

Analog output board, isolated, 14-bit



APCI-3501

8/4 analog outputs, 14-bit

Optical isolation 500 V

4 digital I/O, 24 V, isolated

Watchdog, timer



LabVIEW™



LabWindows/CVI™

Features

- 8 or 4 analog outputs
- Optical isolation 500 V
- Setting time 30 μ s 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 outputs has its own ground line (without optical isolation between each other)
- Driver capacity: 5 mA/500 pF
- Short-circuit protection, EMI filter
- Noise neutralization of the PC supply
- Creeping distance IEC 61010-1 (VDE411-1)
- Watchdog for resetting the analog outputs (4 different time units: μ s, ms, s, min) or as 12-bit timer (with interrupt possibility) when the watchdog function is not necessary.

Digital

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

EMC tested acc. to 89/336/EEC

- IEC 61326: electrical equipment for measurement, control and laboratory use

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 kernel version 2.4.2, Windows XP/2000/NT/98

Real-time drivers for Windows XP/2000/NT/98

The board is delivered with the universal software ADDIPACK (see Page 5).

Drivers for the following application software:

LabVIEW 5.01

Samples for the following compilers:

Microsoft VC++ 5.0

Borland C++ 5.01

Visual Basic 5.0

Delphi 4

On request:

LabWindows/CVI 5.01

ADDIPACK functions supported:

Analog output • Digital input • Digital output

Interrupt • Watchdog • Timer

Current driver list on the web: www.addi-data.com

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Specifications

Analog outputs

Number of outputs:	8 or 4
Resolution:	14-bit resolution, 12-bit accuracy
Optical isolation:	500 V through optical couplers
Output range:	0-10 V, ± 10 V switchable software
Setup time at 2 k Ω , 1000 pF:	30 μ s
Overvoltage protection:	± 12 V
Max. output current/Load:	± 5 mA/500 pF, 2 k Ω
Short-circuit current:	± 25 mA
Output voltage after reset:	0 V
Watchdog:	set per software
	4 different time units: μ s, ms, s, min.

Digital I/O

Number of I/O channels:	2 digital inputs, 2 digital outputs, 24 V
Optical isolation:	500 V through optical couplers from the PC to the 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:	5 mA typ.
Output range:	5-30 V
Output type:	Open collector

Noise immunity

Test level:	- ESD: 4 kV - Fields: 10 V/m - Burst: 4 kV - Conducted radio interferences: 10 V
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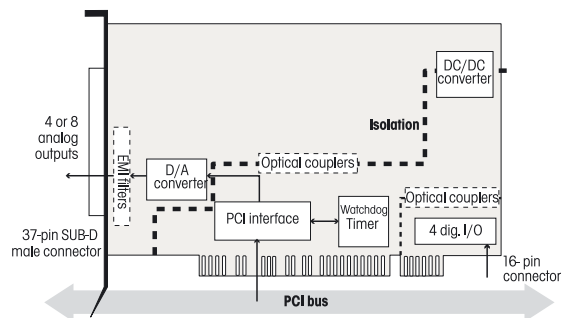
Physical and environmental conditions

Dimensions:	175 x 99 mm
System bus:	PCI 32-bit 5 V acc. to specification 2.1 (PCISIG)
Place required:	1 PCI slot for the analog outputs, 1 slot opening for digital I/O with FB3000
Operating voltage:	+5 V, ± 5 % from PC
Current consumption:	540 mA ± 10 % typ.
Front connector:	37-pin SUB-D male connector
Additional connector:	16-pin male connector for ribbon cable for connecting the digital I/O
Temperature range:	0 to 60 °C (with forced cooling)

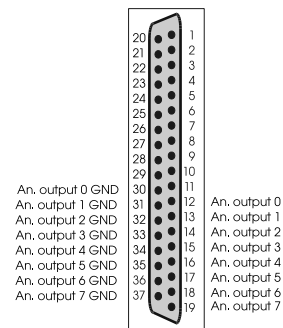
Terminal board PX 901-AG
with cable ST010



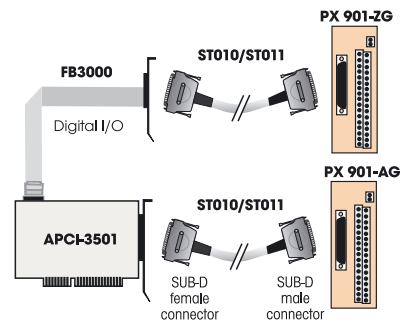
Simplified block diagram



Pin assignment – 37-pin SUB-D male connector



ADDI-DATA connection



ADDIALOG APCI-3501

Analog output board, isolated, 14-bit. Incl. technical description and software drivers.

Versions

APCI-3501-8:	8 analog voltage outputs
APCI-3501-4:	4 analog voltage outputs

Connection

PX 901-A:	Terminal board with transorb diodes and screw terminals, for connecting the analog outputs
PX 901-AG:	Same as PX 901-A with housing for DIN rail
PX 901-ZG:	Screw terminal board for connecting the digital I/O for DIN rail
ST010:	Standard round cable, shielded, twisted pairs, 2 m
ST011:	Standard round cable, shielded, twisted pairs, 5 m
FB3000:	Ribbon cable for digital I/O

ORDERING INFORMATION

www.addi-data.com

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