Digital I/O board, 16 isolated channels, 24 V

PA 1508

8 digital inputs, 24 V

Optical isolation between all input channels

8 digital outputs, 24 V, 500 mA/channel

Optical isolation 1000 V

Overvoltage protection

2 diagnostic outputs, progr. watchdog

LabVIEW™

LabWindows/CVI™

Features

8 digital inputs, 24 V, isolated
- 2 connection lines per input
- Parallel acquisition of digital 24 V signals
- Each input channel has its own ground line

8 digital outputs, 24 V, isolated
- Each output channel can be triggered independently from the others
- The output channels are current-limited and suitable for loads with high inductive currents
- 2 diagnostic outputs generate LOW level at overtemperature
- Watchdog: can be activated through software, readable
- After power-on the outputs are reset to "0"
- Addressing through DIP switches

Safety features
- Optical isolation 1000 V
- Voltage supervision
- Creeping distance IEC 61010-1 (VDE411-1)
- Safety for the inputs: voltage reversal protection, LC filters
- Safety for the outputs:
  - Overtemperature protection: Shut-down logic at approx. 125-140 °C
  - short-circuit current at 1.5 A
  - Shut-down logic, when the external supply-voltage drops below 5 V.
- Safety features for the ext. supply voltage:
  - overload protection: self-resetting fuse (electronic fuse),
  - overvoltage protection through varistors and transorb diodes
  - screened through LC filters

EMC tested acc. to 89/336/EEC
- IEC 61326: electrical equipment for measurement, control and laboratory use

Applications

- Industrial I/O control
- Automatic test equipment
- Interface to electromechanical relays
- Monitoring of 24 V signals
- Activation of alarm
- Signal switching
- ON/OFF monitoring of motors, lights...
- Machine interface
- ...

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

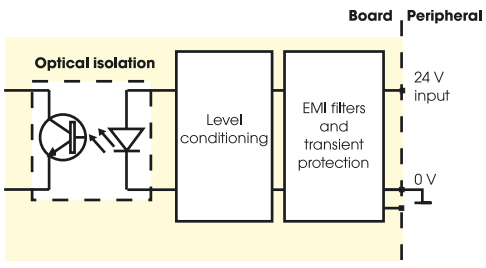
Drivers for the following application software:
LabVIEW 5.01

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
Delphi 4
Turbo Pascal 7.0

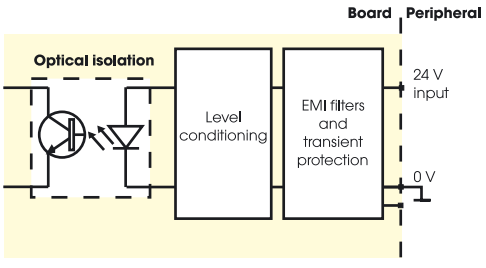
On request:
LabWindows/CVI 5.01

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

Protection circuitry for the input channels



Protection circuitry for the output channels



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Sales: +49(0)7223/9493-120
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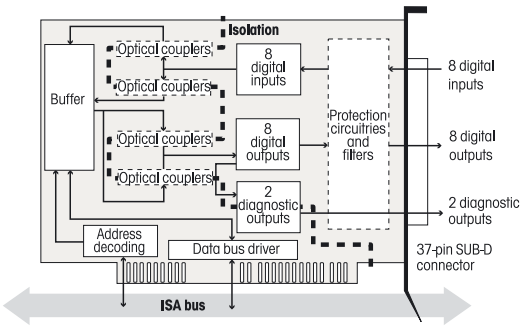
Digital I/O board, 16 isolated channels, 24 V

PA 1508

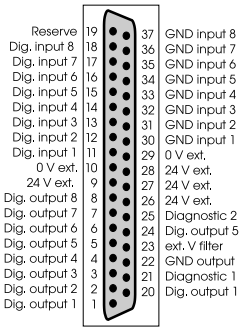
Specifications

Digital inputs	
Number of inputs:	8 (separate grounds)
Optical isolation:	through optical couplers, 1000 V from the PC to the peripheral
Optical isolation:	Input channels seprated from the others
Nominal voltage:	24 V
Inputs current at 24 V:	6 mA typ.
Logic input level:	U nominal: 24 V UH max: 30 V UH min.: 19 V UL max.: 14 V UL min.: 0 V
Signal delay:	70 µs (at 24 V)
Maximum input frequency:	5 kHz (at 24 V)
Digital outputs	
Outputs:	8
Optical isolation:	through optical couplers, 1000 V
Output type:	High-side (Load at ground) acc. to IEC 1131-2
Nominal voltage:	24 V
Supply voltage:	10 to 36 V, min. 5 V (through front connector)
Max. current for 8 outputs:	3 A typ.
Output current/channel:	500 mA typ./channel
Output current for 8 channels:	350 mA typ./channel
Short-circuit current/ Shut-down at 24 V, $R_{load} < 0.1\Omega$:	1.5 A
RDS ON resistance:	0.4 Ω max.
Switch-on time:	I out=0.5 A, Load = resistance: 120 µs
Switch-off time:	I out=0.5 A, Load = resistance: 40 µs
Overtemperature (Shut-Down):	170 °C (Output driver)
Temperature hysteresis:	20 °C (Output driver)
Safety	
Shut-down logic:	When the ext. 24 V voltage drops below 5 V, the outputs are switched off. Diagnostic: status-bit or interrupt to PC
Watchdog time:	4.6 s
Diagnostic outputs:	1 for each group of 4 channels
Noise immunity	
Test level:	- ESD: 4 kV - Fields: 10 V/m - Burst: 4 kV - Cond. radio interferences: 10 V
Physical and environmental conditions	
Dimensions:	125 x 91 mm
System bus:	ISA
Place required:	short board, 1 AT or XT slot
Operating voltage:	+5 V, ± 5 % from PC
Current consumption:	30 mA typ.
Front connector:	37-pin SUB-D male connector
Temperature range:	0 to 60 °C (with forced cooling)

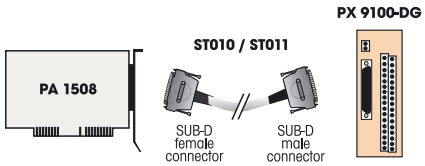
Simplified block diagram



Pin assignment – 37-pin SUB-D male connector



ADDI-DATA connection



PX 9100

Specifications

Screw terminals:	37 for connecting the peripheral
Conductor cross section:	2.5 mm²
Status display:	16 LEDs for status display, 1 green LED for the voltage supply 2 red diagnostic LEDs for status of error of the power drivers.
Connector:	37-pin SUB-D female connector
Dimensions:	(L x W x H) 118 x 84 x 66 mm
Temperature range :	0 to 60 °C

Terminal board PX 9100-DG with cable ST010

ORDERING INFORMATION

ADDINUM PA 1508

PA 1508: Digital I/O board, 16 isolated channels, 24 V. Incl. technical description and software drivers.

ADDIVARIOUS PX 9100

PX 9100: Screw terminal board, LED status display, incl. technical description.

Connection

PX 9100-DG: Screw terminal board for DIN rail, LED status display
ST010: Standard round cable, shielded, twisted pairs, 2 m
ST011: Standard round cable, shielded, twisted pairs, 5 m
ST010-S: Same as ST010, for high currents (24V supply separated)

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