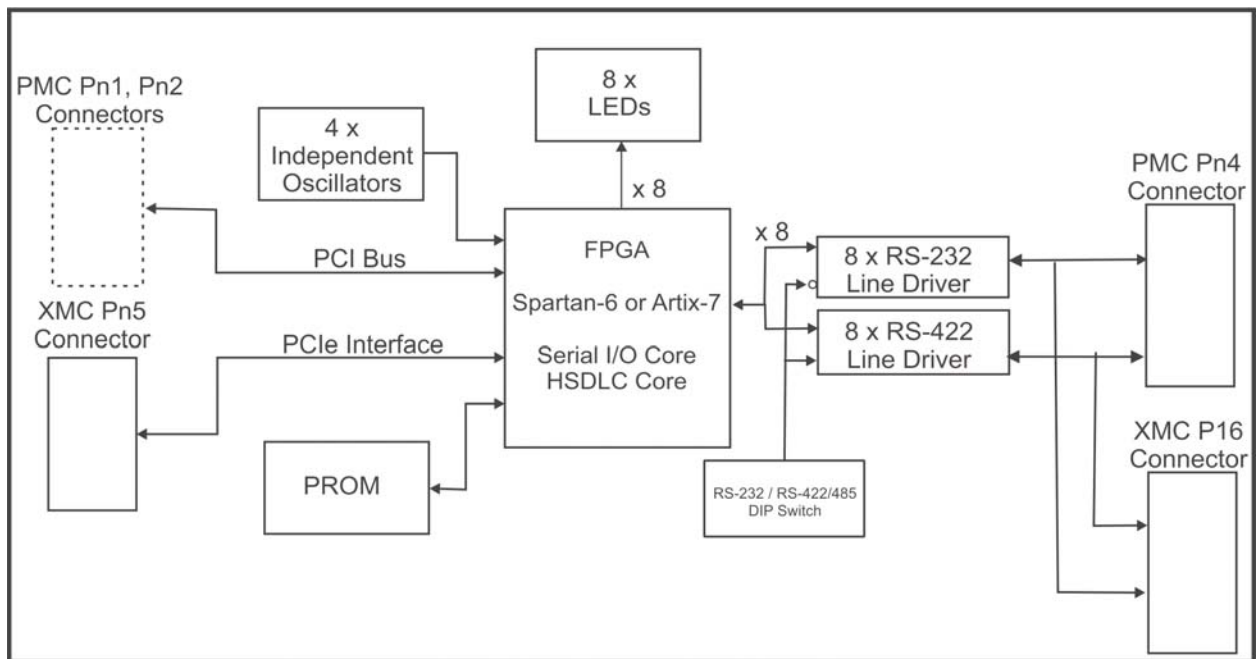


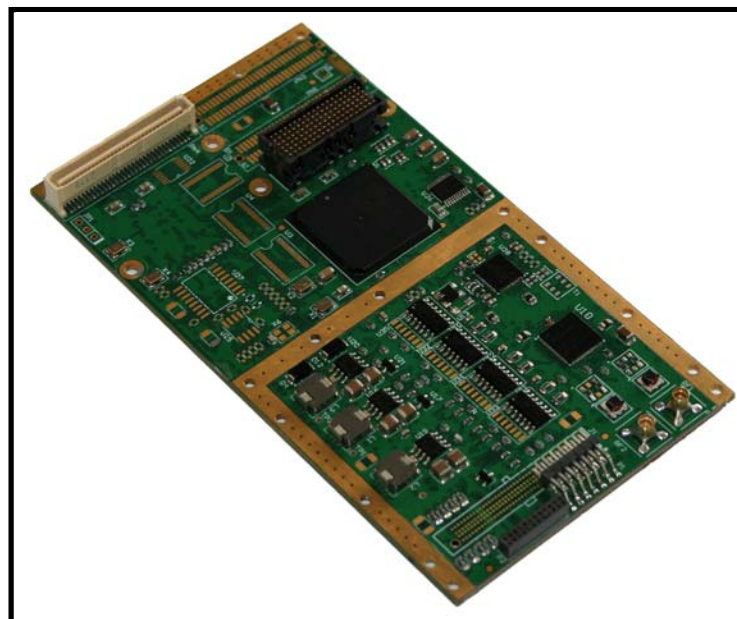
► **8-Channel High-Speed Serial I/O XMC Adapter**

The 8-Channel 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 42.3-2006) and the Conduction-Cooled XMC (CCXMC) specification (ANSI/VITA 20-2005 (S2018)) and is available in a ruggedised conduction-cooled version with backplane I/O.



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



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

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

### Architecture

The 8-Channel High-Speed Serial I/O XMC Adapter uses a single Xilinx Spartan-6 or Artix-7 Field-Programmable Gate Array (FPGA) as Serial Communications Controller. The Artix-7 FPGA can easily be configured to implement different serial protocols, thus allowing the adapters to keep up with technological advances.

The Xilinx HSDLC IP core implements a controller for the High-Level Data Link Control (HDLC) and the Synchronous Data Link Control (SDLC) protocols. It is based on the Intel 8XC152 Global Serial Channel (GSC) operating in SDLC mode and adds features to support HDLC or proprietary frame transmission under host processor control.

The HSDLC IP core operates as a peripheral to the serial I/O controller.

Control and status registers are accessible via an Advanced Peripheral Bus (APB) and a comprehensive set of interrupt signals facilitates interrupt-based operation.

### Features

- Cost-effective and flexible option for systems that require both high-speed, real-time communication links as well as some low-speed serial links
- Offers independent I/O processing offboard the host
- up to four independent oscillators
- eight indicators LEDs

### Applications

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

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

Specifications			
Host Interface	4-Lane; 2,5 GHz PCIe Electrically : PCI Express Rev. 2.0		
Number of Channels	8		
Serial I/O Interface	RS-232 : TxD, RxD, RTS, CTS, CD, CLK_IN, CLK_OUT		
	RS-422/485 : TxD, RxD, CLK_IN, CLK_OUT		
Termination	100 Ohm (individually selectable for each channel)		
Bit Rates	<b>Serial I/O Clocking</b>	<b>RS-232</b>	<b>RS-422/485</b>
	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"> <li>- HDLC</li> <li>- SDLC</li> <li>- Async</li> <li>- BiSync</li> </ul>		
FPGA	Xilinx Spartan-6 150T or Xilinx Artix-7 100T		
Power	10 Watt maximum, 3,3 V		
Software Drivers	Software driver support for Linux and VxWorks		
Independent Clocks	up to four		
Indicator LEDs	eight		

Physical Characteristics		
Formfactor	Dimensions	Mass
XMC (ANSI/VITA 42.0-2016)	143,75 mm x 74,00 mm (+ 0,0 / -0,5 mm), conforming to VITA 42 height envelope	80 g +/- 10 g
CCXMC (ANSI/VITA 20-2005 (S2018))	143,75 mm x 74,00 mm (+ 0,0 / -0,5 mm), conforming to VITA 42 height envelope	80 g +/- 10 g

Environmental Specifications			
Grade	Commercial	Industrial	Ruggedised
Temperature	0 C to +55 C	-15 C to +75 C	-40 C to + 85 C
	-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	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
	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	Number of Channels
CCII/NHSS8/XMC/8P/BP/CC	XMC	Conduction-Cooled	8 x RS-232/422/485
CCII/NHSS8/PMC/8P/BP/CC	PMC	Conduction-Cooled	8 x RS-232/422/485