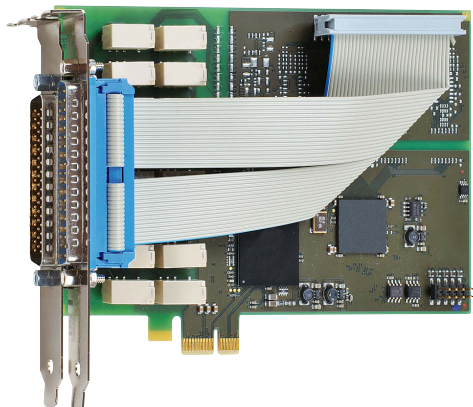


# Relay board, optically isolated, 8/16 relays, 8/16 digital inputs, 24 V



Also for **PCI**  
see APCI-2200, page 174



Windows  
64/32-bit drivers



on request



LabVIEW™



LabWindows/CVI™

## Features

### Relays

- 8 or 16 electromechanical relays with change-over contacts
- Max. switching voltage for the relays: 200 VDC, 200 VAC
- Max. switching capacity: 60 W, max. 2 A
- Short response time
- Watchdog: switched on/off through software

### Digital inputs

- 8 or 16 inputs, optically isolated, incl. 7 or 15 interruptible inputs
- Input voltage 24 V

### Safety features

- EMC tested
- Watchdog activity can be read back
- Optical isolation of the relays
- Creeping distance IEC 61010-1

## Applications

- Industrial digital I/O controlling
- Automatic test equipment
- Signal switching
- Interface to electromechanical relays
- ON/OFF monitoring of motors, lights...
- Alarm monitoring
- Machine interfacing
- ...

## APCIe-2200

8 or 16 relay output channels

Max. switching voltage 200 VDC, 200 VAC

max. switching current 2 A

8/16 digital inputs 24 V,

incl. 7/15 interruptible inputs

Optical isolation 1000 V

## 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

### ADDIPACK functions:

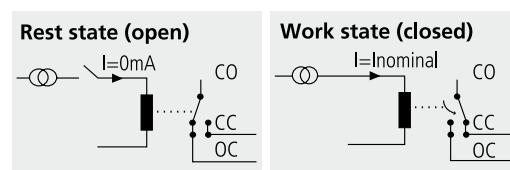
- Digital input • Digital output
- Watchdog • Timer

### On request:

Further operating systems, compilers and samples.

Driver download: [www.addi-data.com/downloads](http://www.addi-data.com/downloads)

## Function principle of the relays



CO: Change-over contact  
CC: Closing contact  
OC: Opening contact

## Specifications

### Relays

Type of contacts:	8/16 change-over
Max. switching voltage:	200 VDC, 200 VAC
Max. switching current:	2 A
Max. switching capacity:	60 W
Contact resistance:	< 100 mΩ
Contact material:	Ag and Au plated
Response time:	Max. 4 ms, typ. 2.5 ms
Release time:	Max. 4 ms, typ. 0.9 ms
Mechanical life:	10 <sup>8</sup> operations
Electrical life:	10 <sup>8</sup> operations at rated load

### Digital inputs

Number of inputs:	8/16 incl. 7/15 interruptible inputs
Optical isolation:	Through opto-couplers, 1000 V
Nominal voltage:	24 V
Input current:	5 – 8 mA
Signal delay:	70 μs (at 24 V)
Maximal input frequency:	10 kHz (at 24 V)

### Timer

Time settings:	16-bit, programmable, 1 μs to 65535 s
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### Safety

Test voltage:	1000 V
Watchdog:	For resetting the outputs to "0": 12-bit, programmable, 1 μs to 4095 s

### 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.

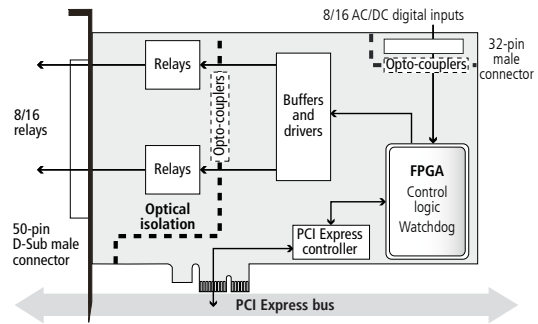
### Physical and environmental conditions

Dimensions:	149 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 the PC
Max. current consumption:	1 A ±10 % (typ. APcLe-2200-16-16)
Front connector:	50-pin D-Sub male connector
Additional connector:	32-pin male connector. APcLe-2200-16-8/APcLe-2200-16-16: Connection with delivered ribbon cable. Connects the board to a bracket with a 37-pin D-Sub male connector. For connecting the PX901-ZG.
Temperature range:	0 up to 60 °C (with forced cooling)



Screw terminal panel PX8001 with cable ST370-16

### Simplified block diagram



### Pin assignment – 50-pin D-Sub connector APcLe-2200-16-8/APcLe-2200-16-16

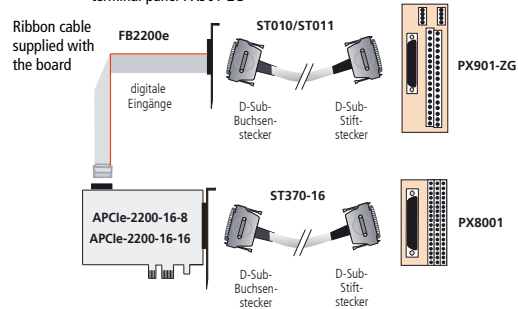
Pin	Pin	Pin	Pin
34	OC of relay 0	34	CO of relay 0
35	OC of relay 1	35	CO of relay 1
36	OC of relay 2	36	CO of relay 2
37	OC of relay 3	37	CO of relay 3
38	OC of relay 4	38	CO of relay 4
39	OC of relay 5	39	CO of relay 5
40	OC of relay 6	40	CO of relay 6
41	OC of relay 7	41	CO of relay 7
42	OC of relay 8	42	CO of relay 8
43	OC of relay 9	43	CO of relay 9
44	OC of relay 10	44	CO of relay 10
45	OC of relay 11	45	CO of relay 11
46	OC of relay 12	46	CO of relay 12
47	OC of relay 13	47	CO of relay 13
48	OC of relay 14	48	CO of relay 14
49	OC of relay 15	49	CO of relay 15
50	-	50	-

OC: Opening contact CC: Closing contact CO: Change-over contact

### ADDI-DATA connection

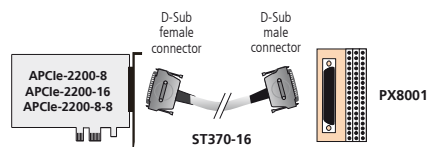
#### Example 1: APcLe-2200-16-8/ APcLe-2200-16-16

- Connection of the relay outputs through screw terminal panel PX8001
- Connection of the digital inputs through ribbon cable to the screw terminal panel PX901-ZG



#### Example 2: APcLe-2200-8/APcLe-2200-8-8/ APcLe-2200-16

- Connection of the relay outputs and the digital inputs through front connector to the screw terminal panel



## Ordering information

### APcLe-2200

Relay board, optically isolated, 8/16 relays, 8/16 digital inputs, 24 V. Incl. technical description and software drivers.

**APcLe-2200-16-16:** 16 relays, 16 dig. inputs, with ribbon cable for the connection of the digital inputs

**APcLe-2200-16-8:** 16 relays, 8 dig. inputs, with ribbon cable for the connection of the digital inputs

**APcLe-2200-8-8:** 8 relays, 8 digital inputs, 24 V

**APcLe-2200-16:** 16 relays

**APcLe-2200-8:** 8 relays

### Accessories

**PX8001:** 3-row screw terminal panel for DIN rail

**ST370-16:** Shielded round cable, 2 m

**PX901-ZG:** Screw terminal panel for DIN rail