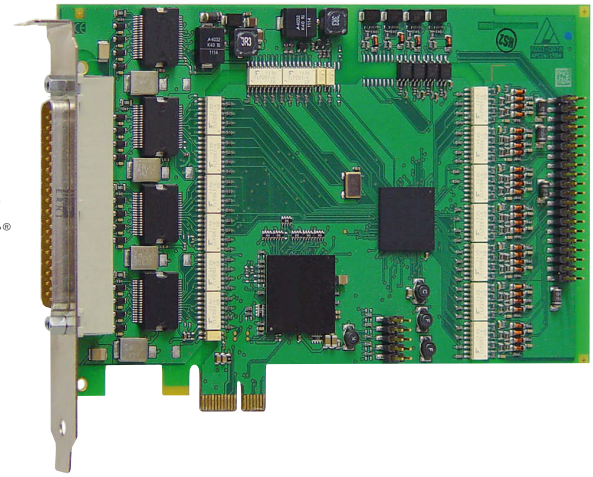
Digital output board, optically isolated, 32 digital outputs, 24 V, for PCI Express

New!*



APCIe-2032

PCI Express interface

32 digital outputs, 24 V, 500 mA/channel

Optical isolation 1000 V

Output filters, short-circuit protection

Watchdog

The outputs are reset to "0" at Power-On

RoHS 2002/95/EC

Windows 64/32-bit drivers

LabVIEW™

LabWindows/CVI™

DIAdem®

Features

- Connector and software compatible to the digital output board APCI-2023 for the PCI bus.
- 32 digital outputs, 24 V optically isolated
- Output current per channel: 500 mA
- Voltage range: 10 V to 36 V
- Diagnostic report, through status register at short-circuits, overtemperature, voltage drop or watchdog
- Programmable watchdog for resetting the outputs to "0", function release through software
- Interrupt triggered through error
- At Power-On the outputs are reset to "0"

Safety features

- Optical isolation 1000 V
- Creeping distance IEC 61010-1
- 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 1.5 A typ.
- Output capacitors against electromagnetic emissions
- Fast demagnetisation in case of inductive loads
- External 24 V voltage supply screened and filtered
- Shutdown logic: If the external 24 V voltage drops below 5 V, then the outputs are switched off.

Applications

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

Software drivers

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

Standard drivers for:

- Linux
- 32-bit drivers for Windows 8 / 7 / Vista / XP / 2000
- Signed 64-bit drivers for Windows 8 / 7 / XP
- Real-time use with Linux and Windows on request

Drivers and samples for the following compilers and software packages:

- .NET
- Microsoft VC++ • Borland C++
- Visual Basic • Delphi
- LabVIEW • LabWindows/CVI • DIAdem

ADDIPACK functions:

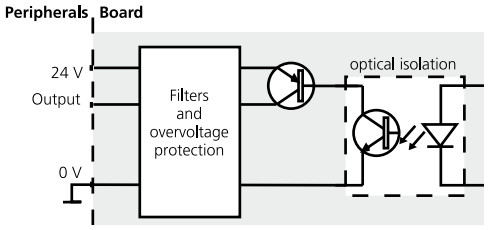
Digital output • Watchdog

On request:

Further operating systems, compilers and samples.

Driver download: www.addi-data.com/downloads

Protective circuit for the 24 V output channels



* Preliminary product information

Phone: +49 7229 1847-0 info@addi-data.com
Fax: +49 7229 1847-222 www.addi-data.com

ADDI-DATA® SPIRIT OF EXCELLENCE

Specifications

Digital outputs

Outputs:	32
Output type:	High-side (load to ground) acc. to IEC 1131-2
Optical isolation:	through opto-couplers, 1000 V from PC to peripheral
Nominal voltage:	24 V
Supply voltage:	10 V to 36 V
Max. current for 32 outputs:	6 A typ. (2x3 A)
Output current:	500 mA max./channel
Short-circuit current/output shutdown 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: 94 µs typ.
Switch-off time:	I out=0.5 A, load = resistance: 8 µs typ.
Overtemperature (shutdown):	170 °C (output driver)
Temperature hysteresis:	20 °C (output driver)

Safety

Shutdown logic (V_{CC} diagnostic):	If the ext. 24 V voltage drops below 5 V, then the outputs are switched off.
CC-Diagnostics (short circuit):	Pin 19: status bit or interrupt to the PC
Watchdog:	8-bit, programmable, 20 ms up to 5 s in steps of 20 ms

EMC – Electromagnetic compatibility

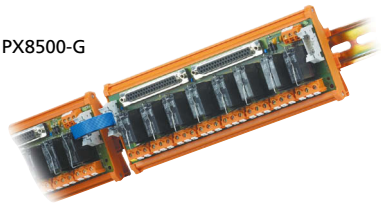
The product complies with the European EMC directive. The tests were carried out by a certified EMC laboratory in accordance with the norm from the EN 61326 series (IEC 61326). The limit values as set out by the European EMC directive for an industrial environment are complied with. The respective EMC test report is available on request.

Physical and environmental conditions

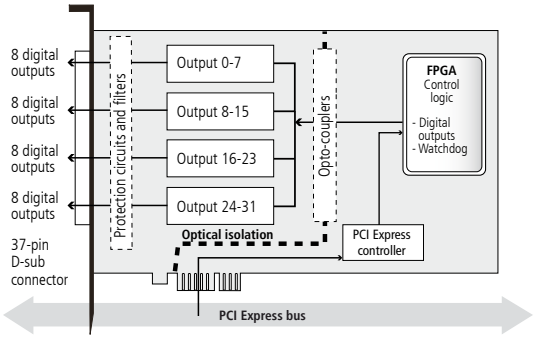
Dimensions:	168 x 99 mm
System bus:	Acc. to PCI Express base specification, Revision 1.0a (PCI Express 1.0a)
Space required:	1-/4-/8-/16-lane PCI Express slot
Operating voltage:	+ 3.3 V from PC
Current consumption:	230 mA ± 10 % typ.
Front connector:	37-pin D-Sub male connector
Temperature range:	0 to 60 °C (with forced cooling)

Screw terminal panel PX901-DG with cable ST010

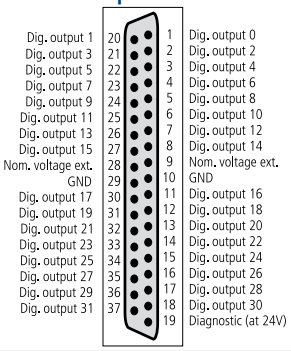
Relay output board PX8500-G



Simplified block diagram

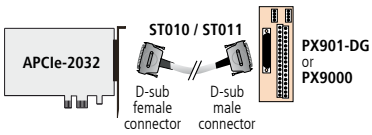


Pin assignment – 37-pin D-Sub male connector

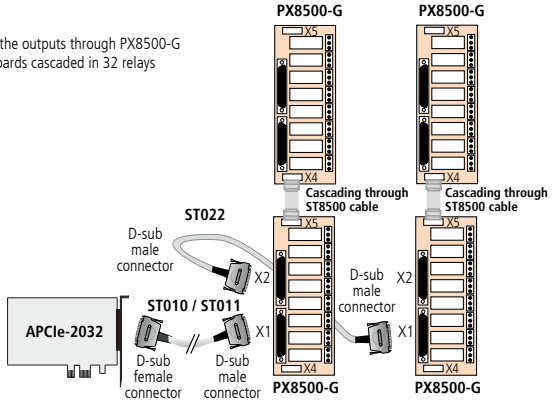


ADDI-DATA connection

Example 1
Connection of the outputs through screw terminal panels



Example 2
Connection of the outputs through PX8500-G relay output boards cascaded in 32 relays



Ordering information

APCIe-2032

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

Accessories

PX901-D: Screw terminal panel, LED status display
PX901-DG: Same as PX901-D, for DIN rail
PX9000: 3-row screw terminal panel for DIN rail, LED status display
PX8500-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 (24 V supply separate)
ST022: Round cable between two PX8500-G, shielded, 2 m
ST8500: Ribbon cable for cascading two PX8500-G

* Preliminary product information

Phone: +49 7229 1847-0 info@addi-data.com
Fax: +49 7229 1847-222 www.addi-data.com