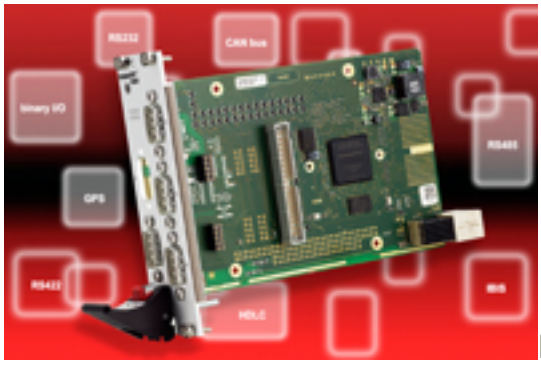
cPCI Serial Board with Freely Configurable FPGA IP Core Offers Flexible Configuration



MEN Micro Inc. offers the G215, a universal CompactPCI Serial peripheral board that provides flexible serial communication via an individual mix of UART and fieldbus interfaces. Although equipped with five standard interfaces, the board features a configurable FPGA IP core that offers nearly unlimited interface options that enables several functionalities, according to the company. The highly-adaptable device provides a means of implementing a variety of I/O including dedicated serial I/O, intelligent I/O or a combination of customized I/O to meet user requirements. Developed for use in harsh embedded environments, the G215 has an operating temperature range of -40°C to +85°C, with all components soldered to withstand shock and vibration.

As standard, the board's front panel includes two UARTs, two CAN interfaces and an 8-channel binary I/O interface. This addresses the waning use of COM ports in the relevant CPU chipsets that are only partially led to the front panels of CompactPCI Serial or CompactPCI PlusIO SBCs. It also helps in applications where more UARTs are needed and in instances where fieldbus interfaces are not part of the standard product range, as found with many CPU manufacturers.

Each channel on the G215 can be implemented individually on the physical layer via SA-Adapters. For example, up to eight SA-Adapters can be mechanically mounted on a three-slot front panel implement a CAN card with eight ports. Optionally, two of the SA-Adapters can be directly installed on the G215, connected using a 9-pin D-Sub connector. The use of different SA-Adapters enables additional connections to the G215, increasing the combinations of various interfaces and isolation requirements.

The use of Altera's new Cyclone 4 high-performance FPGA enables users to develop intelligent applications, as found when using programmable processors, such as a Nios softcore. Connected directly to the backplane, the Cyclone 4 leads customer-specific FPGA functions to the rear I/O, while providing fast communication to the host CPU from the FPGA via PCI Express at the backplane.

All I/O functions are implemented inside the FPGA, which supports RS232, RS422 and RS485 UARTs in full duplex, half duplex or HDLC mode that can be electrically

isolated as needed. The FPGA also handles fieldbuses such as CAN, InterBus-S or the vehicle bus IBIS.

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972-939-0055, www.menmicro.com [1]

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