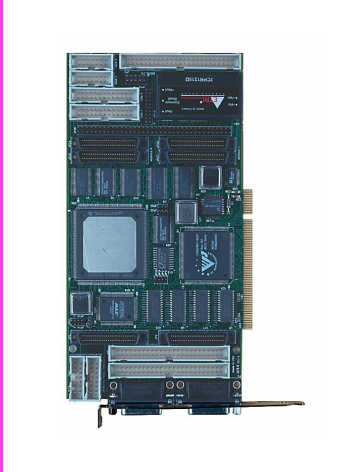


iNET-AP440

Full-speed ABB Procontrol P bus interface with PCI



Product Highlights

- 32-bit PCI data transfers
- Integrated DSP processor
- Redundant bus operation
- Bus analyser function
- Time synchronisation with GPS

Overview

The iNet-AP440 PCI-to-ABB Procontrol-P bus host adapter brings the proprietary P13 and P42 bus to an open platform.

Its innovative architecture ensures optimum performance even for the most demanding configurations. High performance data acquisition systems can benefit from the minimum latency and extensive pre-processing by the integrated Digital Signal Processor (DSP).

The iNet-AP440 host adapter provides unsurpassed compatibility with multiple hardware platforms and operating systems.

Key Benefits

Leading-edge performance

Based on the second generation (G2) of the Procontrol-P bus controller chip, the iNET-AP440 delivers maximum bandwidth and minimum latency. Supporting 32-bit PCI data transfers, the iNET-AP440 adapter moves data at a burst rate of 132 MByte/sec. It integrates a parallel protocol engine (PPE) that manages multiple redundant data streams, providing an intelligent selection of valid data. This coupled with a 30 MIPS DSP, provides a performance level which is comparable to high end process computers. Real-time response issues concerning host operating systems are not relevant since the DSP is responsible for all time critical tasks.

Many other advanced capabilities contribute to the unmatched performance of the iNET-AP440 adapter. For example

zero-wait-state PCI bus master transfers promote sustained performance.

Scalable solutions

The iNET-AP440 combines advanced processing functions in the DSP by means of loadable modules. Most traditional process computer tasks are available, whilst development tools exist for custom applications. Additional hardware interface modules are available for modern field bus systems, such as InterBus-S and Profibus. These may be combined with the ABB Procontrol-P interface to form an integrated solution which co-exists on a single host adapter.

Time stamping is realised in the iNET-AP440, and is based on a global positioning system (GPS) time reference. Events may be monitored on two remote continents with a deviation of less than 1 microsecond. The resolution of the time stamp is also one microsecond.

Utilities such as the on-line bus analyser are able to record all bus events at the protocol frame level. This is invaluable for identifying bus faults, and monitoring bus cycle times.

Fault tolerant systems

Fault tolerant systems may be built up using dual hosts and which are interconnected by a parallel cluster link. This ensures a continuous stream of data for mission critical systems.

iNET-AP440

Interface Components

Standard kit

iNET-AP440 PCI-to-ABB Procontrol-P bus adapter
Interface cable to either P13 or P42 bus
Driver for Windows NT
Bus diagnostic utility

Optional components

Cluster communication link
InterBus-S interface and firmware extensions
Profibus interface and firmware extensions
OPC Server software
Bus analyser software
Advanced process acquisition software
GPS clock hardware

Technical Specifications

PCI features:	32-bit PCI data path 32-bit PCI addressing Zero-wait-state PCI bus master transfers Plug and Play hardware
Parallel protocol engine (PPE) features:	Management of Procontrol-P bus, redundant bus links, time stamping, and data stream queuing Downloadable microcode for simplified updates Diagnostic execution for subsystem Built-in-Self-Test (BIST)
Software support:	Support for Windows NT OPC Server Advanced process acquisition modules DSP development kits
DSP features:	TMS320C44 processor at 60 MHz 60 MFLOPS 2 MBytes SRAM