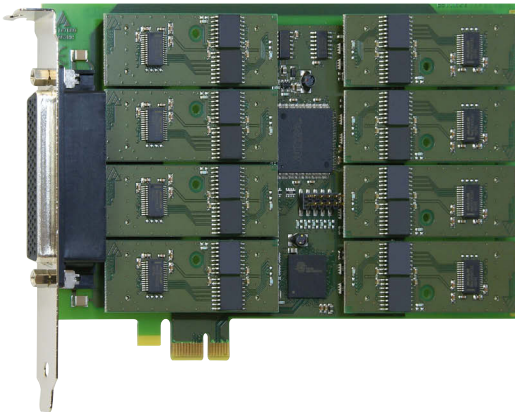


1 to 8-port serial interface, RS232, RS422, RS485, 20 mA CL, modular mounting through modules

PCI EXPRESS®



Also for **PCI**
see APCI-7xxx-3, page 222
Also for **CompactPCI™**
see CPCI-7500, page 254

The APcle-7xxx communication boards are configured by inserting SI modules which the board identifies automatically. The serial interfaces can be configured through modules in the following modes: RS232, RS422, RS485 (with or without optical isolation) and current loop (with optical isolation).

The SI modules with optical isolation allow a protection of up to 1000 V for the use in noisy environments where earth loops can occur.

The I/O lines are protected against short-circuits, fast transients, electrostatic discharge and high-frequency EMI. The interface is supported through a 128-byte FIFO buffer for sending and receiving data and guarantees reliable operation at high transfer rates.

Features

- Asynchronous communication adapter
- Modular mounting through SI modules
 - 1 socket for 1-port serial interface (APcle-7300)
 - 2 sockets for 2-port serial interface (APcle-7420)
 - 4 sockets for 4-port serial interface (APcle-7500, APcle-7500/4C)
 - 8 sockets for 8-port serial interface (APcle-7800)
- Can be configured as RS232, RS422, RS485 with/without optical isolation, 20 mA Current Loop (active, passive), with optical isolation through separate SI modules
- Automatic addressing through BIOS
- Automatic module identification
- UART 16C950, downwards compatible until 16C450
- 128-byte FIFO buffer for sending and receiving data
- Programmable transfer rate
- 5, 6, 7 or 8-bit character
- 1, 1½ or 2 stop bits
- Parity: even, odd or none
- Automatic transmitter control for RS485 and transmitter control through FIFO level
- Common interrupt

Safety features

- SI modules available with optical isolation 1000 V
- Creeping distance IEC 61010-1 (VDE411-1)
- Protection against fast transients (Burst)
- Short-circuit protection for RS422 and RS485
- Internal diagnostic possibility, break, parity, overrun and framing error

APcle-7300 – 1-port serial interface
APcle-7420 – 2-port serial interface
APcle-7500 – 4-port serial interface
APcle-7800 – 8-port serial interface

RS232, RS422, RS485, 20 mA Current Loop

Free mode configuration for each port through SI modules

With/without optical isolation 1000 V

128-byte FIFO buffer for each port

16C950-compatible UART

Applications

- Industrial serial communication
- Data acquisition
- Multi-user systems
- PLC interface
- Multidrop applications
- Modem and printer control, etc.

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:

- Microsoft VC++
- Visual Basic • Delphi

On request:








Further operating systems, compilers and samples.

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

Windows®
64/32-bit drivers



SI modules

Operating mode	RS232		RS422		RS485		20 mA CL
							
	SI232-G	SI232	SI422-G	SI422	SI485-G	SI485	SITTY
Optical isolation 1000 V	✓		✓		✓		✓
Creeping distance 3.2 mm	✓		✓		✓		✓
Short-circuit protection			✓	✓	✓	✓	
ESD protection	✓	✓	✓		✓		
Burst protection	✓	✓	✓	✓	✓	✓	✓
Duplex	Full	Full	Full	Full	Half	Half	Full
Max. Baud rate	1 MBaud	1 MBaud	1 MBaud	1 MBaud	1 MBaud	1 MBaud	19.2 kBaud
Modem control signals	✓	✓	Optional RTS/CTS (SI-422-PEP)				
Autom. transmitter control					✓	✓	
Current consumption	16 mA	1 mA	15 mA	5 mA	15 mA	5 mA	82 mA



Specifications

APCLe-7300 / APCLe-7420 / APCLe-7500 / APCLe-7800

Serial interface – 1-port, 2-port, 4-port, 8-port

Mode:	RS232, RS422, RS485, 20 mA Current Loop (active, passive) with or without optical isolation through separate SI modules
Transmission mode:	Asynchronous, full or half duplex (SI modules)
Addressing:	Automatic through BIOS
Memory:	128-byte FIFO buffer for transmitter and receiver
Transfer rate:	Programmable up to 1 MBaud
Protocol:	5-, 6-, 7- or 8-bit character 1,1½ or 2 stop bits
Parity:	Even, odd, none, mark, space
Interrupt lines:	Automatic configuration through BIOS

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.

Safety features

Optical isolation: 1000 V (SI modules)

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 the PC
Front connector:	9-pin D-Sub male connector (APCLe-7300) 2 x 9-pin D-Sub male connector (APCLe-7420) 37-pin D-Sub male connector (APCLe-7500) 78-pin D-Sub female connector (APCLe-7800)
Temperature range:	0 to 60 °C (with forced cooling)

APCLe-7300 / APCLe-7420 / APCLe-7500 / APCLe-7800

- APCLe-7300:** 1-port serial interface (1 x 9-pin D-Sub)
 - APCLe-7420:** 2-port serial interface (2 x 9-pin D-Sub)
 - APCLe-7500:** 4-port serial interface (1 x 37-pin D-Sub)
 - APCLe-7500/4C:** 4-port serial interface (4 x 9-pin D-Sub)
 - APCLe-7800:** 8-port serial interface (1 x 78-pin D-Sub)
- Each incl. technical description and software drivers.

SI modules: Please order the modules separately!

- SI232-G:** RS232 mode, isolated
- SI232:** RS232 mode
- SI422-G:** RS422 mode, isolated
- SI422-PEP:** RS422 mode, isolated, with RTS/CTS
- SI422:** RS422 mode
- SI485-G:** RS485 mode, isolated
- SI485:** RS485 mode
- SITTY:** 20 mA Current Loop mode (active, passive), isolated

Accessories

- ST075:** Shielded round cable, 37 to 4 x 9-pin (for APCLe-7500)
- ST074:** Shielded round cable, 37 to 4 x 25-pin (for APCLe-7500)
- ST7809:** Shielded round cable, 78 to 8 x 9-pin (for APCLe-7800)
- ST7825:** Shielded round cable, 78 to 8 x 25-pin (for APCLe-7800)

Ordering information