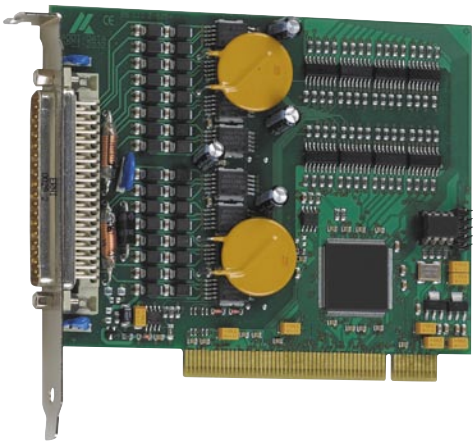
Digital output board, optically isolated, 32 digital outputs, 24 V/5 V



APCI-2032 / APCI-2032-5

32 digital outputs, 24 V or 5 V, 500 mA/channel

Optical isolation 1000 V

Overvoltage protection

Short-circuit protection

Watchdog

At power-on the outputs are reset to "0"

RoHS compliant

LabVIEW™

LabWindows/CVI™

Features

- PCI interface to the 32-bit data bus
- 32 digital outputs, 24 V (APCI-2032) or 5 V version (APCI-2032-5), isolated
- Output current per channel 500 mA
- Voltage range: 10 to 36 V
- Diagnostic report through status register in case of short-circuit, overtemperature, voltage drop or watchdog
- Programmable watchdog for resetting the outputs to "0"; function release through software
- Interrupt triggered through error
- After power-on the outputs are reset to "0"

Safety features

- Optical isolation 1000 V
- Creeping distance IEC 61010-1 (VDE411-1)
- Protection against fast transients (burst) overvoltage, electrostatic discharge and high frequency EMI
- Maximum output current for 32 outputs 6 A typ. (2 x 3 A)
- 24 V power outputs with protection diodes and filters
- Self-resetting fuse (electronic fuse)
- Short-circuit current per output channel 1.5 A typ.
- Output capacitors against electromagnetic emissions
- Fast demagnetization in case of inductive loads
- External 24 V voltage supply screened through a specific protection circuitry

EMC tested acc. to 89/336/EEC

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

Applications

- Signal switching
- Interface to electromechanical relays
- Automatic test equipment
- ON/OFF monitoring of motors, relays, lights...
- Watchdog timer
- Machine interfacing
- ...

Software drivers

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

Standard drivers for:
Linux kernel version 2.4.2, Windows XP/2000/NT/98.
Real-time driver for Windows XP/2000/NT/98.
The board is supplied with the universal software **ADDIPACK**.

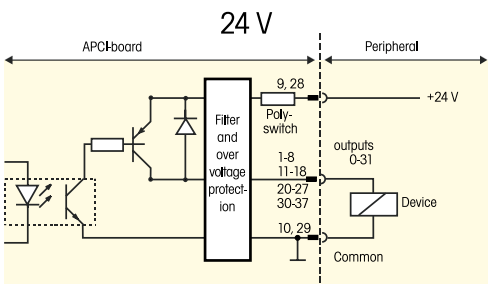
Drivers for the following application software:
LabVIEW 5.01
LabWindows/CVI

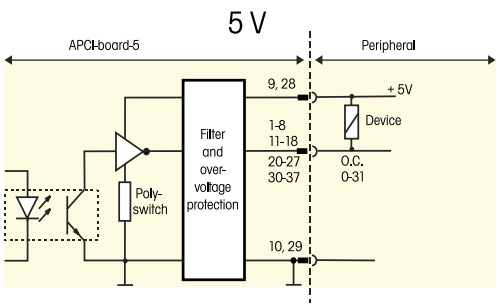
Samples for the following compilers:
Microsoft VC++ 5.0 • Borland C++ 5.01
Visual Basic 5.0 • Delphi 4.0

ADDIPACK functions supported:
Digital output • Interrupt • Watchdog

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

24 V outputs (APCI-2032) and 5 V outputs (APCI-2032-5)





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

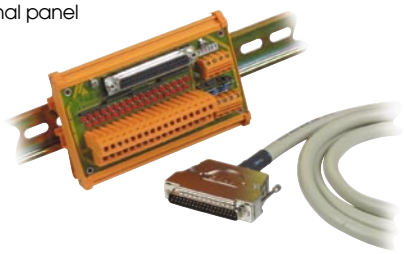
Digital output board, optically isolated, 32 digital outputs, 24 V/5 V

APCI-2032 / APCI-2032-5

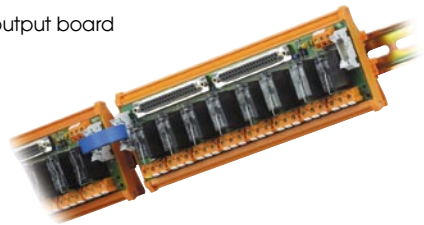
Specifications

Digital outputs	
Outputs:	32
Output type:	High-Side (Load at ground) acc. to IEC 1131-2
Optical isolation:	through opto-couplers, 1000 V from the PC to the peripheral
Nominal voltage:	24 V (APCI-2032); or 5 V (APCI-2032-5)
Supply voltage:	10 to 36 V, min. 5 V (Shut-down); for 5 V version - 5 V-12 V through front connector
Max. current for 32 outputs:	6 A typ. (2x3 A)
Output current:	500 mA typ./channel
Short-circuit current/output Shut-down at 24 V, R_{load} < 0,1Ω:	1.5 A
RDS ON resistance:	0.4 Ω max.
Switch-on time:	I out=0.5 A, load = resistance: 100 µs
Switch-off time:	I out=0.5 A, load = resistance: 60 µs
Overtemperature (Shut-down):	170 °C (output driver)
Temperature hysteresis:	20 °C (output driver)
Safety	
Shut-down logic:	When the ext. 24 V supply drops below 5 V: the outputs are switched off.
Diagnostic:	Pin 19: status bit or interrupt to the PC
Watchdog:	8-bit, programmable, 20 ms to 5 s in steps of 20 ms
Noise immunity	
Test level:	- ESD: 4 kV - Fields: 10 V/m - Burst: 4 kV - Conducted radio interferences: 10 V
Physical and environmental conditions	
Dimensions:	131x 99 mm
System bus:	PCI 32-bit 5 V acc. to specification 2.1 (PCISIG)
Space required:	Short board, 1 PCI slot
Operating voltage:	+5 V, ± 5 % from PC
Current consumption:	210 mA ± 10 % typ.
Front connector:	37-pin SUB-D male connector
Temperature range:	0 to 60°C (with forced cooling)

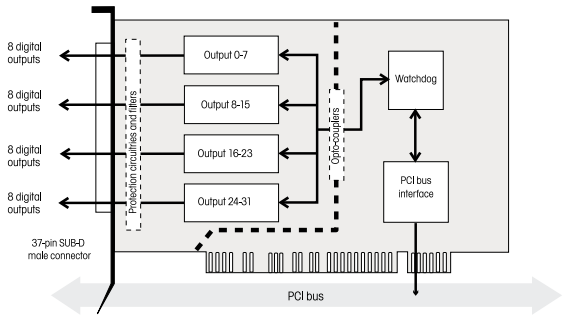
PX 901-DG terminal panel with ST010 cable



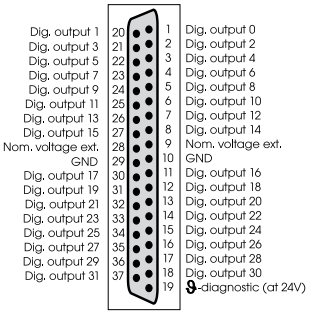
PX 8500-G relay output board



Simplified block diagram

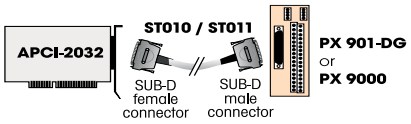


Pin assignment – 37-pin SUB-D male connector

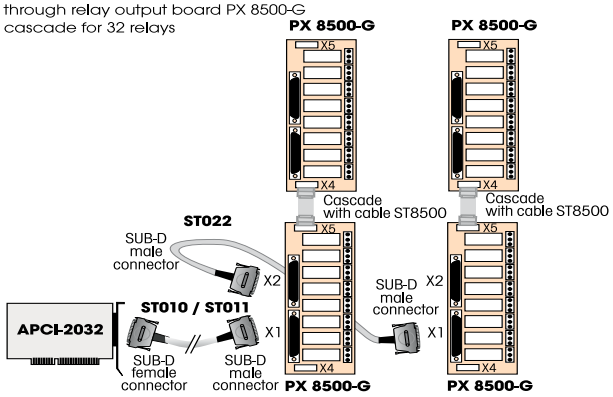


ADDI-DATA connection APCI-2032 / APCI-2032-5

Example 1
Connection of the outputs through screw terminal boards



Example 2
Connection of the outputs through relay output board PX 8500-G cascade for 32 relays



ORDERING INFORMATION

APCI-2032 / APCI-2032-5

APCI-2032: Digital output board, optically isolated, 32 digital outputs, 24 V. Incl. technical description and software driver
APCI-2032-5: Digital output board, optically isolated, 32 digital outputs, 5 V. Incl. technical description and software driver

Connection

PX 901-D: Screw terminal panel, LED status display
PX 901-DG: Screw terminal panel, LED status display, for DIN rail
PX 901-ZG: Screw terminal panel, for DIN rail (APCI-2032-5)
PX 9000: 3-row screw terminal panel for DIN rail, LED status display
PX 8500-G: Relay output board for DIN rail, cascadable

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 (separate 24 V supply)
ST021: Round cable between APCI-2032 and PX 8500-G, shielded, twisted pairs, 2 m
ST022: Round cable between two PX 8500-G, shielded, 2 m

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