Analog output board, 4 channels, isolated, 12-bit

APCI-3504

4 analog outputs, 12-bit

Voltage or current outputs

Optical isolation 500 V

Connection with terminal board PX 9200

Timer, watchdog

LabVIEW™

LabWindows/CVI™

Features

Analog outputs

- 4 analog outputs, isolation 500 V
- 12-bit resolution
- Output voltage/current after reset: 0 V/0 mA
- Each output has its own ground line (without optical isolation)

Voltage outputs

- Setting time 15 µs typ
- Output voltage range: -10 V to +10 V
- Maximum output current: ± 5 mA
- Short-circuit current: ± 20 mA

Current outputs

- Maximum output current: 0 to 20 mA
- Setting time 70 µs typ (at steps of 20 mA)
- Maximum load: 500 Ω

Safety features

- Optical isolation 500 V
- Creeping distance IEC 61010-1 (VDE411-1)
- Protection against high-frequency EMI
- Noise neutralization of the PC supply

EMC tested acc. to 89/336/EEC

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

Applications

- Image processing systems
- Factory automation
- ...

Software drivers

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

Standard drivers for:
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:
Analog output • Interrupt • Timer • Watchdog

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

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Sales: +49(0)7223/9493-120
Fax: +49(0)7223/9493-92

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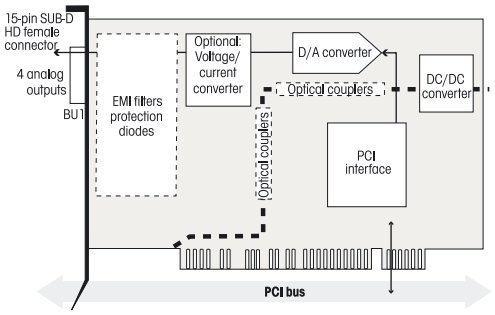
Specifications

Analog outputs	
Number of outputs:	4
Optical isolation:	500 V through optical couplers
Resolution:	12-bit
Output type:	single-ended
Voltage outputs	
Output range:	- 10 V to (+ 10 V - 1 LSB)
LSB:	4.8828 mV
Precision:	11-bit
Time to ready:	typ. 4.5 µs
Setting time:	typ. 15 µs (in steps of 10 V)
Max. output current:	±5 mA
Short-circuit current:	±20 mA
Output voltage after reset:	0 V
Current outputs	
Max. output current:	0 to 20 mA
LSB:	4.883 µA
Time to ready:	typ. 4.5 µs
Setting time:	typ 70 µs (in steps of 20 mA)
Maximum load:	500 Ω
Short-circuit current:	+25 mA
Output current after reset:	0 mA

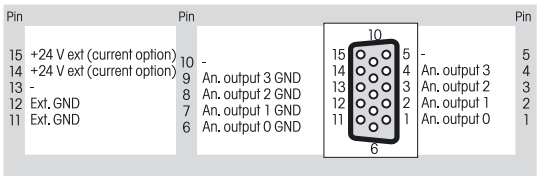
Noise immunity		
Test level:	- ESD: 4 kV	- Fields: 10 V/m
	- Burst: 4 kV	- Cond. radio interferences: 10 V

Physical and environmental conditions	
Dimensions:	131x 99 mm
System bus:	PCI 32-bit 5 V acc. to specification 2.2 (PCISIG)
Place required:	Short board, 1 PCI slot
Operating voltage:	+5 V, ± 5 % from PC
Current consumption:	-
Front connector:	15-pin SUB-D HD female connector
Temperature range:	0 to 60 °C (with forced cooling)

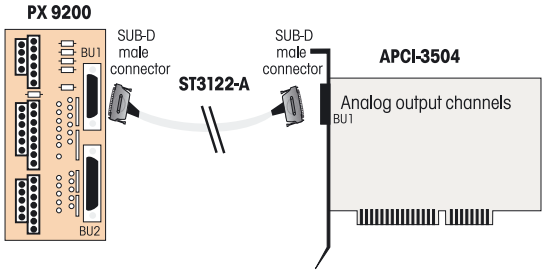
Simplified block diagram



Pin assignment
15-pin SUB-D HD female connector



ADDI-DATA connection



ORDERING INFORMATION

ADDIALOG APCI-3504
Analog output board, isolated, 12-bit. Incl. technical description and software drivers.

Versions
APCI-3504: 4 analog voltage outputs
APCI-3504-C: 4 analog current outputs

Connection
PX 9200: Screw terminal board
ST3122-A: High-density round cable, shielded, twisted pairs, 2 m

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