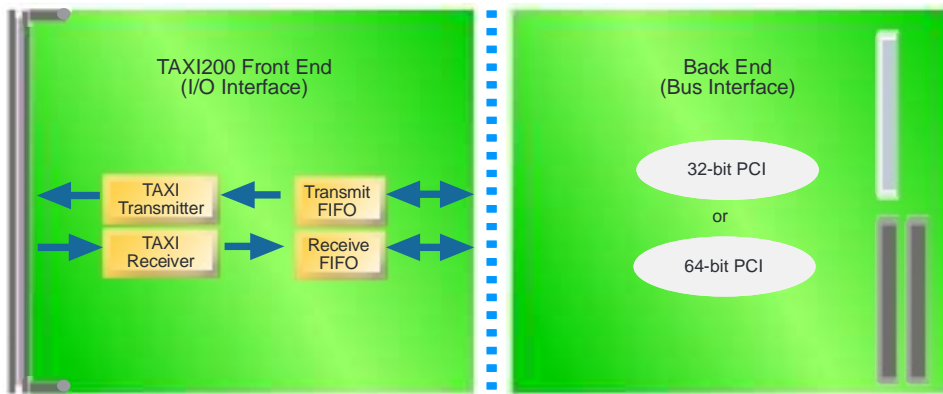
For custom applications, the FPGA can be loaded under software control to implement application-specific protocols such as CCSDS telemetry packets or other message-based formats.

Tekmicro's TAXI PMCs are fully compatible with the current generation of PMC-enabled VMEbus Single Board Computers. Tekmicro also offers turnkey solutions for RACEway and TAXI PMC users on its own PowerRACE and JazzStream I/O Controller and Processor Cards. Details of supported configurations can be found at www.tekmicro.com on the Host Support datasheet.

Integration Examples

CCSDS telemetry

TAXI200



I/O Connectors*:

TAXI200-C:
50 Ohm differential, SMA connectors

TAXI200-F:
ST-type, 1300 nm

* Pinout varies by product configuration.
See user manual for details.

Specifications:

Front End:

I/O Interface	Cypress TAXI compatible HOTLink 50-200 Mbps
Data Rate	20 MB/s in 8-bit Mode
Data Modes	8-bit vs 10-bit Control/Data vs Data Only 1, 2, or 4 bytes/word MSB vs LSB first

Back End:

Bus Interface	32-bit, 33 MHz PCI 2.1 (standard) 64-bit, 33 MHz PCI 2.1 (special order)
Burst Rate Over Bus	20 MB/s
Sustained Throughput (max)	40 MB/s
Memory Capacity	1 MB (256K x 32) for 32-bit back end 512 KB (128K x 32 dual port) for 64-bit back end
Interrupt Support	Programmable through FPGA
DMA Support	Two integrated linked-list DMA controllers

General:

Mechanical	Single-wide PMC module
Power Requirements	+5 Volts, 900 mA
Operating Temperature	0° to +55°C (Commercial) -40° to +70°C (Rugged Level 2)
Storage Temperature	-40° to +85°C (Commercial) -55° to +85°C (Rugged Level 2)
Ruggedization	Available commercial grade and Rugged Level 2. See Tekmicro Ruggedization Data Sheet for definition of environmental performance specifications.
Warranty	One year limited hardware warranty Ninety day limited software warranty

Features

Fully compliant with PCI 2.1 specification

Interoperable with supported hosts. Drop-in integration with RACEway and MC/OS using Tekmicro's PowerRACE carrier card.

Copper or Fiber Media

Copper allows longer-distance solutions up to 50 meters cost-effectively

Fiber optic interface is available for longer distances

Onboard clock synthesizers

Supports exact generation of arbitrary clock frequencies to match interface requirements

Memory buffer

Allows zero wait state DMA block transfers; supports custom applications which require lookup or temporary memory

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