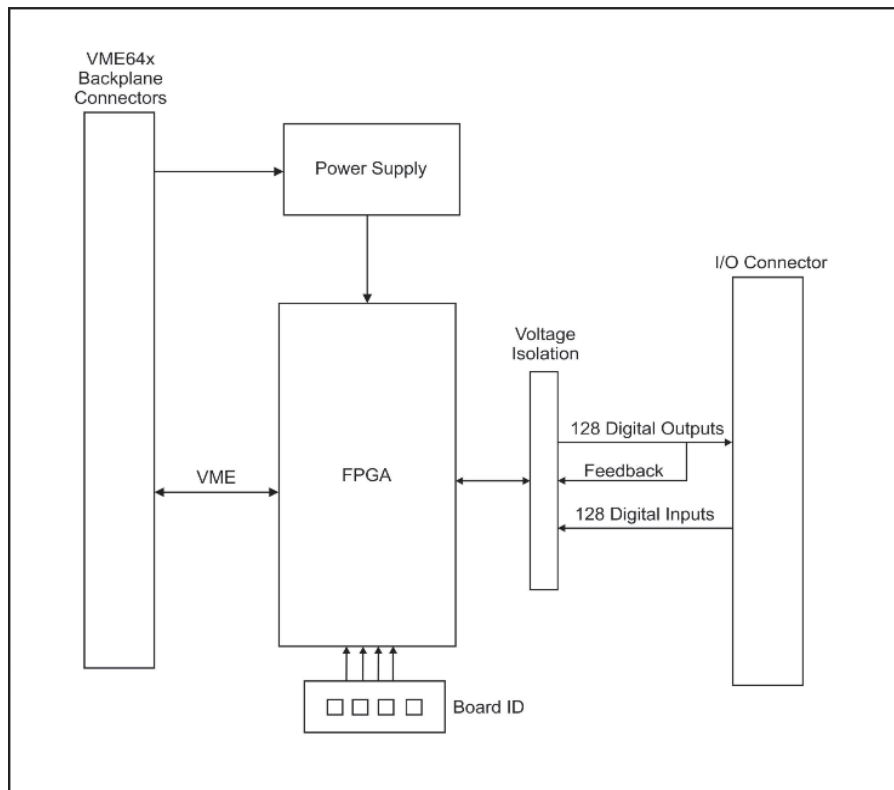


## ► 6U VME64x 256-Channel Isolated Digital I/O Board

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 VME64x board. A Field-Programmable Gate Array (FPGA) is used to provide access to the digital data over the VME64x 2eSST bus.

The backplane connectors limit the total number of I/O channels on the backplane version of the DIO Board to 100 input and 100 output channels.

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



**Block Diagram of the 6U VME64x 256-Channel Isolated Digital I/O Board**

### Architecture

An FPGA is used to control the 128 output channels and read the 128 input channels and provide the VME64x 2eSST interface. Dual-LED optocouplers on all input and output channels provide voltage isolation, while outputs are driven by high-voltage Darlington transistor arrays.

### 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
- DC or AC inputs
- 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
- Front Panel and backplane versions



► **6U VME64x 256-Channel Isolated Digital I/O Board**

<b>Bus Interface</b>	VME64x 64-bit 2eSST		
<b>Digital Outputs</b>	Front Panel : 128 backplane : 100	Optically-Isolated Open Collector Darlington Transistor	
<b>Digital Inputs</b>	Front Panel : 128 backplane : 100	Optically-Isolated DC (AC optional on 8 inputs)	
<b>Voltage Isolation</b>	2 500 V RMS (channel to system)		
<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	804 000 hours
	Industrial Grade	Ground, Mobile, 45 C	81 400 hours
		Naval, Sheltered, 40 C	192 700 hours
Airborne, Inhabited Cargo, 55 C		87 600 hours	
Airborne Uninhabited Cargo, 70 C		28 400 hours	
Airborne Rotary Wing, 55 C		28 800 hours	
Airborne, Inhabited Fighter, 55 C		69 600 hours	
Ruggedised Grade	Airborne, Uninhabited Fighter, 70 C	23 000 hours	
	Ground, Mobile, 45 C	88 200 hours	
	Naval, Sheltered, 40 C	208 700 hours	
	Airborne, Inhabited Cargo, 55 C	94 900 hours	
	Airborne Uninhabited Cargo, 70 C	30 800 hours	
	Airborne Rotary Wing, 55 C	31 200 hours	
Airborne, Inhabited Fighter, 55 C	75 400 hours		
Airborne, Uninhabited Fighter, 70 C	24 900 hours		
<b>Software Drivers</b>	Support for Linux VxWorks, Windows and others are costed options		
<b>Physical Characteristics</b>			
	<b>Cooling Type</b>	<b>Air-Cooled</b>	<b>Conduction-Cooled</b>
<b>Dimensions</b>		233 mm x 160 mm	233 mm x 160 mm
<b>Mass</b>		340 g +/- 30 g	390 g +/- 30 g
<b>Environmental Specifications</b>			
<b>Grade</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Ruggedised</b>
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
	<b>Part Designation</b>	<b>Cooling</b>	<b>Grade</b>
	CCII/DIO/6UVME/256C/FP/COM	Air	Commercial
	CCII/DIO/6UVME/256C/FP/IND	Air	Industrial
	CCII/DIO/6UVME/256C/FP/RGD	Air	Ruggedised
	CCII/DIO/6UVME/200C/BP/CC	Conduction	Ruggedised

Board-Level 256-Channel Isolated Digital I/O