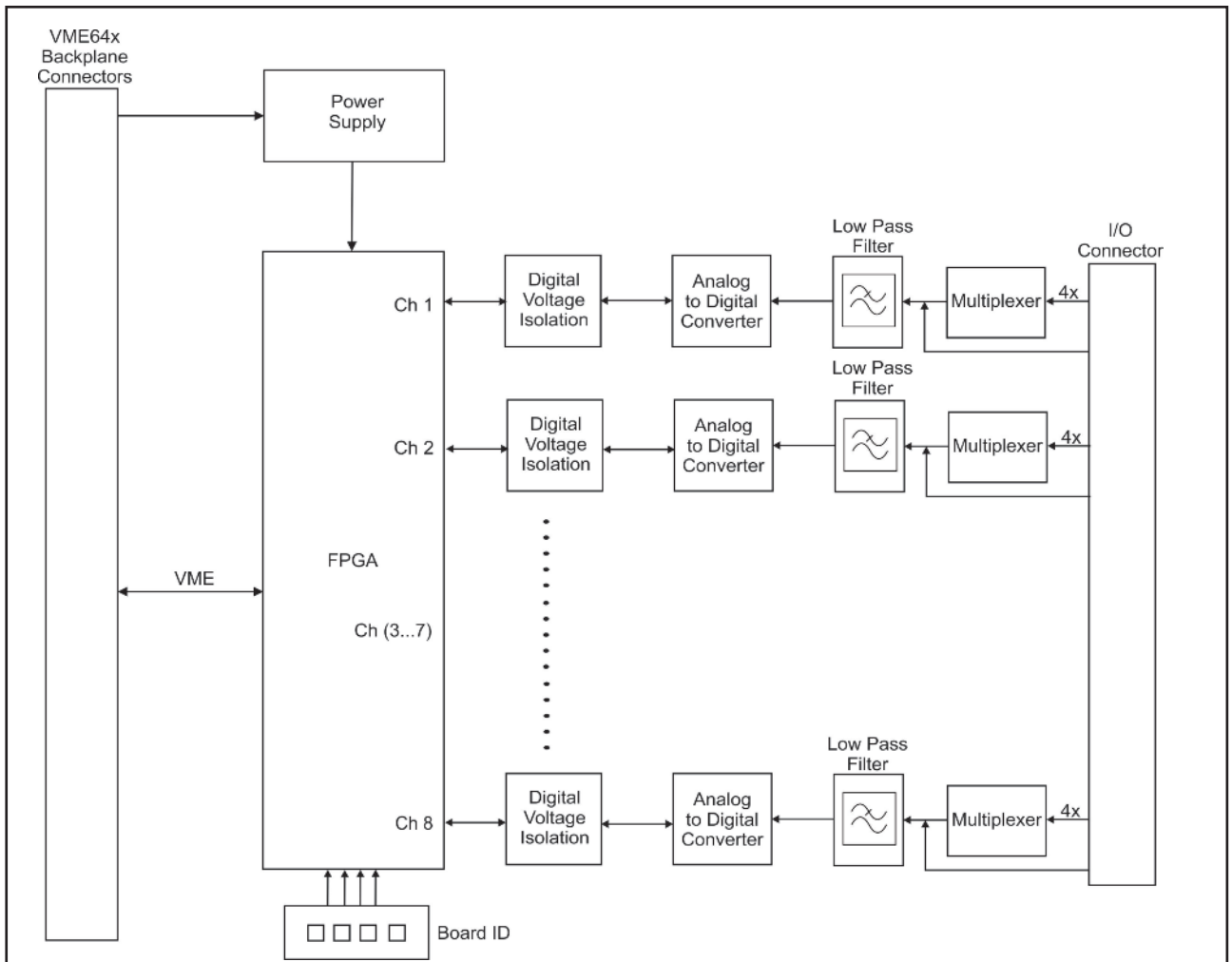


► 6U VME64x 64-Channel Isolated Analog-to-Digital Converter Board

The 64-Channel Isolated Analog-to-Digital Converter (ADC) Board provides 64 high-speed digitally isolated analog inputs. Each channel has a sample rate of 250 kSps. A Field-Programmable Gate Array (FPGA) is used to provide access to the digital data over the VME64x 2eSST bus.

Input channel to system isolation is 2 500 V RMS.



Block Diagram of the 6U VME64x 64-Channel Isolated Analog-to-Digital Converter Board

Architecture

An FPGA is used to control and read the data from the analog-to-digital converters and provide the VME64x 2eSST interface. High-speed digital isolators are used to isolate the system side bus from the analog inputs.



▶ 6U VME64x 64-Channel Isolated Analog-to-Digital Converter Board

Features

- high number of analog inputs
- programmable inputs
- Air-Cooled and Conduction-Cooled versions
- Commercial, Industrial and Ruggedised grades
- wide range input (-10 to +10 V)
- Front Panel and backplane I/O versions
- high sample rate of 250 000 samples per second
- high-speed digital isolation
- board identification switch
- wide bandwidth (up to 125 kHz)
- input pin overvoltage protection

Bus Interface	VME64x 64-bit 2eSST
Analog Inputs	64 differential or single-ended
Maximum Sample Rate	250 000 samples/second per channel
Resolution	16 bits
Voltage Isolation	2 500 V RMS (input channel to system)
Input Amplifier	Programmable gains of 1, 2, 4 and 8 (optional 1, 10, 100 and 1000) Maximum slew rate of 0,2 V/μs
Input Bandwidth	up to 125 kHz (-3 dB)
Power	3,3 V DC at 2,5 A (8,25 Watt); 5 V at 1,4 A (7 Watt); 12 V at 0,2 A (2,4 Watt)
Software Drivers	Support for Linux VxWorks, Windows and others are costed options

MTBF	Figures according to MIL-HDBK-217F, Parts Stress Method		
	Commercial Grade	Ground Benign, Controlled, 25 C	872 000 hours
	Industrial Grade	Ground, Mobile, 45 C	97 100 hours
		Naval, Sheltered, 40 C	229 900 hours
Airborne, Inhabited Cargo, 55 C		104 500 hours	
Airborne Uninhabited Cargo, 70 C		33 900 hours	
Airborne Rotary Wing, 55 C		34 300 hours	
Airborne, Inhabited Fighter, 55 C		83 000 hours	
Ruggedised Grade	Airborne, Uninhabited Fighter, 70 C	27 400 hours	
	Ground, Mobile, 45 C	106 000 hours	
	Naval, Sheltered, 40 C	250 800 hours	
	Airborne, Inhabited Cargo, 55 C	114 000 hours	
	Airborne Uninhabited Cargo, 70 C	37 000 hours	
	Airborne Rotary Wing, 55 C	37 500 hours	
	Airborne, Inhabited Fighter, 55 C	90 600 hours	
	Airborne, Uninhabited Fighter, 70 C	29 900 hours	



► **6U VME64x 64-Channel Isolated Analog-to-Digital Converter Board**

Physical Characteristics			
Cooling Type		Air-Cooled	Conduction-Cooled
Dimensions		233 mm x 160 mm	233 mm x 160 mm
Mass		500 g +/- 50 g	550 g +/- 50 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	Grade
CCII/ADC/6UVME/64C/FP/COM		Air	Commercial
CCII/ADC/6UVME/64C/FP/IND		Air	Industrial
CCII/ADC/6UVME/64C/FP/RGD		Air	Ruggedised
CCII/ADC/6UVME/64C/BP/CC		Conduction	Ruggedised