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

APCI-2200-8-8_3,3V

APCI-2200-8-8_3,3V

PCI 3.3 V

8 or 16 relay output channels

Max. switching voltage 60 VDC, 48 VAC
max. switching current 1 A

8 digital inputs 24 V

Optical isolation 1000 V

RoHS 2002/95/EC

PCI 32-bit

Also for PCI EXPRESS®

Signed 64-bit drivers for Windows 7/XP

LabVIEW™

LabWindows/CVI™

DIAdem®

Features

- PCI 3.3 V

Relays
- 8 or 16 electromechanical relays with change-over contacts
- Max. switching voltage for the relays: 60 VDC, 48 VAC
- Max. switching capacity: 30 W, max. 1 A
- Short response time
- Watchdog: switched on/off through software

Digital inputs
- 8 inputs, optically isolated
- Input voltage: 12-24 V (DC)

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
- ...

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
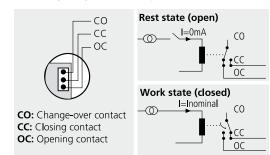
ADDIPACK functions:
Digital output • Watchdog

On request:
Further operating systems, compilers and samples.

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

Function principle of the relays

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

ADDI-DATA®
SPIRIT OF EXCELLENCE

Specifications

Relays

Type of contacts:	8/16 change-over
Max. switching voltage:	60 VDC, 48 VAC
Max. switching current:	1 A
Max. switching capacity:	30 W
Contact resistance:	< 100 mΩ
Contact material:	Ag and Au plated
Response time:	Max. 5 ms, typ. 2.5 ms
Release time:	Max. 5 ms, typ. 0.9 ms
Mechanical life:	5×10^6 operations
Electrical life:	10^5 operations at rated load

Digital inputs

Number of inputs:	8
Optical isolation:	Through opto-couplers, 1000 V
Nominal voltage:	12 - 24 V (DC)
Nominal input current at 12 - 24 V (DC):	5 - 8 mA
Signal delay:	70 µs (at 24 V)
Maximal input frequency:	5 kHz (at 24 V)

Watchdog

Watchdog time:	20 ms to 5 s in steps of 20 ms

Safety

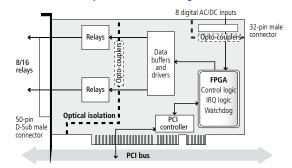|	
Test voltage:	1000 V
Watchdog:	8-bit, programmable, 20 ms to 5 s in steps of 20 ms

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.
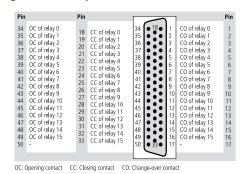
Physical and environmental conditions

Dimensions:	131 x 99 mm
System bus:	PCI 32-bit 3.3 V
Space required:	1 PCI slot
Operating voltage:	+5 V, ± 5 % from the PC
Current consumption:	550 mA ± 10 % typ. (APCI-2200-16-8)
Front connector:	50-pin D-Sub male connector
Additional connector:	16-pin male connector. APCI-2200-16-8: Connection with delivered ribbon cable FB2200-3. Connects the board to a bracket with a 37-pin D-Sub male connector. For connecting the PX 901-ZG.
Temperature range:	0 up to 60 °C (with forced cooling)

Simplified block diagram

Pin assignment – 50-pin D-Sub connector APCI-2200-16-8

Pin		Pin		Pin	
34	OC of relay 0	18	CC of relay 0	1	CO of relay 0
35	OC of relay 1	19	CC of relay 1	2	CO of relay 1
36	OC of relay 2	20	CC of relay 2	3	CO of relay 2
37	OC of relay 3	21	CC of relay 3	4	CO of relay 3
38	OC of relay 4	22	CC of relay 4	5	CO of relay 4
39	OC of relay 5	23	CC of relay 5	6	CO of relay 5
40	OC of relay 6	24	CC of relay 6	7	CO of relay 6
41	OC of relay 7	25	CC of relay 7	8	CO of relay 7
42	OC of relay 8	26	CC of relay 8	9	CO of relay 8
43	OC of relay 9	27	CC of relay 9	10	CO of relay 9
44	OC of relay 10	28	CC of relay 10	11	CO of relay 10
45	OC of relay 11	29	CC of relay 11	12	CO of relay 11
46	OC of relay 12	30	CC of relay 12	13	CO of relay 12
47	OC of relay 13	31	CC of relay 13	14	CO of relay 13
48	OC of relay 14	32	CC of relay 14	15	CO of relay 14
49	OC of relay 15	33	CC of relay 15	16	CO of relay 15
50	-			17	-

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

ADDI-DATA connection

Example 2: APCI-2200-8-8, APCI-2200-8, APCI-2200-16
Connection of the relay outputs and the digital inputs
through the front connector to the screw terminal panel

Screw terminal panel PX8001
with cable ST370-16

Ordering information

APCI-2200-8-8_3,3V

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

APCI-2200-8-8_3,3V: 8 relays, 8 digital inputs, 24 V, PCI 3.3 V

Accessories
PX8001: 3-row screw terminal panel, 50-pin, for DIN-rail mounting
ST370-16: Shielded round cable, 2 m
PX 901-ZG: Screw terminal panel for DIN rail