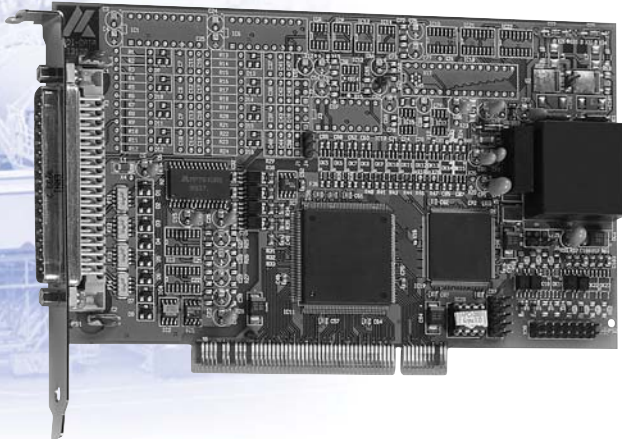


Analog output board, isolated, 14-bit



ADDIALOG APCI-3501

8/4 analog output channels, 14-bit

Optical isolation 500 V

4 digital I/O, 24 V, isolated

Watchdog



Features

- 8 or 4 analog output channels
- Optical isolation 500 V
- Settling 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 output channel has its own ground line (without optical isolation from the others)
- Driver capacity: 5 mA/500 pF
- Short-circuit protection, EMI filters
- Noise neutralization of the PC supply
- Creeping distance: 3.2 mm acc. to DIN VDE 0411-100
- Watchdog for resetting the analog output channels (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 input channels, 24 V, isolated
- 2 digital output channels, 24 V, isolated

EMC tested acc. to 89/336/EEC (CE certification)

- EN 50082-2, EN 55011, EN 55022

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:

Real-time driver for Windows 2000/NT/98.

The board is supplied with the universal software ADDIPACK (see page 6).

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

In preparation:

Drivers for Linux kernel version 2.4.2

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

Protect your system by using isolated analog boards.

Most of ADDI-DATA analog boards are isolated and appropriate for numerous applications, but strongly recommended for following environment or use:

- electrically harsh environment
- switch inductive loads or other hazardous voltage spikes
- strong electromagnetic fields

with optical isolation, power and signal lines on the host computer have no connection with the external signals. Instead, analog signals are transmitted to and from the external devices through optical couplers. The host computer is fully protected and remains unharmed.

Analog output board, isolated, 14-bit

ADDIALOG APCI-3501

Specifications

Analog output channels

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

Digital I/O

Number of I/O channels:	2 digital input channels, 2 digital output channels, 24 V
Optical isolation:	500 V through optical couplers from the PC for the peripheral
Input current at 24 V:	3 mA typ.
Input range:	0-30 V - Logic "0": 0-5 V - Logic "1": 10-30 V
Max. switching current:	5 mA typ.
Output range:	5-30 V
Output type:	Open collector

Noise immunity

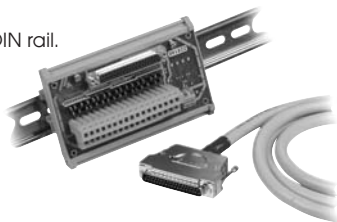
Test level:	- ESD: 4 kV - Fields: 10 V/m - Burst: 4 kV - Conducted radio interferences: 10 V
-------------	---

Physical and environmental conditions

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

Cabling options and accessories

Screw terminal boards PX 901-A for connecting up to 37 signal lines, with transorb diodes, mounting on a standard DIN rail.



Standard round cable shielded ST010 protected against crosstalk and external interference.

ADDIALOG APCI-3501

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

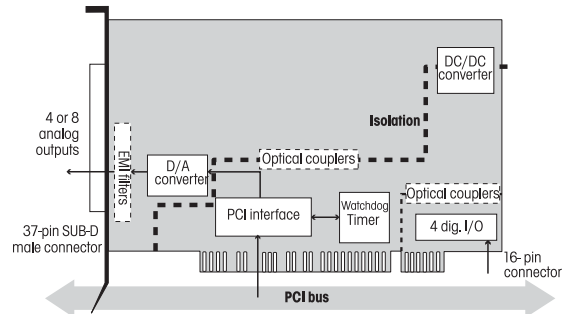
Versions

- APCI-3501-8** Version with 8 analog voltage output channels
- APCI-3501-4** Version with 4 analog voltage output channels

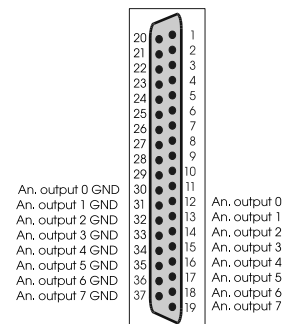
Connection

- PX901-A:** Terminal board with transorb diodes and screw terminals, for connecting the analog output channels
- PX901-AG:** Same as PX901-A with housing for DIN rail

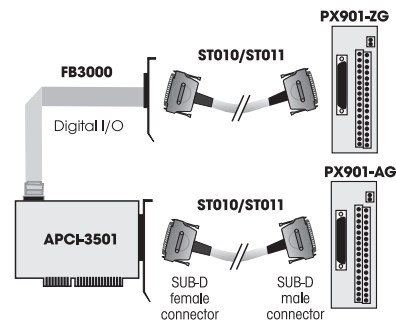
Simplified block diagram



Pin assignment – 37-pin SUB-D male connector



Connection



ORDERING INFORMATION

- PX901-ZG:** Terminal board with screw terminals 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