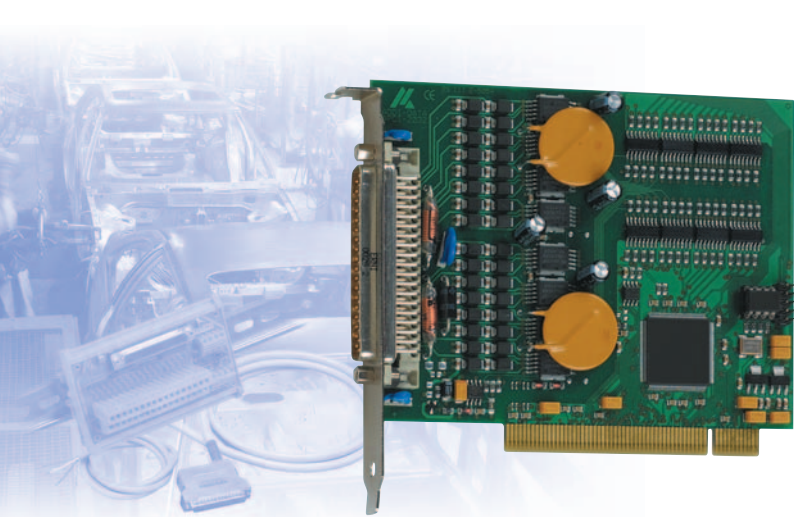


Digital output board, 32 isolated channels, 24 V



APCI-2032

**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"



LabVIEW™



LabWindows/CVI™

Features

- PCI-Interface to the 32-bit data bus
- 32 digital outputs, 24 V (APCI-2032) or 5V 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 (see Page 5).

Drivers for the following application software:

LabVIEW 5.01
LabWindows/CVI

Samples for the following compilers:

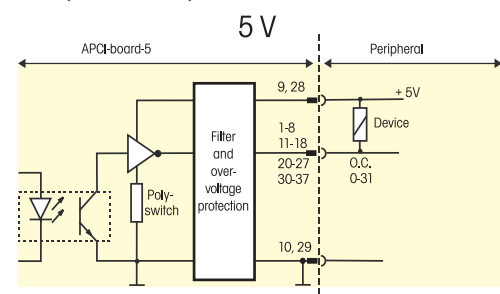
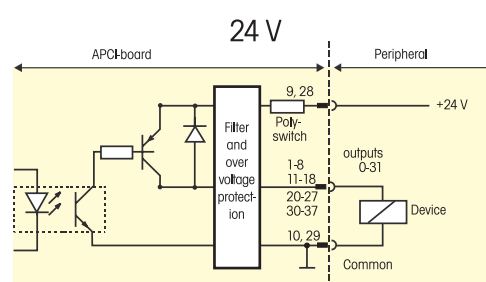
Microsoft VC++ 5.0 • Borland C++ 5.01
Visual Basic 5.0 • Delphi 4.0

ADDIPACK functions supported:

Digital output • Interrupt • Watchdog

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

Connection principle the outputs at 24 V (APCI-2032) and 5 V (APCI-2032-5)



Digital output board, 32 isolated channels, 24 V



APCI-2032

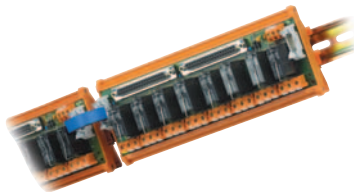
Specifications

Digital outputs	
Outputs:	32
Output type:	High-Side (Load at ground) acc. to IEC 1131-2
Optical isolation:	through optical 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, $R_{load} < 0,1 \Omega$:	1.5 A
RDS ON resistance:	0.4 Ω max.
Switch-on time:	I out=0.5 A, load = resistance: 100 μ s
Switch-off time:	I out=0.5 A, load = resistance: 60 μ s
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:	131 x 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)

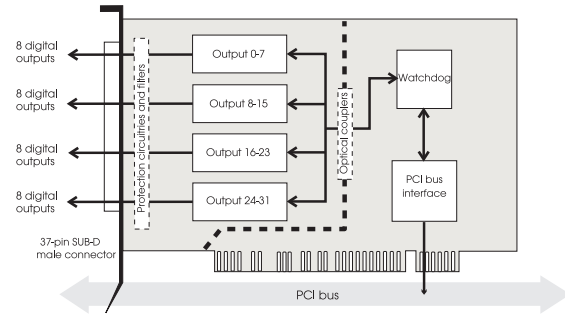
Screw terminal board PX 901-DG
with cable ST010



Relay output board PX 8500-G



Simplified block diagram



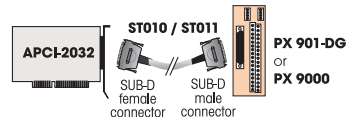
Pin assignment – 37-pin SUB-D male connector

Dig. output 1	20	1	Dig. output 0
Dig. output 3	21	2	Dig. output 2
Dig. output 5	22	3	Dig. output 4
Dig. output 7	23	4	Dig. output 6
Dig. output 9	24	5	Dig. output 8
Dig. output 11	25	6	Dig. output 10
Dig. output 13	26	7	Dig. output 12
Dig. output 15	27	8	Dig. output 14
Norm. voltage ext.	28	9	Norm. voltage ext.
GND	29	10	GND
Dig. output 17	30	11	Dig. output 16
Dig. output 19	31	12	Dig. output 18
Dig. output 21	32	13	Dig. output 20
Dig. output 23	33	14	Dig. output 22
Dig. output 25	34	15	Dig. output 24
Dig. output 27	35	16	Dig. output 26
Dig. output 29	36	17	Dig. output 28
Dig. output 31	37	18	Dig. output 30
		19	9-diagnostic (at 24V)

ADDI-DATA connection

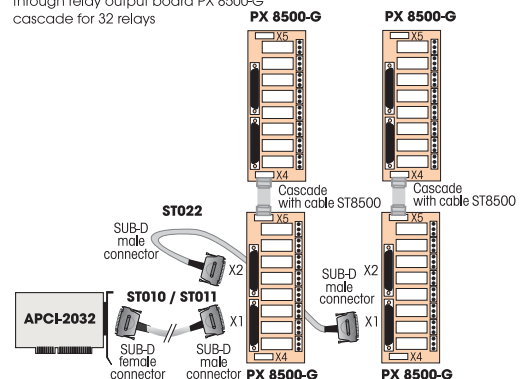
Example 1

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



ADDINUM APCI-2032

APCI-2032: Digital output board, 32 isolated channels, 24 V. Incl. technical description and software drivers

APCI-2032-5V: Digital output board, 32 isolated channels, 5 V. Incl. technical description and software drivers

Connection

PX 901-D: Screw terminal board, LED status display

PX 901-DG: Screw terminal board, LED status display for DIN rail

PX 9000: 3-row screw terminal board for DIN rail, LED status display

PX 8500-G: Relay output board for DIN rail, cascadable

ST010: Standard cable, shielded, twisted pairs, 2 m

ORDERING INFORMATION

ST011:	Standard cable, shielded, twisted pairs, 5 m
ST010-S:	Same as ST010, for high currents (24V supply separately)
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

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

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