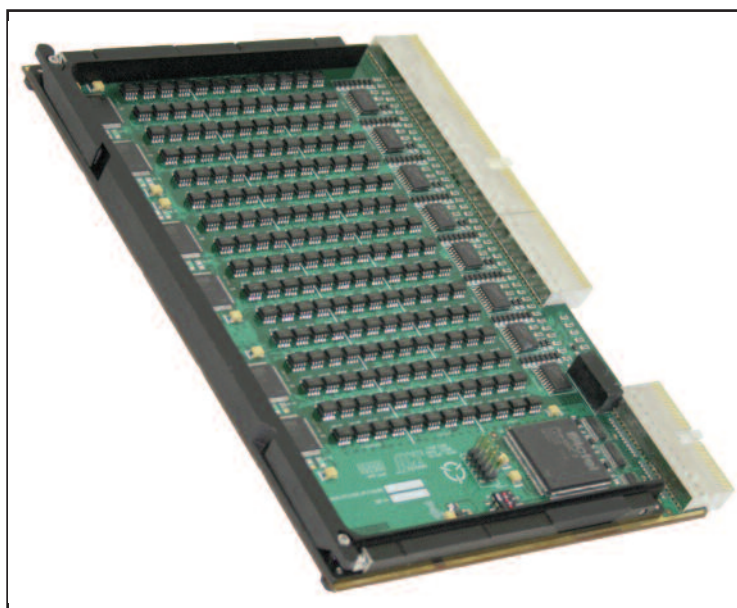


► 6U cPCI 256-Channel Isolated Digital I/O Board

The 256-Channel Digital Input / Output (I/O) Board provides 128 opto-isolated digital output channels, each with internal output status feedback, as well as 128 opto-isolated digital input channels on a single 6U CompactPCI board. Field-Programmable Gate Arrays (FPGAs) are used to provide access to the digital data over the PCI bus.

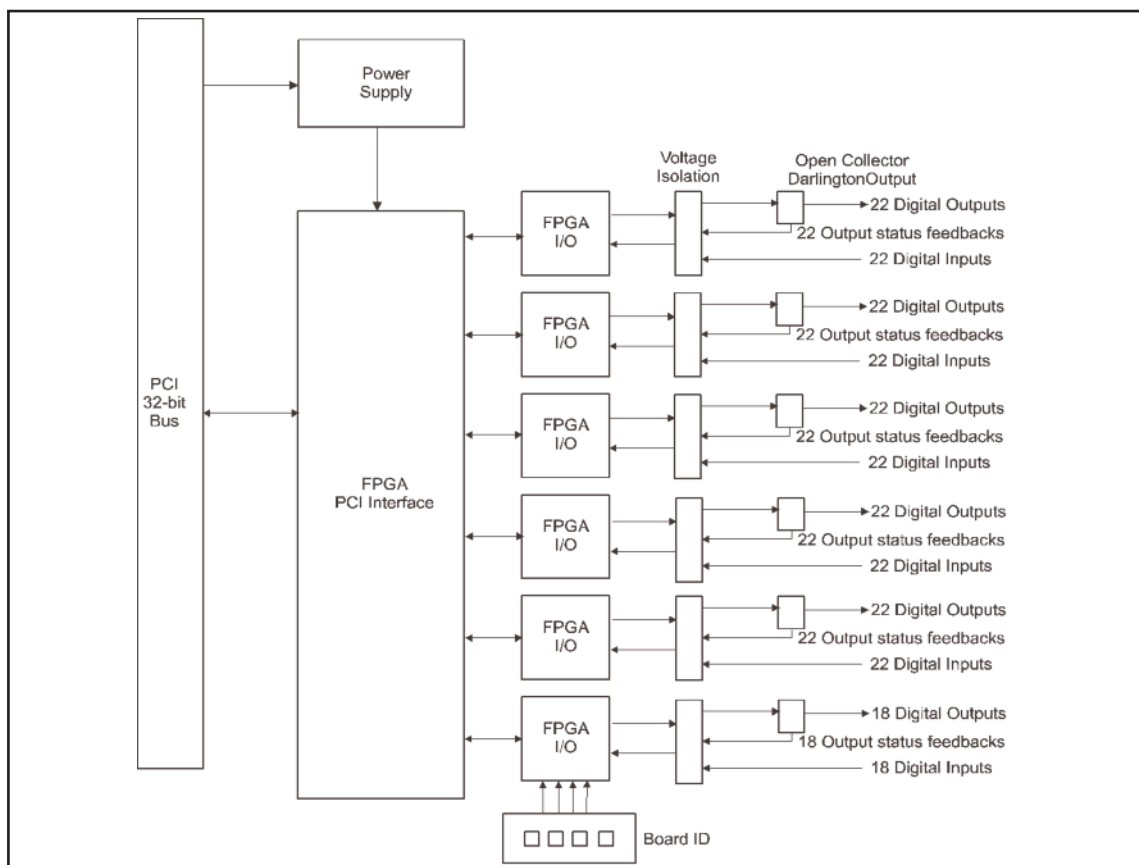
I/O channels to system isolation is 2 500 V RMS.



256-Channel Isolated Digital I/O Board

Architecture

A set of FPGAs is used to control the 128 output channels and read the 128 input channels. Another FPGA is used to provide the PCI interface. Dual-LED optocouplers on all input and output channels provide voltage isolation, while outputs are driven by high-voltage Darlington transistor arrays.



Block Diagram of the 256-Channel Isolated Digital I/O Board



► 6U cPCI 256-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 and Conduction-Cooled versions
- Commercial, Industrial and Ruggedised grades
- programmable inputs and outputs
- high output sink current (up to 300 mA)
- very high number of digital inputs and digital outputs
- internal output feedback
- I/O channel voltage isolation
- board identification switch
- DC or AC inputs

Bus Interface	PICMG 2.0 (R3.0) 6U CompactPCI 32 bit, 33 MHz 3,3 V PCI signalling, 5 V tolerant		
Digital Outputs	128	Optically Isolated Open Collector Darlington Transistor	
Digital Inputs	128	Optically Isolated DC (AC optional on 8 inputs)	
Voltage Isolation	2 500 V RMS (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		233,35 mm x 160 mm	233,35 mm x 160 mm
Mass		340 g +/- 30 g	390 g +/- 30 g
Environmental Specifications			
Grade	Commercial	Industrial	Ruggedised
Temperature - Operating - Storage	0 C to +55 C -40 C to +85 C	-15 C to +75 C -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 - Random	2 g (peak) at 10 Hz to 100 Hz 0,04 g²/Hz at 15 Hz to 2 kHz	5 g (peak) at 5 Hz to 2 kHz 0,06 g²/Hz at 15 Hz to 2 kHz	10 g (peak) at 5 Hz to 2 kHz 0,1 g²/Hz at 15 Hz to 2 kHz
	Part Designation	Cooling	Grade
	CCII/DIO/CPCI/256C/BP/COM	Air	Commercial
	CCII/DIO/CPCI/256C/BP/IND	Air	Industrial
	CCII/DIO/CPCI/256C/BP/RGD	Air	Ruggedised
	CCII/DIO/CPCI/256C/BP/CC	Conduction	Ruggedised