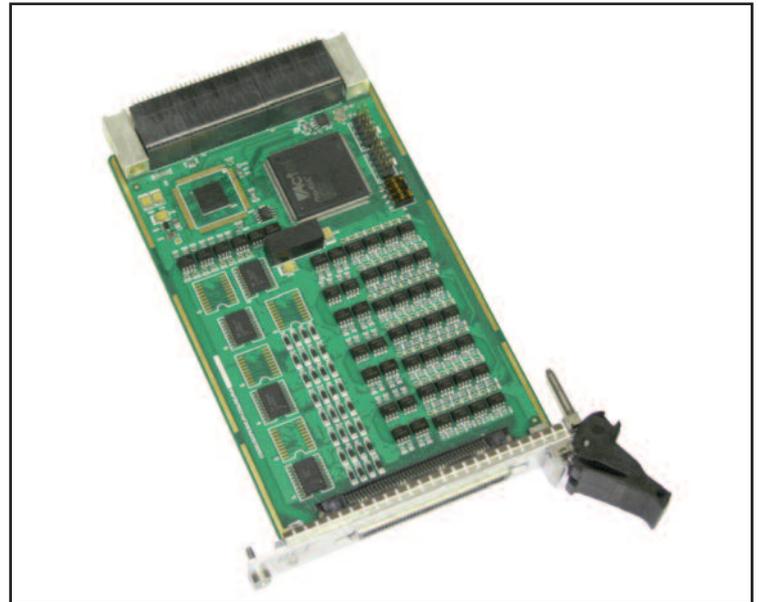


▶ 3U VPX 96-Channel Isolated Digital I/O Board

The 96-Channel Digital Input/Output (I/O) Board provides 48 opto-isolated digital output channels as well as 48 opto-isolated digital input channels on a single 3U VPX board. A Field-Programmable Gate Array (FPGA) and PCIe Bridge is used to provide access to the digital data over the PCIe interface.

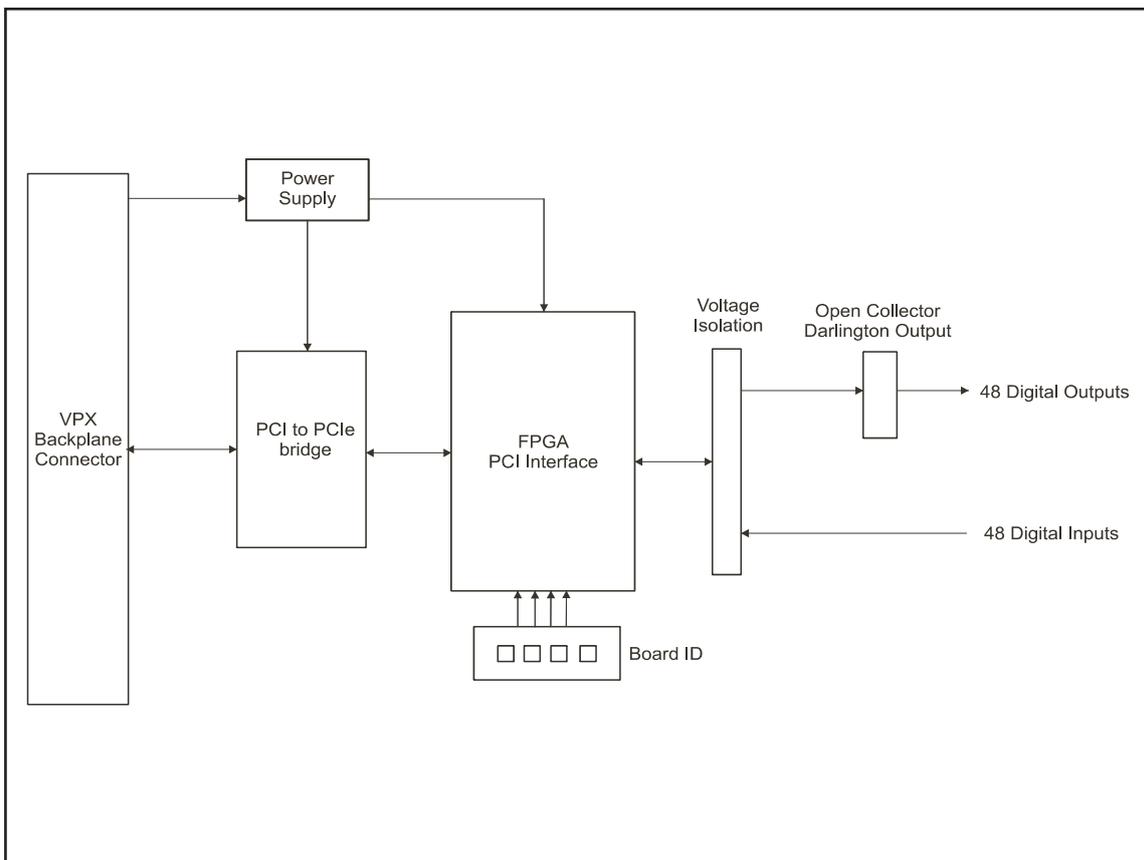
I/O channels to system isolation is 2 500 V RMS.



3U VPX 96-Channel Isolated Digital I/O Board

Architecture

A FPGA is used to control the 48 output channels and read the 48 input channels, and provides the PCI interface to the PCIe bridge. LED optocouplers on all input and output channels provide 2 500 V RMS isolation, while outputs are driven by high-voltage Darlington transistor arrays.



Block Diagram of the 3U VPX 96-Channel Isolated Digital I/O Board



▶ 3U VPX 96-Channel Isolated Digital I/O Board

Features

- wide input range (3 V to 35 V)
- wide output range (3 V to 35 V)
- Air-Cooled version
- Commercial, Industrial and Ruggedised grades
- programmable inputs and outputs
- high output sink current (up to 300 mA)
- high number of digital inputs and digital outputs
- I/O channel voltage isolation
- board identification switch
- DC inputs
- frontpanel I/O

Formfactor and Bus Interface	ANSI/VITA 46.0-2007(R2013), VPX Base Standard ANSI/VITA 46.4-2012, PCI Express on VPX Fabric Connector PCI Express Base 1.0a compliant (1 lane, 2,5 GHz)		
Digital Outputs	48	Optically Isolated Open Collector Darlington Transistor	
Digital Inputs	48	Optically Isolated DC	
Voltage Isolation	2 500 V RMS (I/O channel to system)		
Power	3,3 V DC at 0,3 A (1 Watt); 5 V DC at 0,5 A (2,5 Watt)		
Input Resistance	2 400 Ohm +/- 5%		
MTBF	Figures according to MIL-HDBK-217F, Parts Stress Method		
	Commercial and Industrial Grades	Ground Benign, Controlled, 25 C	1 220 000 hours
	Ruggedised Grade	Ground, Mobile, 45 C Naval, Sheltered, 40 C Airborne, Inhabited Cargo, 55 C	210 000 hours 291 000 hours 195 000 hours
Software Drivers	Support for Linux. VxWorks, Windows and others are costed options.		
Physical Characteristics			
Cooling Type	Air-Cooled		
Dimensions	100,0 mm x 160,0 mm		
Mass	200 g +/- 10 g		
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	10 g peak for 11 ms	20 g peak for 11 ms	40 g peak for 11 ms
Vibration			
- Sine	2 g (peak) at 10 Hz to 100 Hz	5 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	0,06 g²/Hz at 15 Hz to 2 kHz	0,1 g²/Hz at 15 Hz to 2 kHz

Designation	Cooling	Connector	Grade
CCII/DIO/3UVPX/96C/FP/COM	Air	Frontpanel	Commercial
CCII/DIO/3UVPX/96C/FP/IND	Air	Frontpanel	Industrial
CCII/DIO/3UVPX/96C/FP/RGD	Air	Frontpanel	Ruggedised