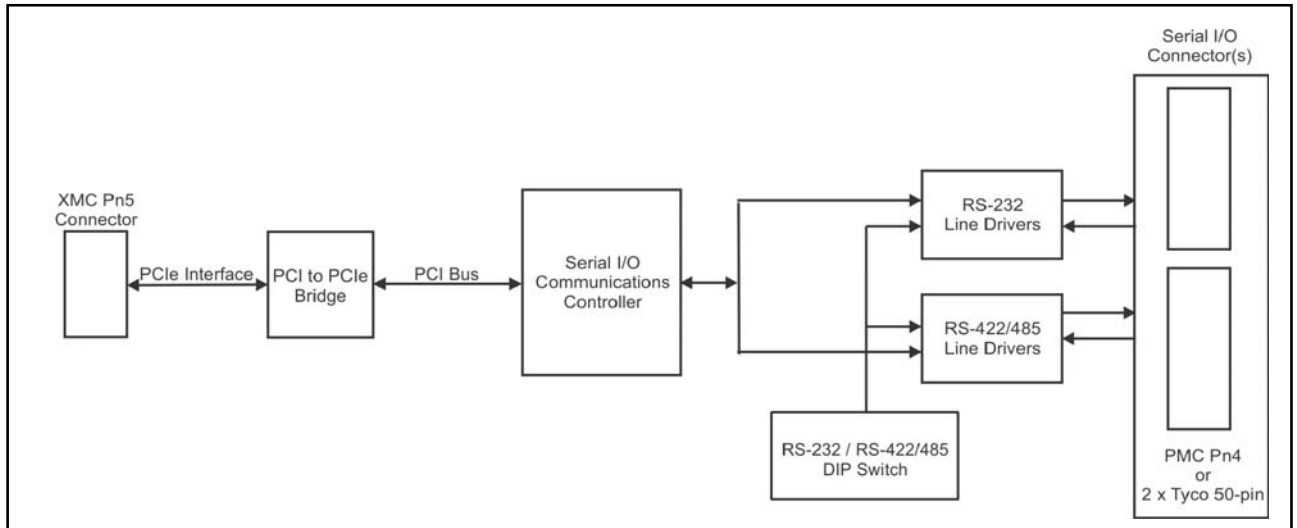


► 8-Channel Ultra High-Speed Serial I/O XMC Adapter

The 8-Channel Ultra High-Speed Serial I/O XMC Adapter provides eight channels of simultaneous, high-speed (>20 Mbit/s), bi-directional serial communications. All channels are jumper configurable as RS232/422/485. This adapter also supports a number of UART (Universal Asynchronous Receiver/Transmitter) (<1 Mbit/s) channels.

The adapter design complies with the XMC specification (ANSI/VITA 60.0-2007) and is available in commercial, industrial and ruggedised grades, as well as in air-cooled and conduction-cooled versions with front panel or backplane I/O.



8-Channel Ultra High-Speed Serial I/O XMC Adapter Block Diagram

Architecture

The 8-Channel Ultra High-Speed Serial I/O XMC Adapter is an intelligent I/O board designed with an NXP PowerQUICC II Integrated PowerPC Microprocessor as communication controller. The PowerQUICC II processor can easily be configured to implement different serial protocols, thus allowing the boards to keep up with technological advances. All high-speed serial I/O channels are implemented using the PowerQUICC II.

Features

- cost-effective and flexible option for systems that require both a large number of high-speed, real-time communication links, as well as some low-speed serial links
- offers independent I/O processing offboard the host

Applications

- Distributed real-time applications in harsh environments
- Mission-critical applications
- Avionics
- Vetronics
- High-speed sensor integration
- Legacy connectivity



► **8-Channel Ultra High-Speed Serial I/O XMC Adapter**

Specifications			
Formfactor	XMC Electrically : PCI Express Rev. 2.0		
Host Interface	Single Lane; 2,5 GHz PCIe Electrically : PCI Express Rev. 2.0		
I/O Addresses	Automatically assigned to the slot by PCI Rev. 2.3 Plug-and-Play		
EEPROM	EEPROM for Board ID (Plug-and-Play) and configuration options		
DMA	Automatic depending on PCI slot		
Serial I/O Interface	SCC Channels		SMC Channels
	RS-232 : TxD, RxD, RTS, CTS, CD, CLK_IN, CLK_OUT		RS-232 : RxD, TxD
	RS-422/485 : TxD, RxD, CLK_IN, CLK_OUT		
Termination	100 ohm (individually selectable for each SCC channel)		
Bit Rates	Serial I/O Clocking	RS-232	RS-422/485
	Synchronous Mode	1 Mbps	20 Mbps
	Asynchronous Mode	1 Mbps	6,25 Mbps
	Maximum External Clock	500 kHz	16 MHz
Protocols	<ul style="list-style-type: none"> - HDLC - SDLC - Async - BiSync 		
CPU	NXP PowerQUICC II Integrated PowerPC Microprocessor		
Power	<ul style="list-style-type: none"> - 3,3 V at 1,3 A - 5 V at 100 mA - 12 V at 1 mA 		
Software Drivers	Various software drivers offered including for VxWorks and Linux operating systems as standard; others are costed options.		
Supporting Software	Sample software driver usage (C/C++ source code)		
MTBF	Figures according to MIL-HDBK-217F, Parts Stress Method		
	Commercial and Industrial Grades	Ground Benign, Controlled, 25 C	350 000 hours
	Ruggedised Grade	Ground, Mobile, 45 C Naval, Sheltered, 40 C Airborne, Inhabited Cargo, 55 C	30 000 hours 60 000 hours 50 000 hours

Physical Characteristics		
Formfactor	Dimensions	Mass
XMC	143,75 mm x 74,00 mm (+ 0,0 / -0,5 mm)	80 g ± 20 g

Serial I/O Connectors		
Air-Cooled	Front Panel I/O	2 x Tyco 50-pin Connectors
Conduction-Cooled	Backplane I/O	PMC Pn4 Connector



► **8-Channel Ultra High-Speed Serial I/O XMC Adapter**

Environmental Specifications			
Grade	Commercial	Industrial	Ruggedised
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% - 90%	0% - 95%	0% - 95%
Shock	N/A	30 g peak for 11 ms	40 g peak for 11 ms
Vibration			
- Sine	2 g (peak) at 10 Hz to 100 Hz	10 g (peak) at 5 Hz to 2 kHz	10 g (peak) at 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

Part Selector					
Part Number	Formfactor	Grade	Cooling	I/O	Number of Channels
CCII/UHS/XMC/8P/FP/COM	XMC	Commercial	Air	Front Panel	8 x RS-232/422/485 4 x RS-232
CCII/UHS/XMC/8P/FP/IND	XMC	Industrial	Air	Front Panel	8 x RS-232/422/485 4 x RS-232
CCII/UHS/XMC/8P/FP/RGD	XMC	Ruggedised	Air	Front Panel	8 x RS-232/422/485 4 x RS-232
CCII/UHS/XMC/8P/BP/CC	XMC	Ruggedised	Conduction	Backplane	8 x RS-232/422/485 4 x RS-232