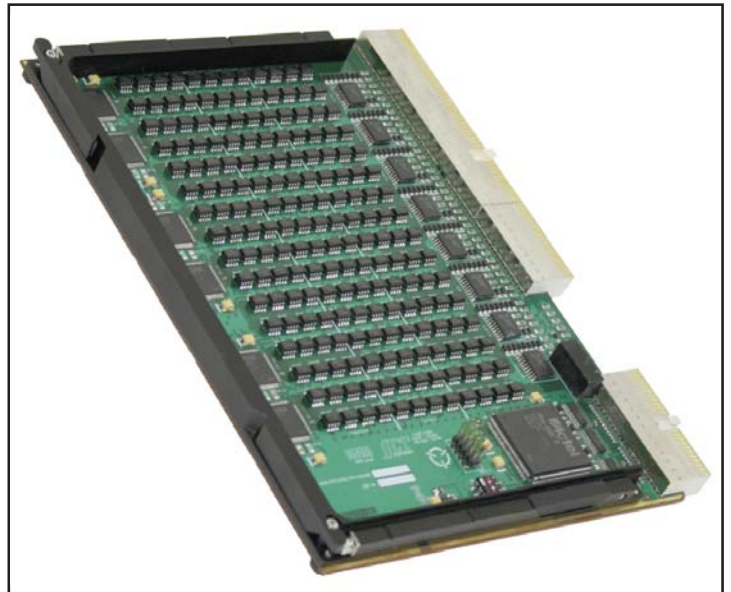


## ► 256-Channel Isolated Digital I/O 6U cPCI Board

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.

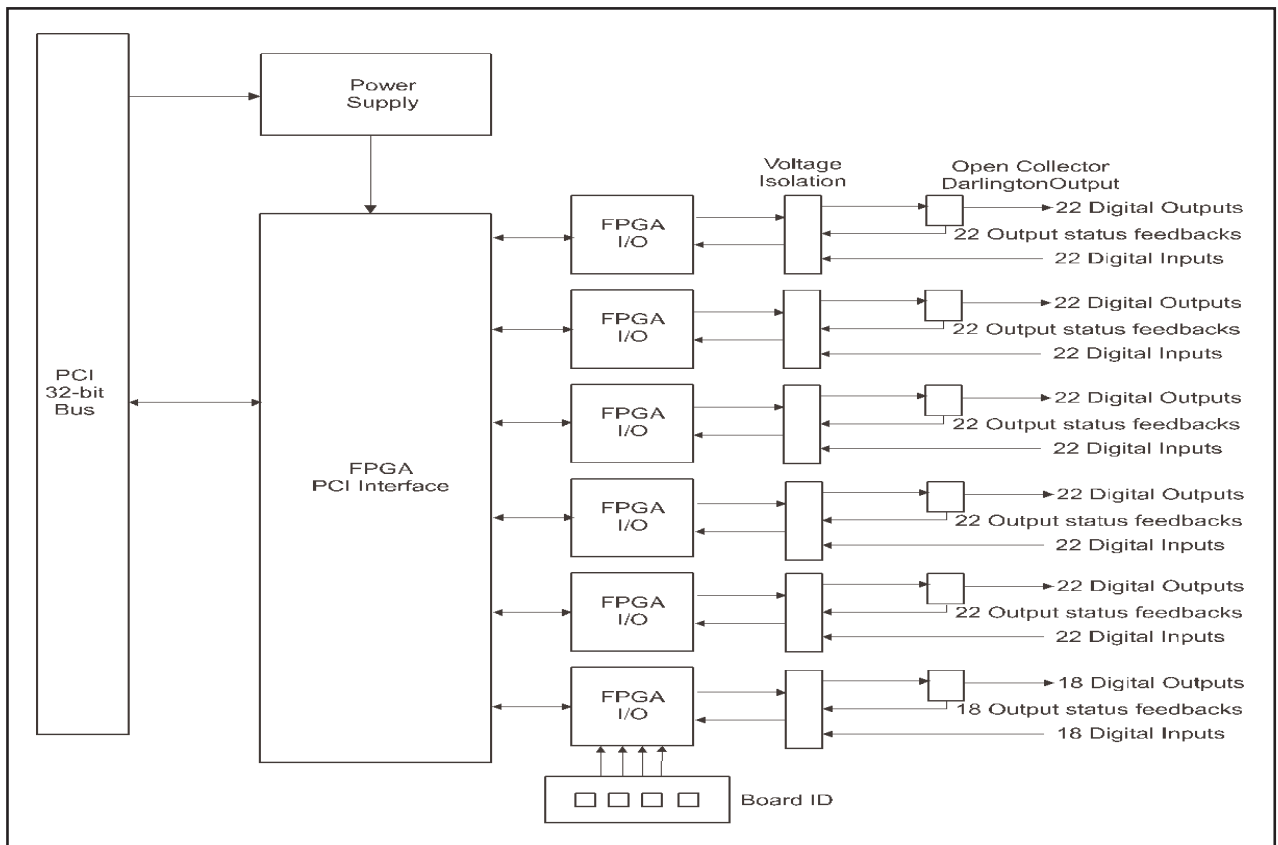
Voltage isolation is 2 500 V RMS on the I/O channels and 500 V RMS on the cPCI backplane connectors.



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



Force Multiplication through Information Technology®



## ► 256-Channel Isolated Digital I/O 6U cPCI 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
- Front Panel I/O and Backplane I/O versions

<b>Bus Interface</b>	PICMG 2.0 (R3.0) 6U CompactPCI 32-bit, 33 MHz 3,3 V PCI signalling, 5 V tolerant		
<b>Digital Outputs</b>	128	Optically-Isolated Open Collector Darlington Transistor	
<b>Digital Inputs</b>	128	Optically-Isolated DC (AC optional on 8 inputs)	
<b>Voltage Isolation</b>	2 500 V RMS (on I/O channels) 500 V RMS (on cPCI backplane connectors)		
<b>Power</b>	3,3 V DC at 0,3 A (1 Watt); 5 V DC at 0,5 A (2,5 Watt)		
<b>Input Resistance</b>	5 600 Ohm +/-5%		
<b>MTBF</b>	Figures according to MIL-HDBK-217F, Parts Stress Method		
	Commercial and Industrial Grades	Ground Benign, Controlled, 25 C	1 200 000 hours
	Ruggedised Grade	Ground, Mobile, 45 C Naval, Sheltered, 40 C Airborne, Inhabited Cargo, 55 C	750 000 hours 800 000 hours 650 000 hours
<b>Software Drivers</b>	Support for Linux. VxWorks and others are costed options.		

### Physical Characteristics

Cooling Type	Air-Cooled	Conduction-Cooled
<b>Dimensions</b>	233,35 mm x 160 mm	233,35 mm x 160 mm
<b>Mass</b>	340 g +/- 30 g	390 g +/- 30 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

Part Designation	I/O	Cooling	Grade
CCII/DIO/6UCPCI/256C/FP/COM	Front Panel	Air	Commercial
CCII/DIO/6UCPCI/256C/FP/IND	Front Panel	Air	Industrial
CCII/DIO/6UCPCI/256C/FP/RGD	Front Panel	Air	Ruggedised
CCII/DIO/6UCPCI/256C/BP/COM	Backplane	Air	Commercial
CCII/DIO/6UCPCI/256C/BP/IND	Backplane	Air	Industrial
CCII/DIO/6UCPCI/256C/BP/RGD	Backplane	Air	Ruggedised
CCII/DIO/6UCPCI/256C/BP/CC	Backplane	Conduction	Ruggedised