8/16 relays, 8 isolated digital inputs, 24 V

ADDI-DATA®

PA 2200

8 or 16 relays output channels

Switching voltage 60 VDC, 48 VAC, switching current 1 A

8 digital inputs 24 V AC

Optical isolation

Watchdog

Easy programming

LabVIEW™

LabWindows/CVI™

Features

relays
- 8 or 16 electromechanical relays with change-over contacts
- Max. switching voltage for the relays: 60 VDC, 48 VAC
- Max. switching current: 30 W, max. 1 A
- Short response time

Digital inputs
- Option: 8 isolated VAC inputs channels
- Input voltage: 12-24 V (AC+DC) (5-12 V, 48 V on request)
- Watchdog: software-programmable release, stop and time selection
- Addressing through DIP switches
- 3-byte I/O address range needed

Safety features
- EMC tested
- Watchdog activity can be read back
- Optical isolation of the relays

EMC tested acc. to 89/336/EEC
- IEC 61326: electrical equipment for measurement, control and laboratory use

Applications

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

Software drivers

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

Standard drivers for:
Windows 2000/NT/98/95, MS-DOS

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

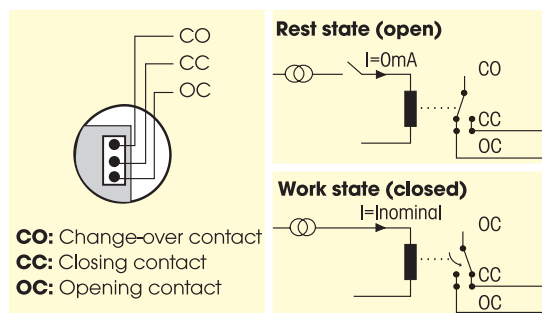**Samples for the following compilers:**
Microsoft VC++ 5.0
Microsoft C 6.0
Borland C++ 5.01
Borland C 3.1
Visual Basic 5.0
Visual Basic 1.0
Turbo Pascal 7.0

On request:
Delphi 4.0

Current driver list on the web: www.addi-data.com
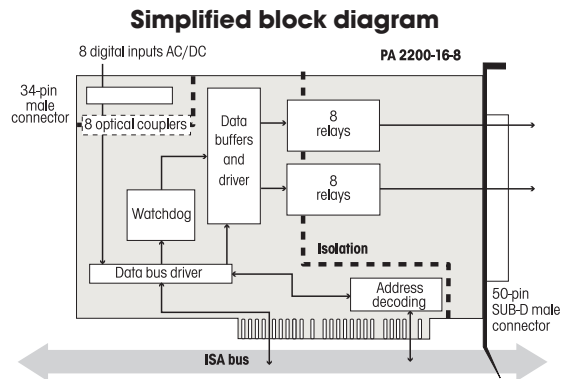
Function principle of the relays

Rest state (open)

Work state (closed)

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

8/16 relays,
8 isolated digital inputs, 24 V

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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+ Au plated
Responding time:	Max. 5 ms, typ. 2.5 ms
Release time:	Max. 5 ms, typ. 0.9 ms
Mecanical life:	5×10^6 operations

Digital inputs

Number of inputs:	8
Optical isolation:	through optical couplers, 1000 V from the PC to the peripheral
Input resistance:	- optical coupler in blocking state: 2 kΩ
	- optical coupler in conducting state: 1 kΩ
Nominal voltage:	12-24 V (AC+DC)
	5-12 V or 48 V (AC+DC) on request
Nominal input currents:	
At 5-12 V:	5 mA
At 12 VAC:	11 mA
At 24 VAC:	23 mA
Signal delay:	70 µs (at 24 V)
Maximum input frequency:	5 kHz (at 24 V)

Watchdog

Watchdog time:	Software selectable 294 ms or 4.69 s

Safety

Test voltage:	1000 V
Watchdog	

Noise immunity

Test level:	- ESD: 4 kV
	- Fields: 10 V/m
	- Burst: 4 kV
	- Conducted radio interferences: 10 V

Physical and environmental conditions

Dimensions:	169 x 99 mm
System bus:	ISA
Place required:	- 1 slot for the board (XT or AT)
	- 1 slot for connecting the inputs (through FB 2200-1)
Operating voltage:	+5 V, ± 5 % from PC
Current consumption:	250 mA typ.
Front connector:	50-pin SUB-D male connector
Additional connector:	34-pin male connector
	Connection with 34-pin ribbon cable FB2200-1. connects the board to a bracket with a 37-pin SUB-D male connector. for connecting the PX 901-ZG.
Temperature range:	0 to 60 °C (with forced cooling)

Terminal board PX 8000
with cable ST370-16

Simplified block diagram

Pin assignment – 50-pin SUB-D male connector

OC: Opening contact   CC: Closing contact   CO: Change-over contact
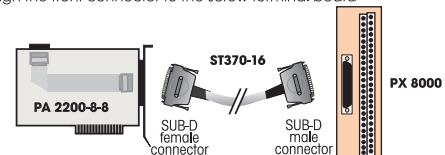
ADDI-DATA connection

Example 1: PA 2200-16-8
- Connection of the relay outputs through screw terminal board PX 8000
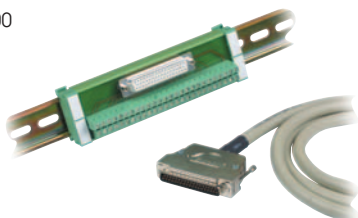- Connection of the digital inputs through ribbon cable to the screw terminal board PX 901-ZG
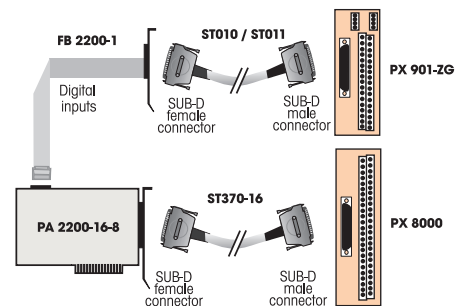
Example 2: PA 2200-8-8, PA 2200-8, PA 2200-16
Connection of the relay outputs and the digital inputs through the front connector to the screw terminal board

ORDERING INFORMATION

ADDINUM PA 2200

PA 2200:   8/16 relays, 8 isolated digital inputs, 24 V. Incl. technical description and software drivers

Versions

PA 2200-16-8:   16 relays, 8 digital inputs
PA 2200-8-8:   8 relays, 8 digital inputs
PA 2200-16:   16 relays
PA 2200-8:   8 relays

Connection

PX 8000:   Screw terminal board, 50-pin for DIN rail
ST370-16:   Shielded round cable, 2 m
FB2200-1:   40-pin ribbon cable, is included in the board delivery
PX 901-ZG: Screw terminal board for DIN rail