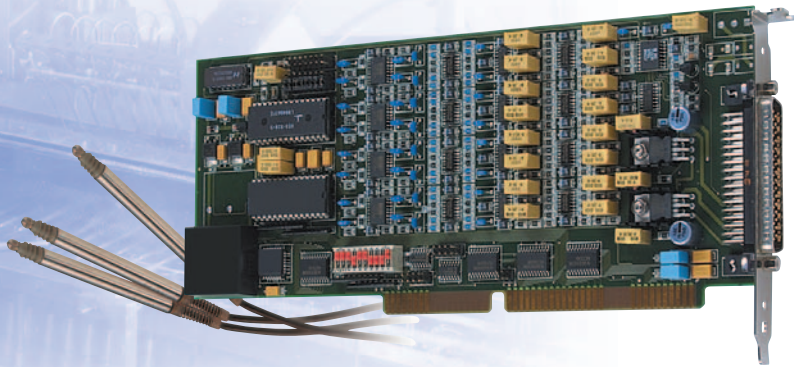


Acquisition of 8 or 16 inductive displacement transducers



PA 370

Acquisition of 16 or 8 inductive transducers

Half-bridge, LVDT

14-bit resolution

50 kHz data transfer rate



The PA 370 is a 14-bit board designed for the acquisition of 16 or 8 inductive displacement transducers (Half Bridge, LVDT).

8 of the available input channels can alternatively be configured for measuring DC voltage signals (± 10 V). The board delivers a standard sine signal with a frequency of 10 kHz and an effective amplitude of 3 V for transducer excitation. A DC/DC converter delivers internal auxiliary voltages which supply the analog components. The voltages are LC-filtered.

The end of conversion occurs through software or interrupt.

Two connection boxes either with 16 (PX371-16) or 8 (PX371-8) sockets and a connecting cable are available for connecting the displacement transducers to the board through a 50-pin SUB-D male connector.

Features

- Acquisition for 16 or 8 inductive displacement transducers (Half-bridge, LVDT)
- 16 or 8 inputs
- 14-bit resolution
- 8 inputs can be configured for measuring DC voltage signals (± 10 V)
- Data transfer rate: 50 kHz
- Conversion trigger through software
- End of conversion inquired through software
- Interrupt possibility at end of conversion
- The base address occupies 2 I/O addresses in 64 KB I/O address range
- Addressing through DIP switches

Safety features

- 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

- Automated gauging
- Quality control
- Industrial process control
- Automatic test equipment
- R&D instrumentation
- ...

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, MS-DOS
Real-time drivers for Windows 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
Delphi 4
Turbo Pascal 7.0

Drivers for the following application software:

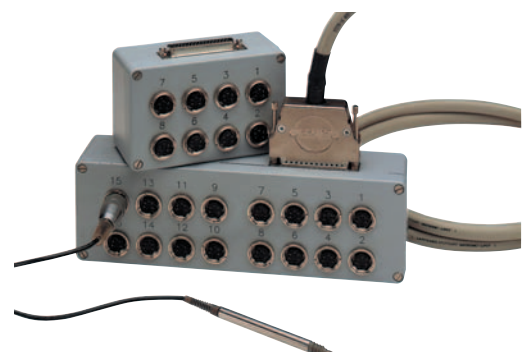
LabVIEW 5.01

On request:

LabWindows/CVI 5.01

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

Connection box PX 371 with cable ST370-16



Acquisition of 8 or 16 inductive transducers



PA 370

Specifications

Analog inputs

Number of inputs:	for 16 or 8 inductive displacement transducers 8 can be configured for measuring DC voltage signals
Resolution:	14-bit
Data transfer rate:	50 kHz
Supply voltage	
for displacement transducers:	2 x 1.5 VAC 180° phase shifted
Transducer sensitivity for the max. input range:	73.75 mV/V/mm e.g. TESA GT21 and compatibles
Input range:	± 10 V (DC voltage inputs)
Integral non-linearity (INL):	± 2 LSB
Diff. non-linearity (DNL):	14-bit typ.
Input impedance:	10 ¹² Ω / 5.5 pF
Conversion start:	through software
Conversion end:	can be inquired through software or interruptible
Interrupt lines:	IRQ 3, 5 for XT; IRQ 10, 11, 12, 15 for AT

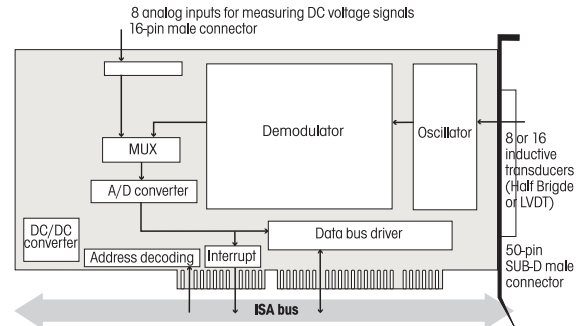
Noise immunity

Test level:	- ESD: 4 kV - Fields: 10 V/m - Burst: 2 kV/4 kV Netz - Conducted radio interferences: 10 V
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Physical and environmental conditions

Dimensions:	247 x 99 mm
System bus:	ISA, AT
Place required:	long board
Operating voltage:	5 V, ± 5 % / 1,7 A ± 12 V, ± 5 % from PC
Current consumption:	150 mA typ.
Front connector:	50-pin SUB-D male connector
Connector:	16-pin male connector (DC voltage analog inputs)
Temperature range:	0 to 60 °C (with forced cooling)

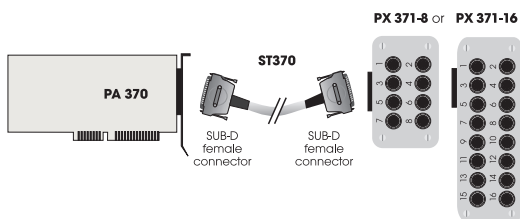
Simplified block diagram



Pin assignment – 50-pin SUB-D male connector

Shift	Shift	Shift	Shift
17 GND	33 An. Eing. 15	17 33	50 An. Eing. 16
16 An. Eing. 14	32 GND	16 16	49 GND
15 GND	31 An. Eing. 12	15 15	48 An. Eing. 13
14 An. Eing. 11	30 GND	14 14	47 GND
13 GND	29 An. Eing. 9	13 13	46 An. Eing. 10
12 An. Eing. 8	28 GND	12 12	45 GND
11 GND	27 An. Eing. 6	11 11	44 An. Eing. 7
10 An. Eing. 5	26 GND	10 10	43 GND
9 GND	25 An. Eing. 3	9 9	42 An. Eing. 4
8 An. Eing. 2	24 GND	8 8	41 GND
7 GND	23 GND	7 7	40 An. Eing. 1
6 Tminus	22 Tminus	6 6	39 GND
5 Tminus	21 Tminus	5 5	38 Tminus
4 Tplus R	20 Tplus	4 4	37 Tminus
3 Tplus	19 Tplus	3 3	36 Tplus
2 Tplus	18 OSZ BACK	2 2	35 Tplus
1 OSZ BACK		1 1	34 OSZ BACK

ADDI-DATA connection



Pin assignment – 16-pin male connector

Analog input 1 (+)	1 ■■ 2	Analog input 1 (-)
Analog input 2 (+)	3 ■■ 4	Analog input 2 (-)
Analog input 3 (+)	5 ■■ 6	Analog input 3 (-)
Analog input 4 (+)	7 ■■ 8	Analog input 4 (-)
Analog input 5 (+)	9 ■■ 10	Analog input 5 (-)
Analog input 6 (+)	11 ■■ 12	Analog input 6 (-)
Analog input 7 (+)	13 ■■ 14	Analog input 7 (-)
Analog input 8 (+)	15 ■■ 16	Analog input 8 (-)

ADDIALOG PA 370

Analog input board for the acquisition of 16 or 8 inductive transducers incl. technical description and software drivers

Versions

PA 370-16:	for 16 displacement transducers
PA 370-8:	for 8 displacement transducers

Connection:

PX 371HB-16:	Connection box of the PA370-16 for 16 half-bridge transducers
PX 371LVDT-16:	Connection box der PA370-16 for 16 LVDT transducers
ST370-16:	Between PA 370-16 and PX371-16, shielded round cable, 2 m
PX 371HB-8:	Connection box of the PA370-8, for 8 half-bridge transducers
PX 371LVDT-8:	Connection box of the PA370-8 for 8 LVDT transducers
ST370-8:	Between PA 370-8 and PX371-8, shielded round cable, 2 m

ORDERING INFORMATION

Calibration information - Please specify when ordering!

We need following information to calibrate your board:

- Transducers type (Half-bridge or LVDT)
- Transducer measuring range in mm
- Technical data of the transducer:
Supply voltage,
Sinus signal (kHz),
Nominal sensitivity (mV/V/mm),
Resistive output load (kΩ)