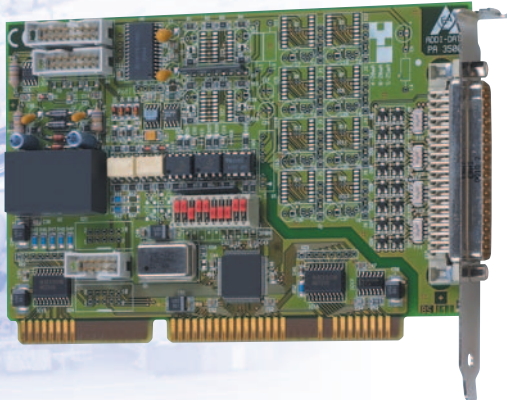


Analog output board, isolated, 14-bit



PA 3500

8/4 outputs, 14-bit

Optical isolation 500 V

Voltage or current outputs

Trigger input

Watchdog

4 isolated digital I/O, 24 V



The 14-bit analog output board PA 3500 is an automation interface for analog controlling tasks. Trigger and interrupt functions allow the board to react and to act on external events in different ways. The 4 or 8 analog output channels can be set independently. The board is available in four versions with either voltage or current output channels, with voltage ranges of 0-10 V and ± 10 V and current ranges of 0-20 mA, 4-20 mA and 5-25 mA.

The analog conversion can be started in 3 programmable modes:

- Trigger function automatically with the output of an analog value
- Independent software trigger with the output of an analog value
- External trigger: the parameterised analog output is set through a signal switching from 5 to 0 V at trigger input.

The interrupt signals (IRQ3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15) can be generated through 4 selectable sources (trigger, input 1 or 2, watchdog). All configurations are programmable. A watchdog supervises the PC activity.

The output channels are reset in case of error.

Two 24 V input channels and a fast TTL trigger input channel allow a fast reaction to external events. A trigger signal allows the analog values to be set asynchronously to the program flow. The analog output can therefore be used in numerous controlling processes and be synchronised with different controlling signals.

Features

- 8 or 4 analog outputs
- 14-bit resolution
- Setting time: 30 to 45 μ s
- Output ranges: 0-10 V, ± 10 V, 0-20 mA, 4-20 mA, 5-25 mA
- Unipolar/bipolar programmable for each channel
- Programmable interrupt: IRQ 3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15
- 4 programmable modes: trigger, synchronising, interrupt and polling mode
- Addressing through DIP switches
- Small address range: max. 4 bytes

Digital

- Fast digital trigger input channel (optical couplers) for controlling one output channel
- 2 digital input channels and 2 digital output channels, 24V, isolated, 6 mA

Safety features

- Optical isolation 500 V
- Creeping distance IEC 61010-1 (VDE411-1)
- Watchdog function
- All analog outputs with EMI suppression filters
- Noise neutralization of the PC voltage supply

EMC tested acc. to 89/336/EEC

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

Applications

- Industrial machine automation
- Motor
- Programmable voltage source
- Programmable current sink
- Electronic test
- ...

Software drivers

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

Standard drivers for:

Windows 2000/NT/98/95, Windows 3.11, MS-DOS
Real-time driver 2000/NT/98/95

Samples for the following compilers:

Microsoft VC++ 5.0 • Microsoft C 6.0
Borland C++ 5.01 • Borland C 3.1
Visual Basic 5.0 • Visual Basic 1.0
Turbo Pascal 7.0

Drivers for the following application software:

LabVIEW 5.01

On request:

Diadem 6/7
LabWindows/CVI 5.01
Delphi 4.0

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

Analog output board, isolated, 14-bit

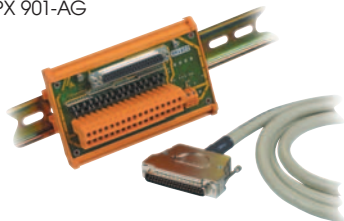


PA 3500

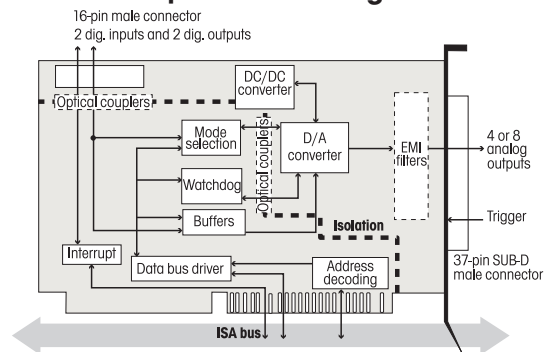
Specifications

Analog outputs	
Number of outputs:	8 or 4
Output type:	voltage or current outputs
Optical isolation:	500 V
Output filter:	EMI
Resolution:	Bipolar: 14-bit - Unipolar: 13-bit
Output range:	0-10 V, ±10 V Optional: 0-20 mA, 4-20 mA, 5-25 mA voltage range individually programmable
Setting time:	voltage outputs: typ. 30 µs (from -10 V to +10 V) Option P: 32 µs (in steps of 20 V) current outputs: typ. 45 µs (in steps of 20 mA)
Bipolar zero offset:	±16 LSB
Max. load:	voltage outputs: 5 mA at 10 V current outputs: 500 Ω at 20 mA
Interrupt lines:	IRQ 3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15, programmable
Watchdog:	Zeit: 4.2 s, software programmable
Digital I/O	
Inputs:	1 trigger input, with optical couplers, 5 V, interruptible, 2 dig. inputs, 24 V, interruptible, inputs current 6 mA
Outputs:	2 digital outputs, open collector outputs, 5-24 V, typ. collector current 1-10 mA
Noise immunity	
Test level:	- ESD: 4 kV - Fields: 10 V/m - Burst: 2 kV/4 kV Netz - Conducted radio interferences: 10 V
Physical and environmental conditions	
Dimensions:	160 x 99 mm
System bus:	ISA, AT slot
Place required:	1 slot for the analog output, 1 slot opening for the digital I/O, with FB3000
Operating voltage:	+5 V, ±5 % from PC for version C, external 24 V
Current consumption:	450 mA ± 5 % typ.
Front connector:	37-pin SUB-D male connector 16-pin male connector for ribbon cable FB3000 for the digital I/O
Temperature range:	0 to 60 °C (with forced cooling)

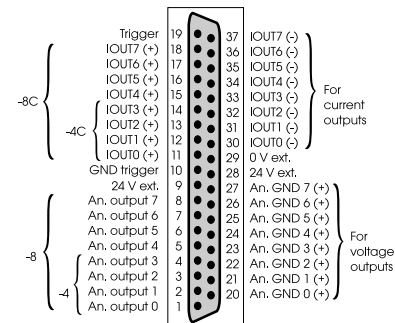
Terminal board PX 901-AG
with cable ST010



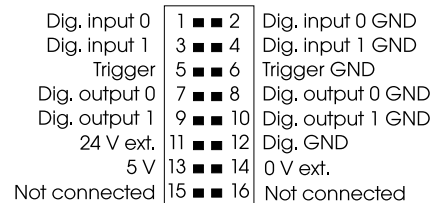
Simplified block diagram



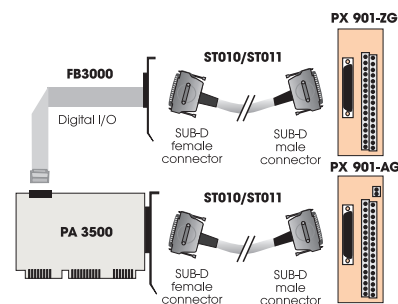
Pin assignment – 37-pin SUB-D male connector



Pin assignment – 16-pin male connector



ADDI-DATA connection



ORDERING INFORMATION

ADDIALOG PA 3500

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

Versions

- PA 3500-8:** 8 analog voltage outputs
- PA 3500-4:** 4 analog voltage outputs
- PA 3500-8C:** 8 analog current outputs
- PA 3500-4C:** 4 analog current outputs

Connection:

- PX 901-A:** Screw terminal board with transorb diodes, for connecting the analog inputs

- PX 901-AG:** Screw terminal board with housing for DIN rail for voltage outputs.

- PX 901-ZG:** Screw terminal board for digital I/O with housing for DIN rail for current outputs.

- ST010:** Standard round cable, shielded, twisted pairs, 2 m
- ST011:** Standard round cable, shielded, twisted pairs, 5 m
- FB3000:** 16-pin to 37-pin SUB-D connector with bracket for digital I/O