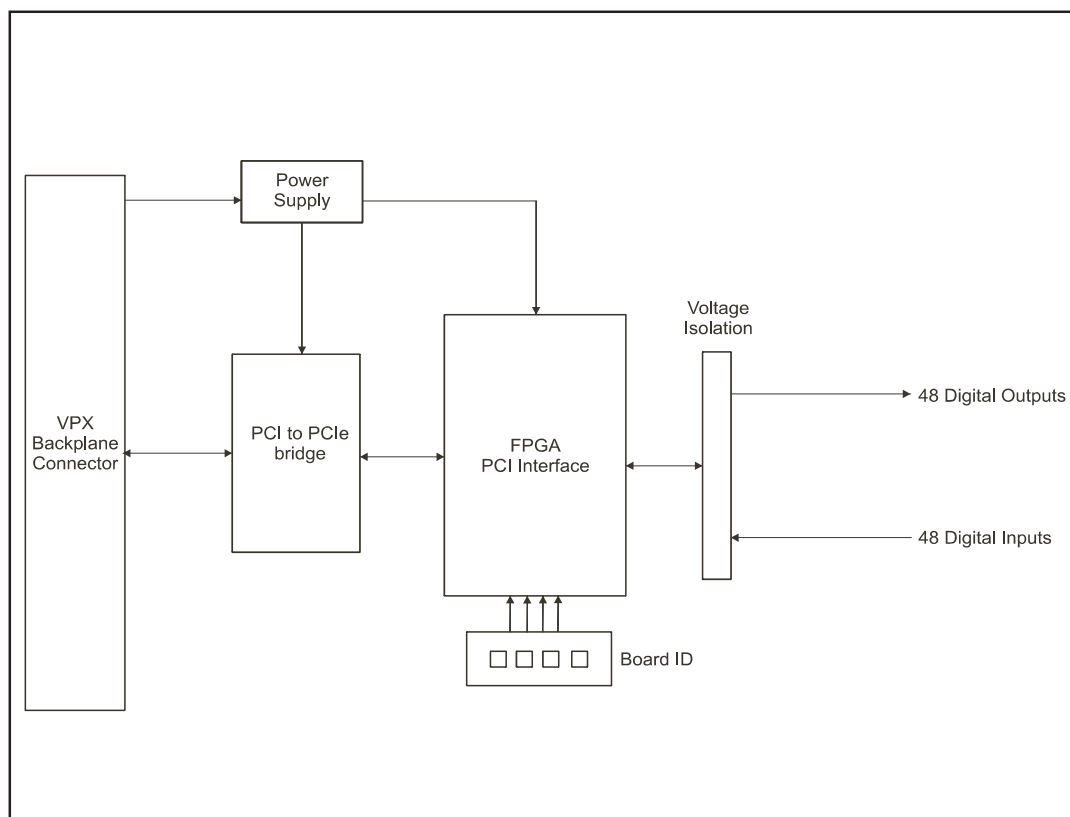


► 3U VPX 96-Channel Isolated Digital I/O Board

The 96-Channel Digital Input / Output (I/O) board provides up to 96 opto-isolated digital input and output channels on a single 3U VPX board. The DIO Board is configurable with up to 56 digital output channels and up to 48 digital input channels, for a total 96 I/O channels. The high current digital output channels can sink up to 600 mA. A Field-Programmable Gate Array (FPGA) and a PCI to PCIe bridge are used to provide access to the digital data over the PCIe bus.

I/O channels to system isolation is 1 500 V RMS.



Block Diagram of a 96-Channel Isolated Digital I/O Board

Architecture

A FPGA is used to control the output channels, read the input channels and is used to provide the PCI interface. LED optocouplers on all inputs provide 1500 V RMS isolation, while outputs are driven by high-current optical coupled MOS FETs.



► 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 versions
- Commercial, Industrial and Ruggedised grades
- programmable inputs and outputs
- high number of digital inputs and digital outputs
- high output sink current (up to 600 mA)
- I/O channel to system voltage isolation
- board identification switch
- DC and AC inputs

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	up to 56	Optically-isolated device (PS7206-1A Solid State Relay or equivalent)	
Digital Inputs	up to 48	Optically-isolated device (HPCL 063L OptoCoupler or equivalent)	
Voltage Isolation	1 500 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	5 600 Ohm +/- 5%		
MTBF	Figures according to MIL-HDBK-217F, Parts Stress Method		
	Commercial and Industrial Grades	Ground Benign, Controlled, 25 C	415 000 hours
	Ruggedised Grade	Ground, Mobile, 45 C Naval, Sheltered, 40 C Airborne, Inhabited Cargo, 55 C	77 000 hours 106 000 hours 73 000 hours
Software Drivers	Support for Linux. VxWorks, Windows and others are costed options.		
Physical Characteristics			
Cooling Type		Air-Cooled	Conduction-Cooled
Dimensions		100,0 mm x 160,0 mm	100,0 mm x 160,0 mm
Mass		300 g +/- 10 g	350 g +/- 10 g
Environmental Specifications			
Grade	Commercial	Extended Industrial	Ruggedised
Temperature			
- Operating	0 C to +55 C	-20 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

Board-Level 96-Channel Isolated Digital I/O