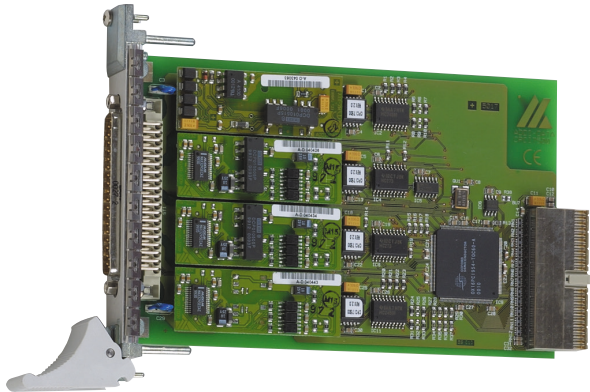# 4-port serial interface, RS232, RS422, RS485, 20 mA CL

## CPCI-7500

4-port, RS232, RS422, RS485, 20 mA Current Loop

Free mode configuration for each port through MX modules

With optical isolation

128-byte FIFO buffer for each port

MTBF: 98551 hours at 45 °C

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RoHS 2002/95/EC

*CompactPCI™* 32-bit

**Also for PCI Express**
See APCIe-7xxx, page 142

**Also for PCI**
See APCI-7500, page 210

**URS-7500-6U**
6U bracket

**Windows**
64/32-bit drivers

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The setup of this serial communication board is determined by MX modules, which the board detects automatically. The serial interfaces can be configured with the following modes: RS232, RS422, RS485 and 20 mA Current Loop (with optical isolation).
The MX modules with optical isolation offer a protection of up to 1000 V for use of the board in harsh environments where ground loops can occur. The I/O lines are protected against short-circuits, fast transients, electrostatic discharge and high-frequency EMI. The interfaces are supported through a 128-byte FIFO buffer for sending and receiving data and guarantee reliable operation with high data rates.

## Features

- Asynchronous 4-port serial interface
- Modular mounting through MX modules: 4 sockets for 4-port serial interface
- Can be configured as RS232, RS422, RS485, 20 mA Current Loop (active, passive), with optical isolation
- Addressing through software
- No jumpers: software configuration
- Automatic module detection
- 128-byte FIFO memory for each interface
- Programmable transfer rate
- 5-, 6- or 8-bit character
- 1, 1½ or 2 stop bits
- Parity: even, odd or none
- Automatic transmitter control for RS485
- Common interrupts

## Safety features

- MX modules with optical isolation
- Creeping distance DIN EN IEC 61010-1 (MX modules)
- Protection against fast transients (burst)
- Short-circuits protection for RS422 and RS485
- Internal diagnosis, break, parity, overrun and framing error

## Applications

- Data acquisition
- Industrial process control
- Industrial communication
- Multi-user systems
- Modem and printer monitoring
- Multidrop applications

## 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) | 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* | 115.2 kBaud | 115.2 kBaud | 115.2 kBaud | 19.2 kBaud |
| Modem control signals | 3 | Optional RTS/CTS (MX422-PEP) | | |
| Autom. transmitter control | | | 3 | |
| 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)

### 4-port serial interface

| | |
|---|---|
| Mode: | RS232, RS422, RS485, 20 mA Current Loop (active, passive), optically isolated through separate MX modules |
| Transmission mode: | Asynchronous, full /half duplex (MX modules) |
| Addressing: | Automatic through BIOS |
| Memory: | 128-byte FIFO buffer for each interface |
| Transfer rate: | Programmable up to 1 MBaud (optional) |
| Protocol: | 5-, 6-, or 8-bit character 1, 1½ or 2 stop bits |
| Parity: | Even, odd, none, mark, space |
| Interrupt lines: | Automatic configuration through BIOS |

### Safety

| | |
|---|---|
| Optical isolation: | 1000 V (MX modules) |

### 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.

### Physical and environmental conditions

| | |
|---|---|
| Dimensions: | 160 x 100 mm |
| System bus: | CompactPCI 32-bit |
| Space required: | CompactPCI slot |
| Operating voltage: | +5 V, ± 5 % from the PC |
| Current consumption: | 55 mA typ. (without modules) |
| Front connector: | 37-pin D-Sub male connector |
| Temperature range: | 0 to 60 °C (with forced cooling) |
| MTBF: | 98551 hours at 45 °C |

### Connection cables

37-pin D-Sub female connector

4 x 9-pin D-Sub male connector (ST075) or 4 x 25-pin D-Sub male connector (ST074)

## Ordering information

### CPCI-7500
4-port serial interface, RS232, RS422, RS485, 20 mA CL. 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 (active, passive), optically isolated |

### Options
| | |
|---|---|
| URS-7500-6U: | 6U front panel for mounting in 6U housing |
| Quarz: | Transfer rate < 1 MBaud for RS232, RS422, RS485 and TTY |

### Accessories
| | |
|---|---|
| ST075: | Shielded round cable, 37-pin to 4 x 9-pin |
| ST074: | Shielded round cable, 37-pin to 4 x 25-pin |