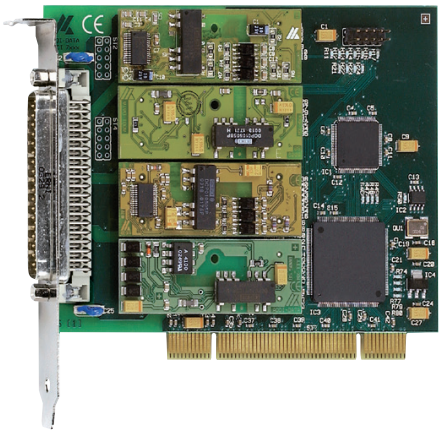
2-port serial interface, RS232, RS422, RS485, 20 mA CL, modular mounting through modules



APCI-7420-3 – 2-port serial interface

RS232, RS422, RS485, 20 mA Current Loop

Free mode configuration for each port through MX modules

With optical isolation 1000 V

128-byte FIFO buffer for each port

16C950 UART downward compatible

PCI 3.3 V or 5 V

RoHS 2002/95/EC

PCI 32-bit

Windows 64/32-bit drivers

The APCI-7420-3 communication boards are configured by inserting MX modules which the board identifies automatically. The 2-port serial interfaces APCI-7420-3 can be used as universal PCI boards in 3.3 V or in 5 V systems, and in PCI or PCI-X systems. The serial interfaces can be configured through modules in the following modes: RS232, RS422, RS485 and 20 mA current loop (with optical isolation).
The MX 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 serial interfaces
- PCI 3.3 V or 5 V
- Modular mounting through MX modules
  2 sockets for 2-port serial interface
- Can be configured as RS232, RS422, RS485, 20 mA Current Loop (active, passive), with optical isolation through separate MX modules
- Automatic addressing through BIOS
- Automatic module identification
- 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

- MX 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
- Detection of false start bits
- Internal diagnostic possibility, break, parity, overrun and framing error

Applications

- Data acquisition
- Industrial process control
- Direct connection to sensors
- Multi-user systems
- PLC interface
- Multidrop applications
- Weighing devices
- 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.

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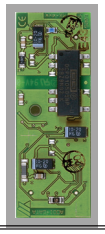
MX modules

Operating mode	RS232	RS422	RS485	20 mA CL
				
	MX232-G	MX422-G	MX485-G	MXTTY
Optical isolation 1000 V	O	O	O	O
Creeping distance 3.2 mm	O	O	O	O
Short-circuit protection		O	O	
ESD protection	O	O	O	O
Burst protection	O	O	O	O
Duplex	Full	Full	Half	Full
Max. Baud rate	115.2 kBaud	115.2 kBaud	115.2 kBaud	19.2 kBaud
Modem control signals	O	Optional RTS/CTS (SI-422-PEP)		
Autom. transmitter control			O	
Current consumption	16 mA	15 mA	15 mA	82 mA

* 115.2 kBaud max.; optionally, up to 1 MBaud with crystal quartz adjustment (Quarz option)

Specifications

APCI-7420-3

Serial interface – 2-port

Mode:	RS232, RS422, RS485, 20 mA Current Loop (active, passive) with optical isolation through separate MX modules
Transmission mode:	Asynchronous, full or half duplex (MX modules)
Addressing:	Automatic through BIOS
Memory:	128-byte FIFO buffer for transmitter and receiver
Transfer rate:	Programmable up to 115.2 kBaud; Quarz option: transfer rate 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 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 (MX modules)

Physical and environmental conditions

Dimensions:	151 x 99 mm
System bus:	PCI 32-bit 3.3 V / 5 V acc. to spec. 2.2 (PCI-SIG)
Space required:	1 PCI slot
Operating voltage:	+5 V, ± 5 % from the PC
Current consumption:	160 mA typ. (without modules)
Front connector:	2 x 9-pin D-Sub male connector
Temperature range:	0 to 60 °C (with forced cooling)

Ordering information

APCI-7420-3

APCI-7420-3: 2-port serial interface (2 x 9-pin D-Sub)
Each incl. technical description and software drivers.

MX modules

Please order the modules separately!

MX232-G: RS232 mode, optically isolated
MX422-G: RS422 mode, optically isolated
MX422-PEP: RS422 mode, optically isolated, with RTS/CTS
MX485-G: RS485 mode, optically isolated
MXTTY: 20 mA Current Loop mode (active, passive), optically isolated

Option

Quarz: Transfer rate < 1 MBaud for RS232, RS422, RS485 and TTY

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