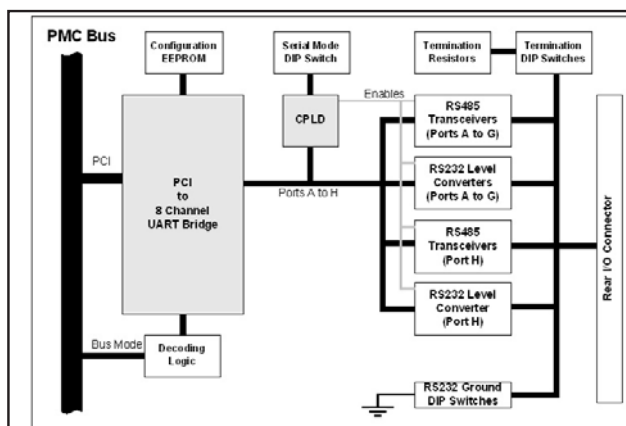


► 8-Channel Serial CCPMC Adapter / GPS+7-Channel Serial CCPMC Adapter

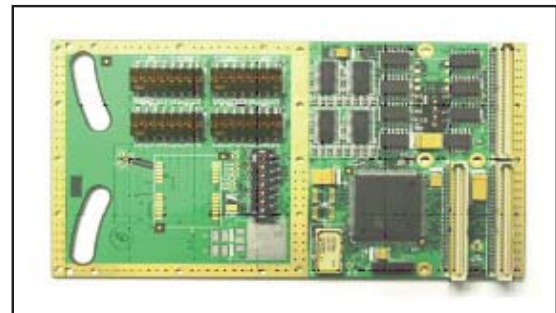
The 8-Channel Serial CCPMC (Conduction Cooled PCI Mezzanine Card) Adapter provides eight channels of simultaneous, bidirectional UART (Universal Asynchronous Receiver/Transmitter) serial communications. All channels are individually configurable as RS-232/485 by means of a DIP switch.

A version of the adapter is available with an integrated GPS (Global Positioning Service) receiver, which is known as the GPS + 7-Channel Serial PMC Adapter. This adapter has seven user configurable serial I/O channels with the eighth being dedicated to communication with the onboard GPS receiver.

The adapter is available in a ruggedised, conduction-cooled (CC) formfactor only.



Architecture Block Diagram



8-Channel Serial CCPMC Adapter

Architecture

The 8-Channel Serial CCPMC Adapter employs a high performance, industry standard 16550 compatible, 8-channel PCI-based UART. Each of the eight UART serial channels are connected to both RS-232 and RS-485 transceivers. The transceivers are enabled / disabled by onboard programmable logic, according to a user specified code which is entered into a configuration DIP (Dual In-line Package) switch.

Features

- Cost-effective option for systems that require a large number of UART compatible serial communication links.
- Allows direct low-level control of the serial communication links.
- The adapter can implement many different combinations of RS-232 and RS-485 communications interfaces simultaneously.

Conduction-Cooling

The 8-Channel Serial CCPMC Adapter conforms to the CCPMC (Conduction-Cooled PCI Mezzanine Card) Standard, namely ANSI/VITA 20-2001.

Applications

- Distributed real-time applications in harsh environments
- Mission-critical applications
- Avionics
- Remote Access Servers



► 8-Channel Serial CCPMC Adapter / GPS+7-Channel Serial CCPMC Adapter

8-Channel Serial CCPMC Adapter Specifications / GPS+7-Channel Serial CCPMC Adapter

| | |
|-------------------------------------|---|
| Bus Interface | 32-bit, 33 MHz PCI-bus Electrically : 3,3 V and 5 V signaling, PCI Rev. 2.3 Mechanically : Single CCPMC formfactor, ANSI/ITA 20-2001 |
| Serial Interface | RS232/422/485 selectable asynchronous transfer with modem control signals. Rear-panel signals : RS232 RxD, TxD, RTS, CTS, DTR, DSR, CD, RI RS422/485 RxD, TxD, RTS, CTS |
| Bit Rates | User-programmable standard rates up to : RS-232 : 1 Mbps RS-485 : 6,25 Mbps |
| GPS Receiver | L1 Frequency, C/A Code, 16 Channel |
| GPS Data Format | NMEA 0183, UBX |
| DGPS Correction Data Format | RTCM SC-104 |
| GPS Update Rate | 4 Hz (max) |
| GPS Operating Limits | Altitude < 18 000 m, Velocity < 515 ms-1 Either limit may be exceeded, but not both – COCOM (Coordinating Committee on Export Controls) restrictions apply. |
| I/O Addresses | Automatically assigned to the slot by PCI Rev. 2.3 |
| I/O Options | Rear connector I/O option with various rear connector PMC P14 I/O pin assignments. |
| Interrupts | PCI INT A |
| Termination Resistors | 100 Ω (switchable) for RS-485 |
| Dimensions | Conduction-cooled : 143,65 mm x 74,00 mm x 9,80 mm (ANSI/ITA 20-2001) |
| Mass | 8-Channel Serial : 65 g ± 10 g GPS + 7-Channel Serial : 75 g ± 10 g |
| Power Requirement | 8-Channel Serial : +5 V at 0,3,5 A GPS + 7-Channel Serial : +5 V at 0,4 A |
| MTBF : 8-Channel Serial | Figures according to MIL-HDBK-217F, Parts Stress Method : Ground, Mobile T _j = 65 C T _a = 45 C 37 000 hrs Naval, Sheltered T _j = 60 C T _a = 40 C 77 000 hrs Airborne, Inhabited Cargo T _j = 75 C T _a = 55 C 63 000 hrs |
| MTBF : GPS +7-Channel Serial | Figures according to MIL-HDBK-217F, Parts Stress Method : Ground, Mobile T _j = 65 C T _a = 45 C 31 000 hrs Naval, Sheltered T _j = 60 C T _a = 40 C 64 000 hrs Airborne, Inhabited Cargo T _j = 75 C T _a = 55 C 46 000 hrs |
| Software Drivers | The 8-Channel Serial CCPMC interface is compatible with the industry-standard 16550 UART. As such, no specific driver is required for most Operating Systems. VxWorks source code to locate the device in PCI space and obtain a pointer to the UART is supplied as an example. - VxWorks 5.x, 6.x - Linux - Windows 2000, XP, Vista |
| Supporting Software | Sample driver usage software (C/C++ source code) |
| Options | Port software drivers to various other operating systems on request |

Environmental Specifications

| | Commercial | Industrial | Ruggedised/Conduction-Cooled |
|--------------------|------------------------------|-----------------------------|------------------------------|
| Temperature | | | |
| - Operating | 0 C to +55 C | -15 C to +75 C | -40 C to + 85 C |
| - Storage | -40 C to +85 C | -40 C to +85 C | -55 C to +125 C |
| Humidity | 0% to 90% | 0% to 95% | 0% to 95% |
| Shock | N/A | 30 g peak for 11 ms | 40 g peak for 11 ms |
| Vibration | | | |
| - Sine | 2 g (peak) 10 Hz to 100 Hz | 10 g (peak) 5 Hz to 2 kHz | 10 g (peak) 5 Hz to 2 kHz |
| - Random | 0,04 g²/Hz at 15 Hz to 2 kHz | 0,1 g²/Hz at 15 Hz to 2 kHz | 0,1 g²/Hz at 15 Hz to 2 kHz |

Designations

| | | | |
|--|--|--------------------------------|------------------------|
| CCII/SIO/PMC/UART8/BP/CC/ CCII/SIO/PMC/GPS/BP/CC/ | Ruggedised, Conduction-Cooled Ruggedised, Conduction-Cooled | Backplane I/O Backplane I/O | RS232/485 RS232/485 |
|--|--|--------------------------------|------------------------|