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

PCI EXPRESS®

RoHS 2002/95/EC
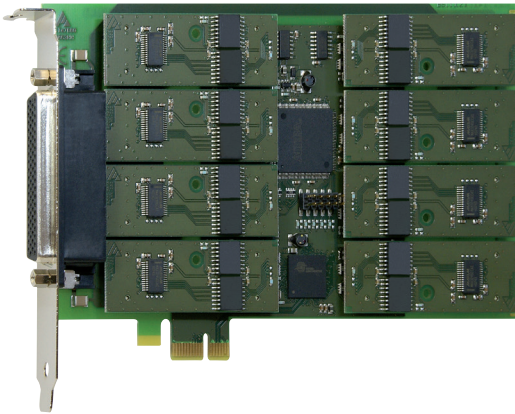
Also for **PCI**
see APCI-7xxx-3, page 222

Also for **CompactPCI™**
see CPCI-7500, page 254

Windows®
64/32-bit drivers

APCIe-7300 – 1-port serial interface
APCIe-7420 – 2-port serial interface
APCIe-7500 – 4-port serial interface
APCIe-7800 – 8-port serial interface
RS232, RS422, RS485, 20 mA Current Loop

Free mode configuration for each port through SI modules

With optical isolation 1000 V

128-byte FIFO buffer for each port

16C950-compatible UART

The APCIe-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 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 ground 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 (APCIe-7300)
  2 sockets for 2-port serial interface (APCIe-7420)
  4 sockets for 4-port serial interface (APCIe-7500, APCIe-7500/4C)
  8 sockets for 8-port serial interface (APCIe-7800)
- Can be configured as RS232, RS422, RS485, 20 mA Current Loop (active, passive), with optical isolation through separate SI modules
- Automatic addressing through BIOS
- Automatic module identification
- UART 16C950, downward compatible to 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 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

Applications

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

Software

Drivers and samples
A CD containing standard drivers as well as programming samples (source code or compiled) for different programming environments is supplied with the board.
This software can also be downloaded for free from our website (www.addi-data.com/downloads).
Software for other operating systems and programming environments is available on request.

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

ADDI-DATA®
PARTNER FÜR PRÄZISION

SI modules

Operating mode	RS232	RS422	RS485	20 mA CL
	SI232-G	SI422-G	SI485-G	SITTY
Optical isolation 1000 V	3	3	3	3
Creeping distance 3.2 mm	3	3	3	3
Short-circuit protection		3	3	
ESD protection	3	3	3	
Burst protection	3	3	3	3
Duplex	Full	Full	Half	Full
Max. Baud rate	1 MBaud	1 MBaud	1 MBaud	19.2 kBaud
Modem control signals	3	Optional RTS/CTS (SI-422-PEP)		
Autom. transmitter control			3	
Current consumption	16 mA	15 mA	15 mA	82 mA

Specifications — APCIe-7300 / APCIe-7420 / APCIe-7500 / APCIe-7800

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

Mode:	RS232, RS422, RS485, 20 mA Current Loop (active, passive) with 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; transfer rate up to 2.5 MBaud on request
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 standard DIN EN IEC 61326-1. 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:	1-/4-/8-/16-lane PCI Express acc. to PCI Express base specification, Revision 1.0a (PCI Express 1.0a)
Space required:	1 PCI Express slot
Operating voltage:	+3.3 V from the PC
Front connector:	9-pin D-Sub male connector (APCIe-7300)
	2 x 9-pin D-Sub male connector (APCIe-7420)
	37-pin D-Sub male connector (APCIe-7500)
	78-pin D-Sub female connector (APCIe-7800)
Temperature range:	0 to 60 °C (with forced cooling)

Ordering information

APCIe-7300 / APCIe-7420 / APCIe-7500 / APCIe-7800

APCIe-7300: 1-port serial interface (1 x 9-pin D-Sub)
APCIe-7420: 2-port serial interface (2 x 9-pin D-Sub)
APCIe-7500: 4-port serial interface (1 x 37-pin D-Sub)
APCIe-7500/4C: 4-port serial interface (4 x 9-pin D-Sub)
APCIe-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, optically isolated
SI422-G: RS422 mode, optically isolated
SI422-PEP: RS422 mode, optically isolated, with RTS/CTS
SI485-G: RS485 mode, optically isolated
SITTY: 20 mA Current Loop mode (active, passive), optically isolated

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