

# PC-based solutions for industrial Automation



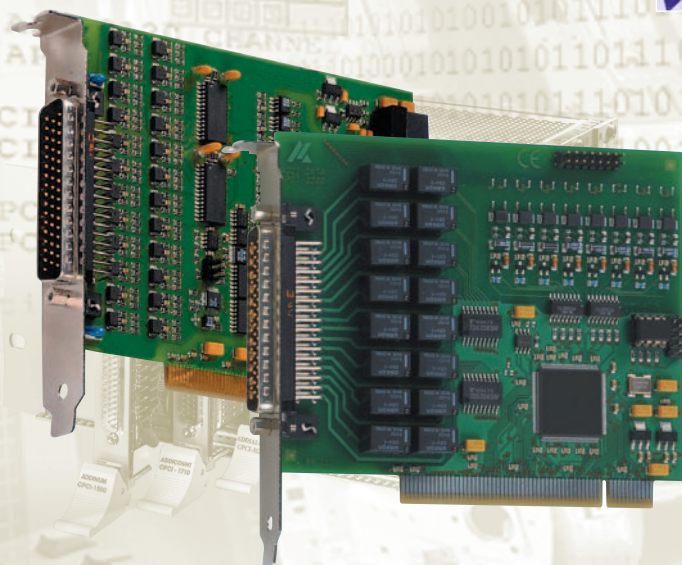
**PLC**



**IPC**



**Drives**



**Digital input and output boards for signal processing, 24 V**

**Digital input board 0-60 V (42 V) with 2 switching thresholds**

**Multifunction counter boards for your own counting system!**

**Intelligent motion control boards as positioning genius im PC format!**

[www.addi-data.com](http://www.addi-data.com)

# Digital signal processing with isolated I/O boards

for PLC controlling ...

## Safety and reliability

The isolated digital boards of the ADDINUM range by ADDI-DATA are perfectly suited for the use in the industrial automation and process control engineering.

They are used in the industrial I/O control, signal switching, as interface to automatic test installations or machines, for on-off monitoring of electric consumers. This allows the connection of devices such as ventilators, valves, pumps, electromechanical relays, ...

All input channels of ADDI-DATA digital boards correspond to the industrial standard +24V for "logic" 1. A direct connection to PLC controlling is therefore possible.

The input and output channels have been equipped with numerous protecting measures in order to ensure the noise immunity of the boards. All input and output channels are isolated from the system side through optical couplers.

To protect your installation, all output channels are set to status "0" after power ON/reset so that no undefined switching status occurs.

### Technical features for the industry

- 16 to 64 digital inputs and outputs 24 V, isolated

### Safety

- Optical isolation 1000V
- Input and output filters
- Protection against short-circuit and overload
- Watchdog
- Counter/timer
- At power-on the outputs are reset to „0“
- EMC tested

### APCI-1024

- 24 isolated inputs 0 to 60 V (42 V),  
2 switching thresholds per channel,  
each threshold is individually programmable

### Software support

- Real-time drivers for Windows XP/2000/NT/98
- Linux and RT Linux
- Universal software ADDIPACK
- LabVIEW™ 5.01, LabWindows/CVI™, DasyLab™
- ....

### Free standard driver

A CD-ROM with software drivers and programming samples is supplied with the boards. \*

#### Standard drivers:

Real-time drivers for Windows XP/2000/NT/98 and Linux.

The boards are supplied with the **universal software ADDIPACK**.

**Drivers for the following application software:**

LabVIEW™ 5.01, LabWindows/CVI™, DasyLab™

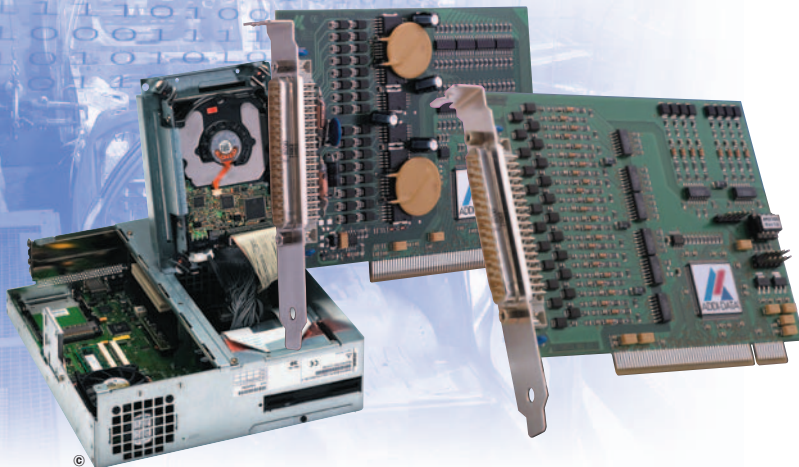
**Samples for the following compilers:**

Microsoft VC++ 5.0 • Borland C++ 5.01

Visual Basic 5.0 • Delphi 4.0

\* depending on the type of board.

Current list on the web: [www.addi-data.com](http://www.addi-data.com)



	Digital input			Digital input and output				Digital output	
	APCI-1016	APCI-1032	APCI-1024	APCI-1564	APCI-1500	APCI-1516	APCI-2200	APCI-2016	APCI-2032
Bus	PCI	PCI	PCI	PCI	PCI	PCI	PCI	PCI	PCI
Filter / Protection circuitry	yes	yes	yes	yes	yes	yes	yes	yes	yes
Inputs	16	32	24 <sup>(3)</sup>	32	16	8	8		
Optical isolation 1000 V	yes	yes	yes	yes	yes	yes	yes		
Interruptible inputs		16		16	14				
Nominal voltage (V) DC(V)	24 (19-30)	24 (19-30)	0-60 (42) 2 swit. thresholds per channel	24 (19-30)	24 (19-30)	24 (19-30)	5-24 AC/DC		
Input current at 24 VDC (mA)	6	6	< 1 mA highly resistive	6	6	6	6 mA		
Outputs Relays				32	16	8	8/16 relays	16	32
Optical isolation 1000 V				yes	yes	yes	yes	yes	yes
Nominal voltage (V)				24 DC (10-36)	24 DC (10-36)	24 DC (10-36)	60 DC/48 AC	24 DC (10-36)	24 DC (10-36)
Output current (A) for one channel				0.5 <sup>(1)</sup>	0.5 <sup>(1)</sup>	0.5 <sup>(1)</sup>	1	0.5 <sup>(1)</sup>	0.5 <sup>(2)</sup>
Watchdog				yes	yes	yes	yes	yes	yes
Timer				yes	yes				

<sup>(1)</sup> Limited to 3 A for all output channels, self-resetting fuse against short circuits

<sup>(2)</sup> Limited to 2 x 3 A, for all output channels, self-resetting fuse against short circuits

<sup>(3)</sup> differential inputs

# All in One! Multifunction counter board

## IPC-system optimization

### Develop your own counting system!

#### The right hardware for your PCI system!

The function is not determined by the hardware of the board, but by the user, who decides how the board is to operate in a determined operation place. The board is "activated" by the user's hand. Its functions can be programmed, i. e. determined by the user and therefore adapted to modified conditions at any time.

The APCI-1710 covers a wide range of applications for which formerly many different boards were necessary. The functions can be freely combined and adapted to new applications.

#### Software

The configuration program SET1710 delivered with the board includes standard applications such as absolute value encoder (SSI: Synchronous Serial Interface), incremental encoder, period duration measurement or frequency measurement. Functions tailored to the user's needs can also be implemented. The board is delivered with drivers for Windows™ XP/2000/NT/98 as well as with programming examples in C, C++, Visual Basic and Delphi™...

#### Universal board

- Incremental encoders and pulse acquisition
- Timer/counter, pulse width measurement, digital I/O, ...
- 4 modules, all reprogrammable
- Special functions customised to your needs

#### System optimization and cost reduction

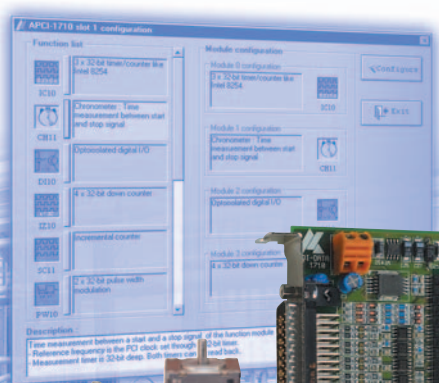
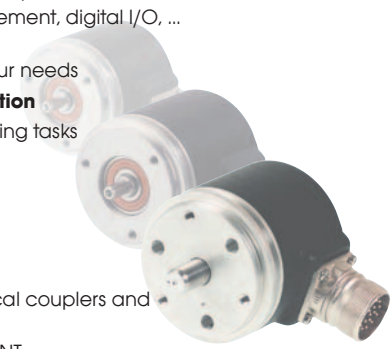
- One single board for various counting tasks
- Less PC slots needed
- Simplified connections
- Simplified configuration
- Reduced stocks

#### Ideal solution

- Interference-proof board with optical couplers and electrical isolation
- Real-time system under Windows™ NT
- Quick and simple programming
- Functions easily interchangeable

#### Features:

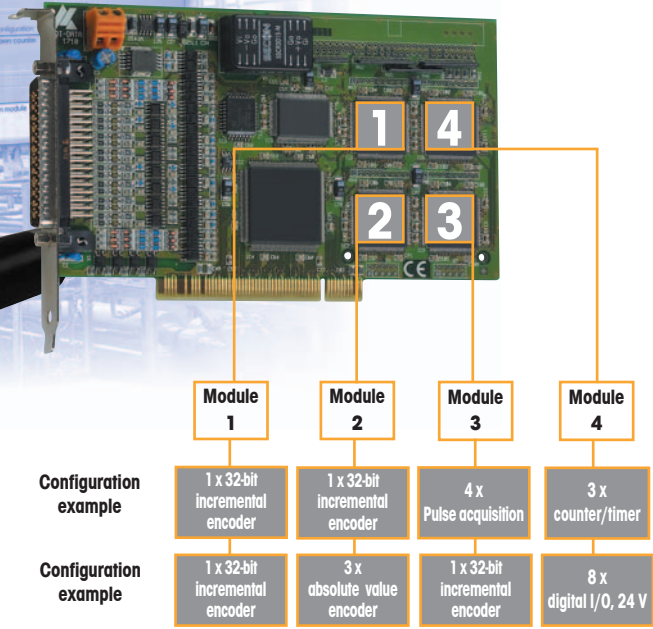
- Function selection through software
- Optical isolation
- TTL, RS422, 24 V
- 32-bit data access
- Counter component with 32-bit depth and 5 MHz counting frequency
- Signals in TTL or RS422 mode (APCI-1710), 24 V signals (APCI-1710-24V)
- 4 on-board function modules
- Freely programmable functions



### Wide range of applications through the free combination of functions

#### 4 function modules - quickly and easily programmable with numerous functions:

Each of the four modules is programmed with one function. You can program 4 times the same function or freely combine 4 different functions.



#### Available functions for each module:

- 1 x 32-bit incremental encoder acquisition
- 2 x 16-bit incremental encoder acquisition
- 3 x acquisition of absolute value/SSI
- 3 x counters/timers
- 1 x Chronos/TOR (gate) for frequency measurement
- 4 x pulse acquisition
- 1 x Chronos for pulse width measurement
- 1 x Chronos for period duration measurement
- 2 x TOR for velocity measurement
- 8 digital I/O, 24V, TTL, RS422
- 2 x PWM (Pulse width modulation)
- 2 x ETM (Edge Time measurement)
- ...

# Positioning genius in PC format

## Drives - Motion Control

### Intelligent motion control board

#### Axis control of up to 8 servo or stepper motors

The board APCI-8001 was developed in order to come up with the growing requirements in axis control and positioning. With this intelligent and flexible board, many control tasks from simple to complicated can be realised.

The APCI-8001 for the PCI bus is used for the control of up to 8 servo or stepper motor axes.

#### Board with optical isolation

The board has three stepper/direction output channels (16-bit D/A channels). They are isolated from the digital current supply and are used for the control of commercially available power amplifiers connected as speed controlling devices or current regulators.

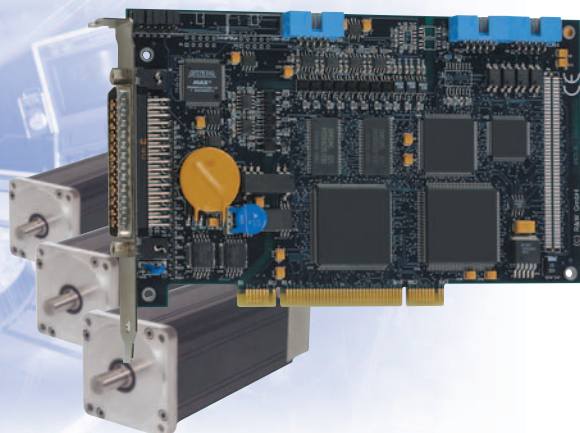
#### Motion control board APCI-8001

##### Hardware/Properties

- Intelligent board based on a 64-bit RISC processor
- Positioning of up to 3 axes either with servo or stepper motors. Mixed operating of servo and stepper motors possible. Positioning of up to 8 axes with slave board
- All input and output channels are isolated
- 16-bit analog output channels
- 16 digital inputs and 8 digital outputs 24 V, isolated.
- 4 analog inputs 12-bit, optional
- Interface for all commercially available power amplifiers
- A multiple axis system can be realised by inserting several APCI-8001 in the same PC.

##### Software

- Linear, circular, helical, spline and CAD interpolation
- Point-to-point movement with independent control of each axis
- Function library for Pascal, C-Basic, Borland Delphi, Borland C++, Visual Basic, Visual C++
- Programming through a PC application software or stand-alone
- The operating program can be easily adapted to specific requirements using program modules supplied with the board
- User programs created with the compiler can be processed automatically
- Multitasking: the board can simultaneously process up to 4 user programs.



**For more information - Fax us your request: +49(0)7223 / 94 93-92**

I am particularly interested in :

- Digital input and output boards, 24 V
- APCI-1024, digital input board 0-60 V (42 V)
- APCI-2200, relay output board
- APCI-1710, multifunction counter board
- APCI-8001, axis control board
- Analog input and output boards
- Communication boards

Others: \_\_\_\_\_

- Yes, I would like to have more information about ADDI-DATA products**



- I am no longer interested in ADDI-DATA products, please take my address off your mailing list.

Company: \_\_\_\_\_

Name: \_\_\_\_\_

Function/Title: \_\_\_\_\_

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