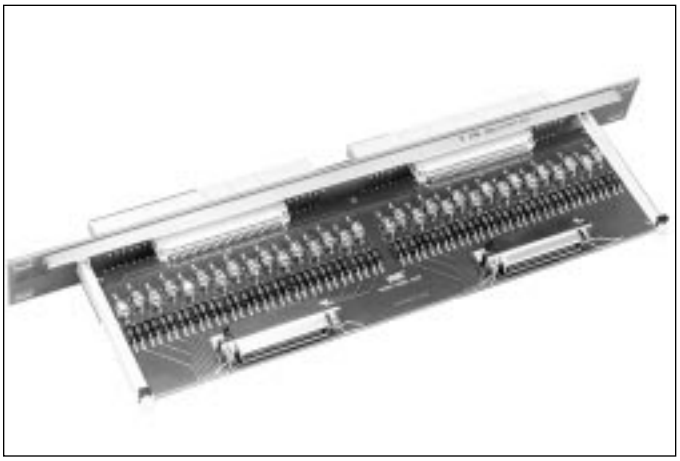
VMIACC-344X
Surge Suppression Panels

- Meets the ANSI/IEEE STD C37.90.1-1989 surge withstand specification
- Provides surge protection for each input line
- Discrete wire interface to VMIC products
- EIA standard RS-310C 19-inch rack mountable in 1U space (1.75 inches)
- Converts mass-terminated IDC cables (DIN, etc.) to discrete wire lift clamp terminals

APPLICATIONS

- Simplifies system wiring
- Surge protection of analog or digital inputs



INTRODUCTION — The VMIACC-344X Surge Protection Panels provides protection to the inputs of various VMIC analog or digital products. These panels have components that meet the ANSI/IEEE STD C37.90.1-1989 Surge Withstand Specification. This standard combines the requirements of IEEE STD 472-1974 and ANSI/IEEE C37.90-1978. These panels convert discrete wire lift clamp field connections to mass-terminated IDC cables (with DIN or D shell connectors) to route the field signals to the various VMIC analog or digital I/O boards. These panels replace the patch panels used to break down the large flat ribbon cables to smaller cables and eventually discrete wires. This will simplify system wiring diagrams, which will reduce wiring errors.

These panels are designed to protect the I/O electronics from damage by high energy transients. Each signal is routed through surge suppressors which meet the ANSI/IEEE STD C37.90.1-1989 Surge Withstand Specification. A surge return is provided by the screw terminals. Many points are available allowing the user to choose the best location to connect the return in the system. This return is used by the surge withstand circuitry and is not sent to the connectors or the cables that go to the VMEbus boards.

FUNCTIONAL CHARACTERISTICS

VMEbus Board Compatibility: VMIC manufactures a wide variety of I/O boards and associated surge suppressor panels. The Ordering Options table provides an application matrix for various combinations of Surge Protection Panels and I/O products from VMIC. (Please contact the factory for complete listings of this table.) The table also lists the cables and the clamp levels associated with the different ordering options.

Surge Withstand Capability: The VMIACC-344X panels provides a compact, cost-effective transition between the field wiring and VMIC I/O boards. Lift clamp style terminal blocks connect the field circuitry to surge suppression components and the signals are then sent to IDC cables for connection to various VMEbus-based I/O products. Each wire involved in the connection of a signal to the I/O board is protected and

Ordering Options

Jan. 18, 1996 800-803440-000 B		A	B	C	–	D	E	F
VMIACC-344X	–				–			

Surge Panel	*Clamp Voltage*	*Interface Cable*	*Typical VMIC I/O Boards*	*Comments*
VMIACC-		VMIVME-	VMIVME-	
3441-000 3441-001	15 V 82 V	000-64-XXX* 2 per panel	1111, 2528, 1150, 1160A, 1181, 1182, 253X, 2510B	Each panel protects 32 of the 64 inputs to the boards.
3445-000	200 V	030-50-XXX* 2 per panel	2232	Each panel protects all of the 32 outputs of the board.
3446-000	15 V	000-37-XXX* 6 per panel	4150	Each panel supports up to 3 of the boards.
3447-000	15 V	000-64-XXX* 2 per panel	3417A	Each panel supports up to 2 of the boards.
3448-000	15 V	000-64-XXX* 4 per panel	3418	Each panel supports up to 4 of the boards.
3449-000	200 V	000-96-XXX* 2 per panel	2210	Each panel protects 32 of the 64 outputs from the board.

Connector Data

Cable Model No.	*Component Description*	*Part Number*	*Manufacturer*
VMIVME-000-37-XXX*	PC Board Connector Cable Mating Connector Strain Relief	745784-6 747306-1 747275-1	AMP AMP AMP
VMIVME-030-50-XXX*	PC Board Connector Cable Mating Connector Strain Relief	554901-1 554085-1 554099-1	AMP AMP AMP
VMIVME-000-64-XXX* Mass-Terminated (IDC)	PC Board Connector Cable Mating Connector Strain Relief	120-964-033A 120-964-455E 100-000-032	Panduit Panduit Panduit
VMIVME-000-64-XXX* Discrete Wire	PC Board Connector Cable Mating Connector Female Crimp Contact Connector Shell Housing	120-964-033A 09-03-096-3214 09-02-000-8484 09-03-096-0501	Panduit Harting Harting Harting
VMIVME-000-96-XXX* Mass-Terminated (IDC)	PC Board Connector Cable Mating Connector 0.033-inch Ribbon Cable	913.216 913.031 913.049	ERNI ERNI ERNI
VMIVME-000-96-XXX* Discrete Wire	PC Board Connector Cable Mating Connector Female Crimp Contact Connector Shell Housing	913.216 09-03-096-3214 09-02-000-8484 09-03-096-0501	ERNI Harting Harting Harting

Note

* The -XXX in the table above is the length of the cable in feet.
For example, a -025 option is a 25-ft cable.

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

the I/O grounds are isolated from the surge return by spark gaps. In the event of a surge transient, the suppressors clamp the voltage to a safe level for the input product it is protecting.

ELECTRICAL CHARACTERISTICS

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

INPUT SURGE WITHSTAND

Oscillatory: 3.0 kVpk 1.0 to 1.5 MHz sine wave decaying to 50 percent within 6 µs, with a minimum source impedance of 150 to 200 Ω and a repetition rate of 20 ms for 2 seconds.

Fast Transient: 5.0 kVpk, 50 ns pulse decaying to 50 percent within 200 ns, with a minimum source impedance of 80 Ω and a repetition rate of 20 ms for 2 seconds.

Maximum Cable Current: 1.25 A

FIELD SCREW CONNECTOR MECHANICAL DATA

Pitch: 0.197 in /5.0 mm

Maximum Screw Torque: 0.4 Nm according to VDE 0609

Maximum Wire Diameter:

Solid Wire: Up to 4 mm^2 (12 to 22 AWG).

Fine Stranded Wire: up to 2.5 mm^2 (14 to 22 AWG).

FIELD CONNECTOR MATERIALS

Body: Noryl SE 100, light grey (similar to RAL 7035)

Clamp: Steel, galvanized, and chromated

Screw: Steel, galvanized, and chromated

Wire Protection: CuZn, brass, prenickeled, and 5 µm tin-plated

PHYSICAL/ENVIRONMENTAL

Dimensions: EIA Standard RS-310C 19-inch rack mountable in 1U space (19 x 1.75 inches)

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

Relative Humidity: 20 to 80 percent, noncondensing

Weight (Mass): 0.7 kg maximum

TRADEMARKS