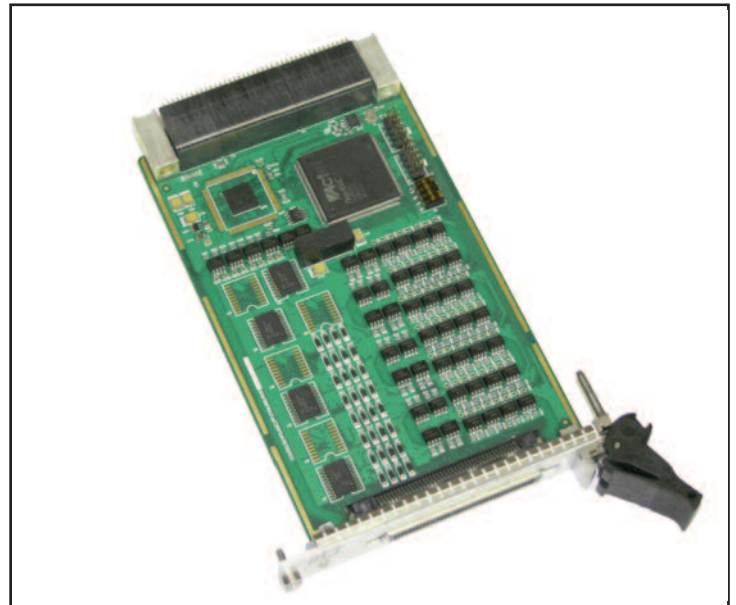


▶ 64-Channel Isolated Digital I/O 3U VPX Board

The 64-Channel Digital Input/Output (I/O) Board provides 32 opto-isolated digital output channels, each with internal output status feedback, as well as 32 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.

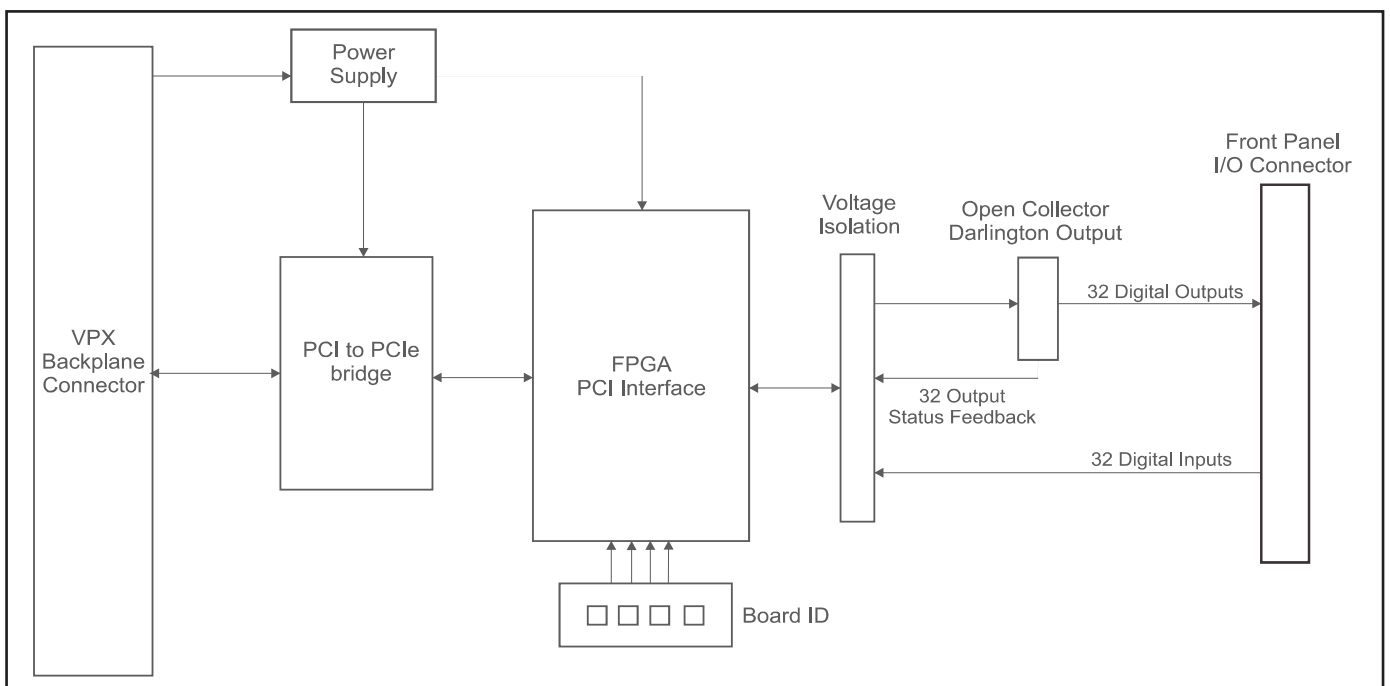
I/O channels to system isolation voltage is 2 500 V RMS.



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

Architecture

A FPGA is used to control the 32 output channels and read the 32 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 64-Channel Isolated Digital I/O 3U VPX Board



▶ 64-Channel Isolated Digital I/O 3U VPX 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
- internal output feedback
- 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	32	Optically Isolated Open Collector Darlington Transistor	
Digital Inputs	32	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	1 575 000 hours
	Ruggedised Grade	Ground, Mobile, 45 C Naval, Sheltered, 40 C Airborne, Inhabited Cargo, 55 C	225 000 hours 330 000 hours 230 000 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/64C/FP/COM	Air	Front Panel	Commercial
CCII/DIO/3UVPX/64C/FP/IND	Air	Front Panel	Industrial
CCII/DIO/3UVPX/64C/FP/RGD	Air	Front Panel	Ruggedised
CCII/DIO/3UVPX/64C/BP/CC	Conduction	Backplane	Ruggedised