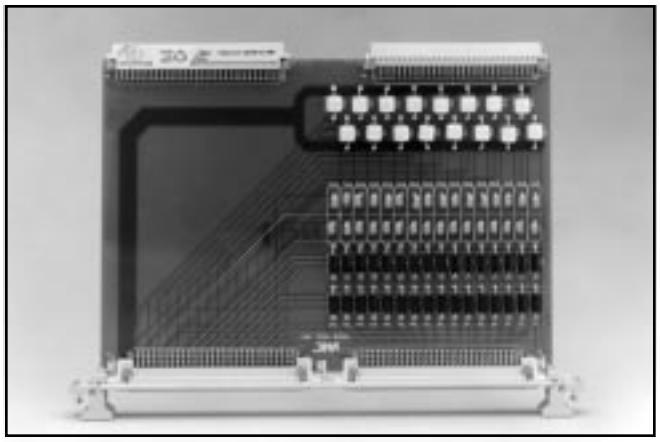
VMIVME-3457
32-Channel 6U Form Factor Surge Protected Interface Board for the VMIVME-3417A Board

- Meets the ANSI/IEEE C37.90.1-1989 surge withstand capability (SWC)
- 6U form factor permits installing the board in a standard VMEbus Chassis
- Cables directly to a VMIVME-3417A isolated analog input board

APPLICATIONS

- Data acquisition systems
- Nuclear power plant monitoring
- Control systems



FUNCTIONAL CHARACTERISTICS

INTRODUCTION — The VMIVME-3457 accepts discrete wire inputs via a Harting shell connector cable, provides Surge Withstand Capability (SWC) to each input, and provides an IDC mass-terminated cable output to a VMIVME-3417A board.

Each input line is protected with a transient suppressing diode capable of withstanding the 3,000 V decaying sine wave or the 5,000 V pulse stated in the SWC specification. Each input common is also protected from the Surge Return by a 1,000 V spark gap. Figure 1 shows a typical channel through the surge protection board. The inputs from the field wiring comes into the board by the P3 discrete wire DIN connector provided on the front panel of the VMIVME-3457. Each channel is then routed to the surge protection circuitry and then to the output connector P4. P4 can be a mass-terminated IDC or a discrete wire DIN connector. When P4 is connected to the input connector of the VMIVME-3417A, the VMIVME-3417A board will have the SWC added to its system inputs.

VMEbus Compliance: This board has no electrical connection to the VMEbus backplane.

ELECTRICAL CHARACTERISTICS

(At +25 ˚C and rated power supplies unless otherwise noted.)

Inputs: Thirty-two; differential

Surge Withstand Capability: Meets the ANSI/IEEE C37.90.1-1989 Surge Withstand Capability (SWC)

Oscillatory: This specification uses a 3,000 Vpk 1 to 1.5 MHz decaying sine wave. The sine wave is one half of its initial voltage within 6 µs. This burst is repeated every 20 ms for a period of 2 seconds. The output impedance of the source is 150 to 200 Ω.

Pulse: This specification uses a 5,000 Vpk pulse with a 10 ns rise time decaying to one half of its initial voltage within 200 ns. This pulse is repeated every 20 ms for a period of 2 seconds. The output impedance of the source is 80 Ω during the initial rise time.

Interchannel Crosstalk Rejection: 80 dB minimum at 1 kHz

PHYSICAL/ENVIRONMENTAL

Dimensions: Standard VME double height board (160 x 233.5 mm)

Temperature: 0 to +65 ˚C, operating
-25 to +85 ˚C, storage

Ordering Options								
Nov. 5, 1998 800-003457-000 B		A	B	C	–	D	E	F
VMIVME-3457	–	0	0	0	–			
ABC = 000 (Options reserved for future use)								

Connector Data Mass-Terminated IDC Connector Data	
PC Board Connector	Panduit No. 120-964-033A
Cable Connector	Panduit No. 120-964-455F
Connector Shell Housing	Harting No. 09 03 096 0501

Connector Data For Discrete Wire Input Connectors	
Mating Connector	AMP No. 925486-1
Female Crimp Contacts*	
Connector Shell Housing	Harting No. 09-03-096-0501
PC Board Connector	

*An AMP crimp tool part number is 90301-2.

For Ordering Information, Call:
1-800-322-3616 or 1-256-880-0444 • FAX (256) 882-0859
E-mail: info@vmic.com Web Address: www.vmic.com

Relative Humidity: 20 to 80 percent, noncondensing

Cooling: Normal VMEbus chassis forced air circulation

Power Requirements: None

Altitude: Operation to 3,000 m

Weight (Mass): 0.7 kg maximum

MBTF: 306,300 hours (217F)

TRADEMARKS

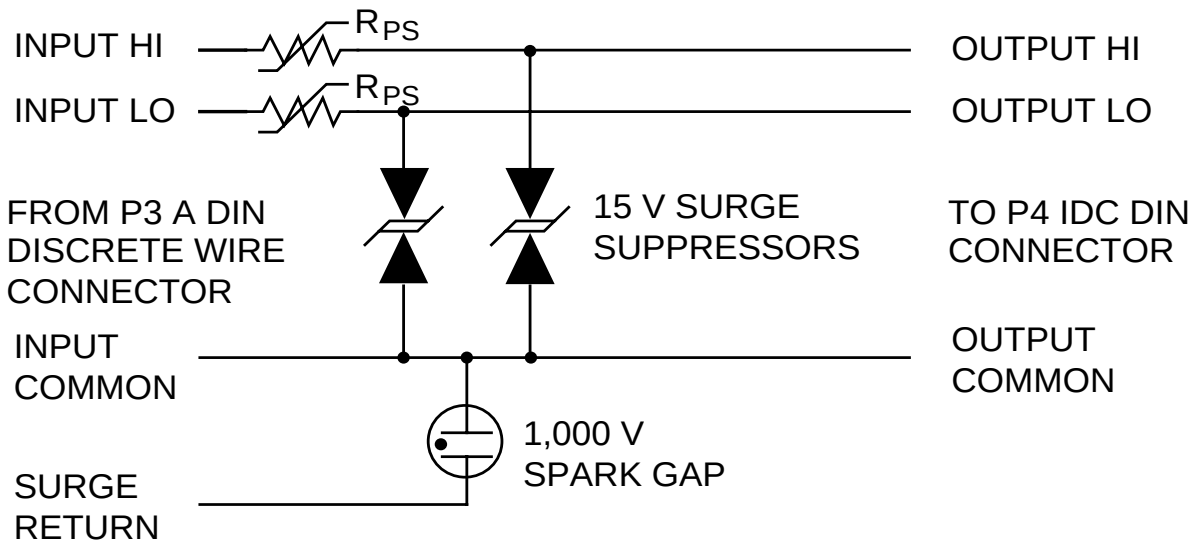


Figure 1. A Typical Channel