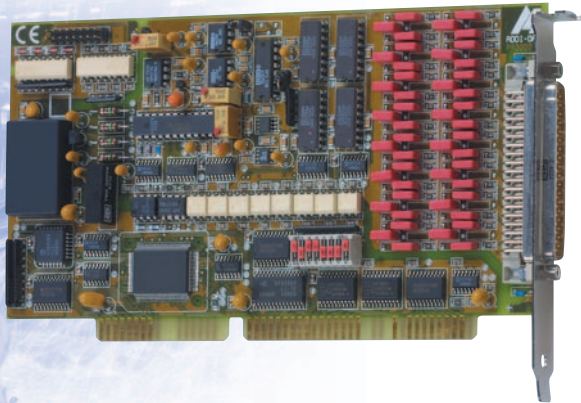


Analog input board, isolated, 12-bit



PA 3000

16/8/4 differential inputs

Voltage or current inputs

142 kHz data transfer rate

Optical isolation 500 V

Automatic analog acquisition

DMA access

Trigger function

8 digital I/O 24 V, 3 timers



LabWindows/CVI™



Features

Analog

- Inputs: 16/8/4 differential or 16/8/4 single-ended
- 12-bit resolution
- Data transfer rate: 142 kHz
- Input range: 0-10 V, ± 10 V, programmable through software, 0-20 mA optional (Option D2C)
- Sequence RAM (Sequence scan)
- Gain: 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000 freely programmable through software for each channel
- Conversion through software or external trigger
- DMA access: channels 5, 6 and 7 (2-channel DMA) toggle DMA
- 16-bit access for the analog value, 8-bit for all other accesses
- Addressing through DIP switches
- Software-programmable interrupt: IRQ 3, 5 for XT, IRQ 9, 10, 11, 12, 14, 15 for AT
- 3 timers: timer 0 and timer 1 only for the analog acquisition, timer 2 as cyclic time-counter

Analog acquisition

- Acquisition of one single channel, several channels or several channels through scan list
- Automatic analog acquisition through cyclic timer control
- Acquisition through scan list: up to 16 entries with gain, channel, unipolar/bipolar
- Acquisition triggered through software, timer, external event
- Trigger functions:
 - Software trigger or
 - external trigger: the analog acquisition (single or scan) is started through a signal switching from 0 to 24 V at digital input 0.
- Interrupt: end of single channel, end of multichannel, end of scan list

Digital

- 4 dig. inputs, 4 dig. outputs, 24 V, isolated

Safety features

- Optical isolation 500 V
- Protection against overvoltage and high-frequency EMI
- 37-pin SUB-D connector, for shielded and twisted-pair cables
- Noise neutralization of the PC voltage supply
- Creeping distance IEC 61010-1 (VDE411-1)

EMC tested acc. to 89/336/EEC

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

Applications

- Process control
- Industrial measurement
- Acquisition of sensor data
- Signal analysis
- Current measurement
- ...

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 drivers for 2000/NT/98/95

Drivers for the following application software:

LabVIEW 5.01 • LabWindows/CVI 5.01

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
Delphi 4
Turbo Pascal 7.0

On request:

DiaDem 6/7 • Embedded NT

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

Terminal board PX 901-AG
with cable ST010



Analog input board, isolated, 12 Bit

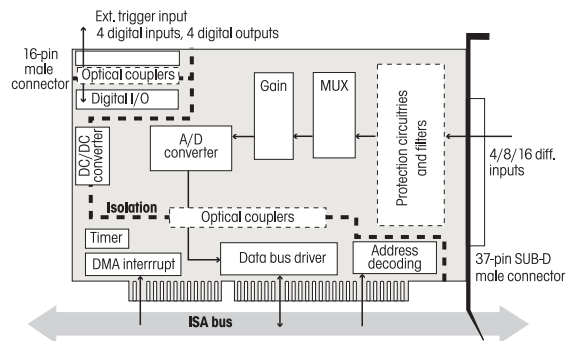


PA 3000

Specifications

Analog inputs	
Number of inputs:	16/8/4 differential
Resolution:	12-bit
Max. data transfer rate:	for 1 input: 142 kHz (7 μ s) limited through software
Data transfer:	Data to the PC (16-bit only) - through I/O commands - Interrupt at End of Conversion (EOC) - DMA transfer at End of Conversion
Input range:	0-10 V, \pm 10 V software programmable for each channel; 0-20 mA optional
Input impedance (PGA):	10 ¹² Ω / 20 nF against GND
Gain:	1, 2, 5, 10, 20, 50, 100, 200, 500, 1000 software programmable for each channel
Overvoltage protection:	70 V.p.p at power-on
Common mode rejection:	80 dB to 10 Hz at Gain=1
Precision:	\pm 1 LSB
Offset error:	\pm 0.5 LSB
Gain error:	\pm 0.5 LSB
Trigger:	through software, external event or Timer 0 and 1
Interrupt:	IRQ 3, 5 for XT, IRQ 9, 10, 11, 12, 14, 15 for AT
DMA:	5, 6, 7 (1 or 2-channel access)
Timer-Zeitbasen:	
Timer 0:	0.7 μ s; smallest programmable value: 7 μ s
Timer 1:	70 μ s; smallest programmable value: 140 μ s
Timer 2:	70 μ s; smallest programmable value: 140 μ s
Digital I/O	
Optical isolation:	1000 V, through optical couplers
Number of inputs:	4 digital inputs, 24 V, isolated
Input current at 24 V:	3 mA typ.
Input range:	0-30 V - logical "0": 0-5 V - logical "1": 10-30 V
Number of outputs:	4 digital outputs, 24 V, isolated
Output range:	5-30 V
Max. switching current:	5 mA typ.
Noise immunity	
Test level:	- ESD: 4 kV - Fields: 10 V/m - Burst: 4 kV - Conducted radio interferences: 10 V
Physical and environmental conditions	
Dimensions:	190 x 99 mm
System bus:	ISA
Place required:	1 slot (AT) for analog inputs, 1 slot opening for connecting the digital I/O with ribbon cable FB 3000
Operating voltage:	+5 V, \pm 5 %
Current consumption:	590 to 630 mA typ. \pm 10 % depending on the board version
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)

Simplified block diagram



Pin assignment – 37-pin SUB-D male connector

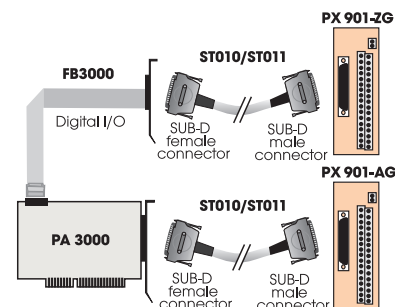
19	Reserve	37	An. input 15 (+)
18	An. input 15 (-)	36	An. input 14 (+)
17	An. input 14 (-)	35	An. input 13 (+)
16	An. input 13 (-)	34	An. input 12 (+)
15	An. input 12 (-)	33	An. input 11 (+)
14	An. input 11 (-)	32	An. input 10 (+)
13	An. input 10 (-)	31	An. input 9 (+)
12	An. input 9 (-)	30	An. input 8 (+)
11	An. input 8 (-)	29	An. GND *
10	An. GND *	28	An. GND *
9	An. input 7 (+)	27	An. input 7 (+)
8	An. input 7 (-)	26	An. input 6 (+)
7	An. input 6 (-)	25	An. input 5 (+)
6	An. input 5 (-)	24	An. input 4 (+)
5	An. input 4 (-)	23	An. input 3 (+)
4	An. input 3 (-)	22	An. input 2 (+)
3	An. input 2 (-)	21	An. input 1 (+)
2	An. input 1 (-)	20	An. input 0 (+)
1	An. input 0 (-)		

* Common ground for all analog inputs

Pin assignment – 16-pin male connector

1	Dig. output 0 (+)	2	Dig. output 0 (-)
3	Dig. output 1 (+)	4	Dig. output 1 (-)
5	Dig. output 2 (+)	6	Dig. output 2 (-)
7	Dig. output 3 (+)	8	Dig. output 3 (-)
9	Dig. inp. 0 / trigger (+)	10	Dig. outp. 0 / trigger (-)
11	Dig. input 1 (+)	12	Dig. input 1 (-)
13	Dig. input 2 (+)	14	Dig. input 2 (-)
15	Dig. input 3 (+)	16	Dig. input 3 (-)

ADDI-DATA connection



ADDIALOG PA 3000

Analog input board isolated. Incl. technical description and software drivers.

PA 3000-16: 16 differential or SE inputs, 8 digital I/O

PA 3000-8: 8 differential or SE inputs, 8 digital I/O

PA 3000-4: 4 differential or SE inputs, 8 digital I/O

Optionen

Please specify the number of the channels to be equipped.

D2C: Current input 0(4)-20 mA for 1 differential input

D2F: Precision filter for 1 differential input

ORDERING INFORMATION

Connection

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

PX 901-AG: Same as PX 901-A with housing for DIN rail

PX 901-ZG: Screw terminal board for connecting the dig. I/O

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

www.addi-data.com

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

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