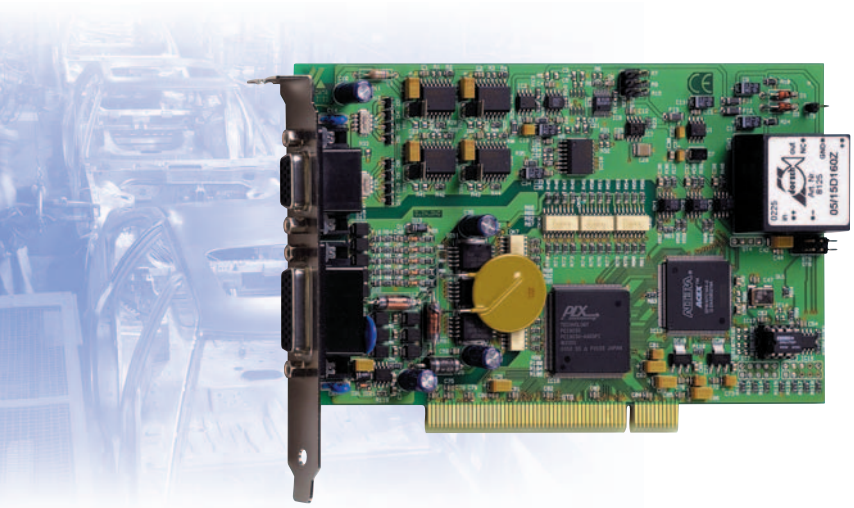
Multifunction board, 4 D/A channels and 22 digital I/O, 24 V



APCI-3122

4 analog outputs, 12-bit

Optical isolation 500 V

10 digital inputs, 12 digital outputs, isolated, 24 V

Diagnostic function can be read back

Connection of all signals with terminal board PX 9200 (analog and digital)

Timer, watchdog

LabVIEW™

LabWindows/CVI™

The new APCI-3122 is a multifunction board which enables to process digital signals (e.g. from a PLC) for image processing systems and then monitor encoders with analog signals (e.g. a camera). Due to the optical isolation between the digital part and the analog one, the board combines the operation with high loads and parallely the output of analog signals.

Features

- PCI interface to the 32-bit data bus

Analog Outputs
- 4 analog outputs, optical isolation 500 V
- 12-bit resolution
- Setting time 15 µs typ
- Output voltage after reset: 0 V
- Each output has its own ground line (without optical isolation)
- Output voltage range: -10 V to + 10 V
- Output current: ± 5 mA
- Short-circuit current: ± 20 mA

Digital I/O
- Optical isolation 1000 V

Digital inputs
- 10 isolated digital inputs, 24 V
- Protection against voltage reversal
- All inputs are filtered

Digital Outputs
- 12 isolated digital outputs, 10 to 36 V
- Output current per channel 500 mA
- Watchdog for resetting the outputs to "0"
- At power-on, the outputs are reset to "0"
- Total current for 12 outputs approx. 3 A
- Electronic fuse
- Short-circuit current per output approx. 2 A
- Overtemperature and overvoltage protection
- 24 V power output with protection diodes and filters
- Special output capacitors minimise EMI emissions
- External 24 V voltage supply screened through a protection circuitry

- Shut-down logic when the external supply voltage drops below 5 V
- Connection of all signals to the terminal board PX 9200 (analog and digital) through separate cables

Safety features
- Analog outputs through separate connector (separated from the digital I/O part)
- Optical isolation
- Creeping distance IEC 61010-1 (VDE411-1)
- Overvoltage protection through transorb diodes
- Protection against high-frequency EMI
- Noise neutralization of the PC supply

EMC tested acc. to 89/336/EEC
- In preparation

Applications

- Image processing systems
- Industrial process control
- Industrial measurement and monitoring
- Factory automation

Software drivers for:

Windows XP/2000/NT/98
Real-time drivers for Windows XP/2000/NT/98
The board is supplied with the universal software ADDIPACK (see Page 5).

Drivers for the following application software:
LabVIEW 5.01

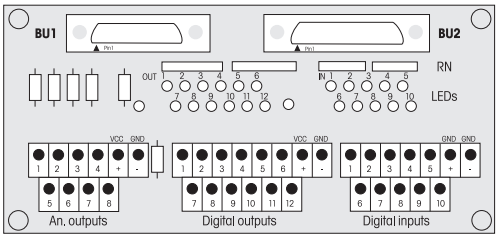
Samples for the following compilers:
Microsoft VC++ 5.0 • Borland C++ 5.01
Visual Basic 5.0 • Delphi 4.0

ADDIPACK functions:
Analog output • Digital input • Digital output
Interrupt • Watchdog • Timer

On request:
LabWindows/CVI

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

Multisignal terminal board PX 9200



www.addi-data.com
Sales: +49(0)7223/9493-0
Fax: +49(0)7223/9493-97

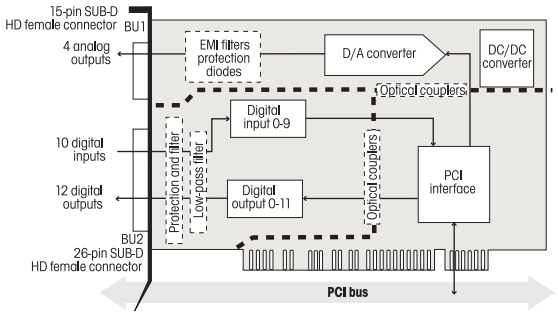
Multifunction board, 4 D/A channels and 22 digital I/O, 24 V

APCI-3122

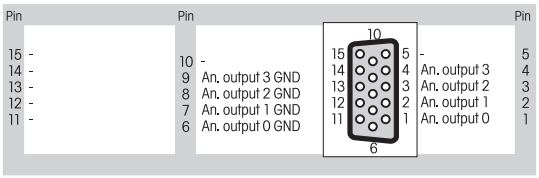
Specifications

Analog outputs	
Number of outputs:	4
Optical isolation:	500 V through optical couplers
Resolution:	12-bit
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
Digital inputs	
Number of inputs:	10 (common ground acc. to IEC 1131-2)
Logic input level:	
U nominal:	24 V
UH max:	30 V / current 9.5 mA typ.
UH min.:	19 V / current 3 mA typ.
UL max.:	14 V / current 0.5 mA typ.
UL min.:	0 V
Input current at U_{nom}:	6 mA
Optical isolation:	through optical couplers, 1000 V from the PC to the peripheral
Signal delay:	40 µs (at 24 V)
Maximum input frequency:	5 kHz (at 24 V)
Digital outputs	
Number of outputs:	12, isolated up to 1000 V through optical couplers
Output type:	High-Side (Load at ground) acc. to IEC 1131-2
Nominal voltage:	24 VDC
Supply voltage:	10 to 36 VDC (through the front connector)
Max. current of all outputs:	3 A typ.
Output current/output:	500 mA typ. (through PTC)
Short-circuit current/output Shut-Down at 24 V, R_{load} < 0,1Ω:	2 A
RDS ON resistance:	0.4 Ω max.
Overtemperature (Shut-Down):	170 °C (Output driver)
Temperature Hysterese:	20 °C (Output driver)
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)
Space required:	Short board, 1 PCI-slot
Operating voltage:	+5 V, ± 5 % from PC
Max current consumption: (+ 5 V from PC)	560 mA ± 15 mA (when all digital outputs are switched on and all digital inputs are set to active high)
Front connector:	15-pin SUB-D HD female connector (analog) 26-pin SUB-D HD female connector (digital)
Temperature range:	0 to 60 °C (with forced cooling)

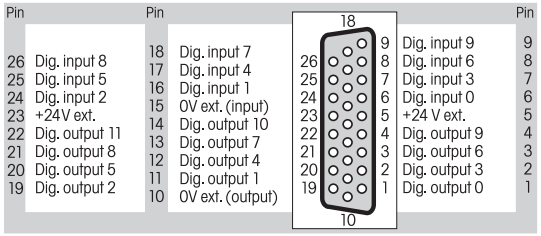
Simplified block diagram



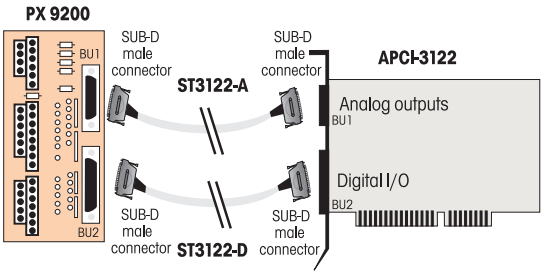
Pin assignment 15-pin SUB-D HD female connector



Pin assignment 26-pin SUD-D HD female connector



ADDI-DATA connection



ORDERING INFORMATION

ADDIALOG APCI-3122

Isolated multifunction data acquisition board, 12-bit. Incl. technical description and software drivers.

Versions

APCI-3122 4 analog voltage outputs, 22 digital I/O, 24 V

APCI-3122-VT-C: 4 analog current outputs, 22 digital I/O, 24 V

Connection

PX 9200: Screw terminal board, for connecting the analog outputs and the dig. I/O

ST3122-A: High-density round cable, shielded, twisted pairs, 2 m Connection of the analog outputs

ST3122-D: High-density round cable, shielded, twisted pairs, 2 m Connection of the digital I/O

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