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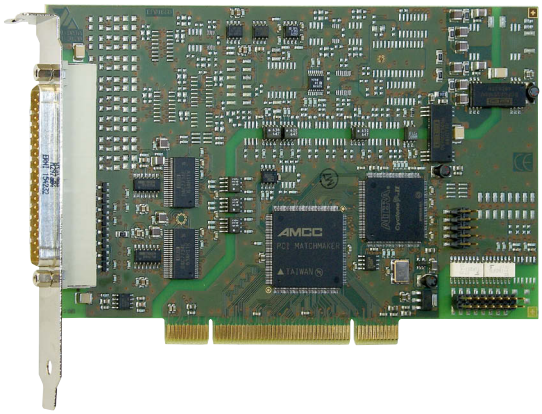
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Analog output board, optically isolated, 8 analog outputs, 14-bit



APCI-3501

8/4 analog outputs, 14-bit

Optical isolation 500 V

4 digital I/O, 24 V, optically isolated

Watchdog, timer

RoHS 2002/95/EC

PCI 32-bit

Also for
PCI EXPRESS
see APCIe-3521, page 150

Windows
64/32-bit drivers

LabVIEW™

LabWindows/CVI™

Features

- 8 or 4 analog outputs
- Optical isolation 500 V
- Setup time 30 µs typ.
- 14-bit resolution (13-bit for 0-10 V)
- Output voltage: ±10 V, 0-10 V (switchable through software)
- Output voltage after reset: 0 V
- Each output has its own ground line (without optical isolation from each other)
- Driver capacity: 5 mA/500 pF
- Short-circuit protection, EMI filters
- Noise neutralisation of the PC supply
- Creeping distance IEC 61010-1
- Watchdog for resetting the analog outputs (4 different time bases: µs, ms, s, min) or as 12-bit timer (with interrupt possibility), when the watchdog function is not necessary.

Digital

- 2 digital inputs, 24 V, optically isolated
- 2 digital outputs, 24 V, optically isolated

Applications

- Industrial process control
- Industrial measurement and monitoring
- Control of chemical processes
- Factory automation
- Laboratory equipment
- Programmable voltage source
- Instrumentation
- ...

Software drivers

A CD-ROM with the following software and programming examples is supplied with the board.

Standard drivers for:

- Linux
- 32-bit drivers for Windows 8 / 7 / Vista / XP / 2000
- Signed 64-bit drivers for Windows 8 / 7 / XP
- Real-time use with Linux and Windows on request

Drivers and samples for the following compilers and software packages:

- .NET
- Microsoft VC++ • Borland C++
- Visual Basic • Delphi
- LabVIEW • LabWindows/CVI

ADDIPACK functions

• Analog output • Digital input • Digital output • Timer
• Watchdog

On request:

Further operating systems, compilers and samples.

Driver download: www.addi-data.com, download menu

Phone: +49 7229 1847-0 info@addi-data.com
Fax: +49 7229 1847-222 www.addi-data.com

ADDI-DATA®
SPIRIT OF EXCELLENCE

Specifications

Analog outputs

Number of outputs:	8 or 4
Resolution:	14-bit resolution, 12-bit accuracy
Monotony:	12-bit
Optical isolation:	500 V through opto-couplers
Output range:	0-10 V, ±10 V switchable through software
Setup time at 2 kΩ, 1000 pF:	30 µs
Overvoltage protection:	±12 V
Max. output current/load:	±5 mA / 500 pF, 2 kΩ
Short-circuit current:	±25 mA
Output voltage after reset:	0 V
Watchdog:	software-programmable 4 different time bases: µs, ms, s, min.

Digital I/O

Number of I/O channels:	2 digital inputs, 2 digital outputs, 24 V
Optical isolation:	500 V through opto-couplers from PC to peripheral
Input current at 24 V:	3 mA typ.
Input range:	0-30 V - Logical "0": 0-5 V - Logical "1": 10-30 V
Max. switching current:	10 mA typ.
Output range:	5-30 V
Output type:	Open Collector

EMC – Electromagnetic compatibility

The product complies with the European EMC directive. The tests were carried out by a certified EMC laboratory in accordance with the norm from the EN 61326 series (IEC 61326). The limit values as set out by the European EMC directive for an industrial environment are complied with. The respective EMC test report is available on request.

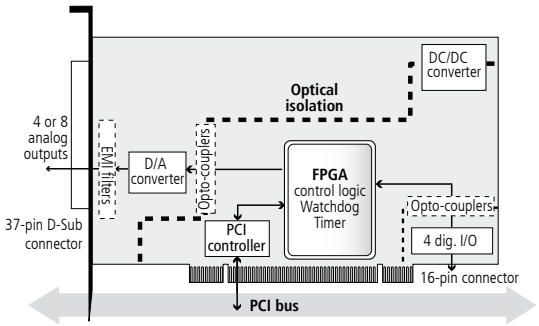
Physical and environmental conditions

Dimensions:	175 x 99 mm
System bus:	PCI 32-bit 3.3/5 V acc. to specification 2.1 (PCISIG)
Space required:	1 PCI slot for analog outputs, 1 slot opening for digital I/O with FB3000
Operating voltage:	+5 V, ±5 % from the PC
Current consumption:	440 mA ± 10 % typ.
Front connector:	37-pin D-Sub male connector
Additional connector :	16-pin male connector for ribbon cable for connecting the digital inputs and outputs
Temperature range:	0 to 60 °C (with forced cooling)

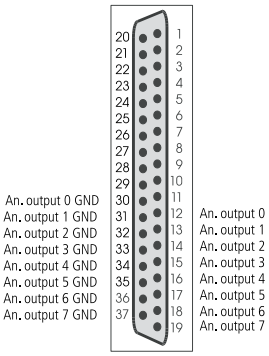
Screw terminal panel PX901-AG
with cable ST010



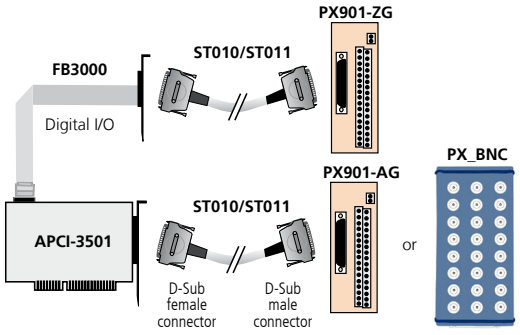
Simplified block diagram



Pin assignment – 37-pin D-Sub male connector



ADDI-DATA connection



Ordering information

APCI-3501

Analog output board, optically isolated, 8/4 analog outputs, 14-bit. Incl. technical description and software drivers.

Versions

APCI-3501-8 Version with 8 analog voltage outputs
APCI-3501-4 Version with 4 analog voltage outputs

Accessories

PX901-A: Screw terminal panel with transorb diodes, for connecting the analog outputs
PX901-AG: Same as PX901-A with housing for DIN rail
PX_BNC: BNC connection box for connecting the analog I/O
ST010: Standard round cable, shielded, twisted pairs, 2 m
ST011: Standard round cable, shielded, twisted pairs, 5 m
PX901-ZG: Screw terminal panel for connecting the digital I/O, for DIN rail
FB3000: Ribbon cable for digital I/O

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