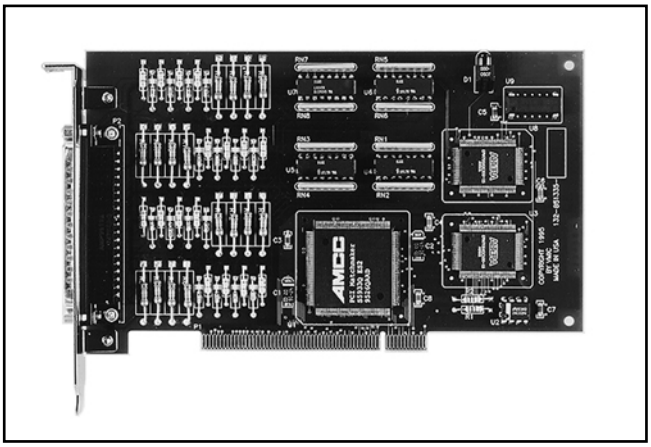
VMIPCI-1335
16-Channel Optically Coupled Digital Input Board

- 16 optically coupled inputs
- High isolation potential
  — 1.5 kV sustained
- 500 V galvanic isolation (channel-to-channel)*
- 8-, 16-, and 32-bit data transfers
- Voltage sensing or contact sensing inputs*
- Input ranges of 5 to 125 VDC
- Complies with PCI local bus specification



FUNCTIONAL CHARACTERISTICS

Board Function: This board has 16 optically coupled inputs. The inputs provide a sustained 1.5 kV of system isolation to the PCI bus backplane.

Compliance: This board complies with the PCI Local Bus Specification Revision 2.1

Addressing Scheme: The VMIPCI-1335 board address is assigned by the System BIOS per the PCI specification

INPUT CHARACTERISTICS

Input Configuration: The inputs can be voltage sensing or contact sensing. Voltage sensing or contact sensing may be set on byte boundaries. External voltage may be injected on byte boundaries to supply power for contact sensing mode.

Input Voltage Options: The input voltage range is a manufacturing option. The available ranges are 5, 12, 24 to 28, 48, and 125 V. See Table 1 for more detailed information and please refer to the Ordering Options.

Input Isolation: 10 MΩ, minimum

Isolation Voltage(1): 1,500 V sustained

500 V sustained channel-to-channel maximum (in voltage sensing option only)

Contact Debounce: User programmable debounce is available. Debounce times are .001, .128, .256, .512, 3.07, 6.14, 9.22, and 12.29 ms. Debounce defaults to .001 ms on reset.

Input Response Time: 15 µs, maximum

PHYSICAL/ENVIRONMENTAL

Dimensions: Half size PCI board
4.2-in. height x 6.9-in. length

User Connectors: One 37-pin male D-shell connector

Ambient Temperature: 0 to +65 °C, operating
-40 to +85 °C, storage

Humidity: 20 to 80 percent, noncondensing

Cooling: 50 LFM minimum air flow

Power Requirements: +5 VDC at 1.5 A

TRADEMARKS

Ordering Options								
October 2, 1995 800-851335-000 A	A	B	C	–	D	E	F	
VMIPCI-1335	–		0		–			

A = Input Voltage Range
0 = 5 V
1 = 12 V
2 = 24 to 28 V
3 = 48 V
4 = 125 V

B = 0 (Option reserved for future use)

C = Input Configuration
0 = Voltage Sensing Inputs
1 = Contact Sensing *

Note

* Contact Sensing maintains byte-to-byte isolation only.

Connector Data

Compatible Cable Connector: Standard Subminiature "D" 37-pin male connector.

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

1. Contact sense will limit isolation.

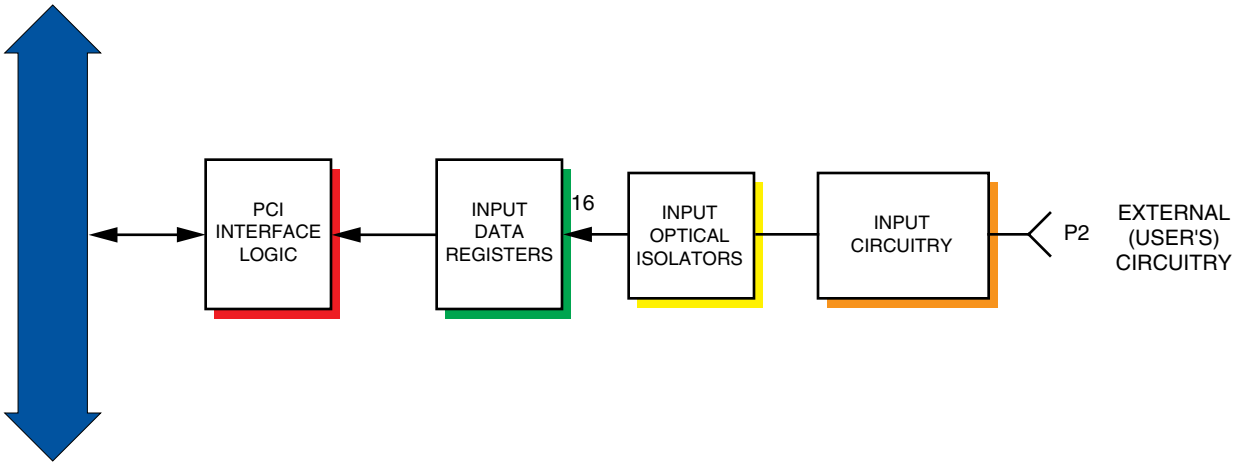


Figure 1. VMIPCI-1335 Functional Block Diagram

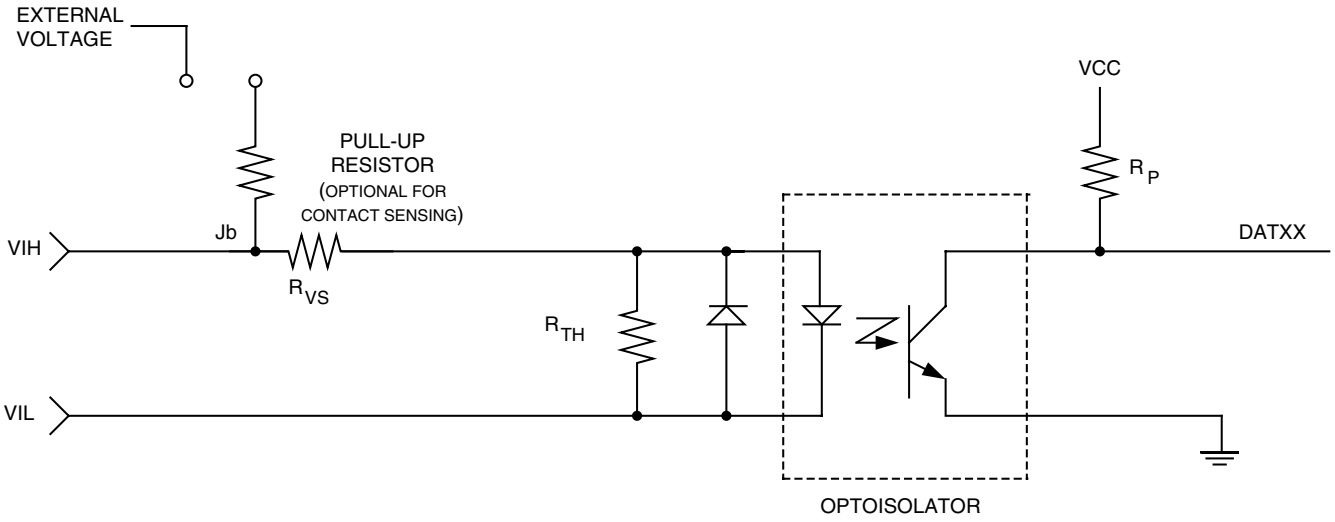
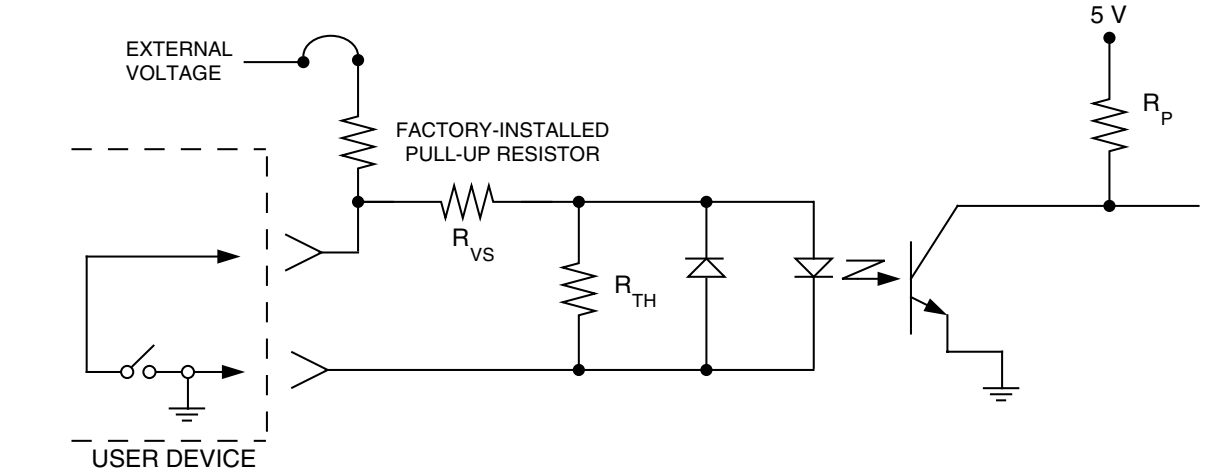
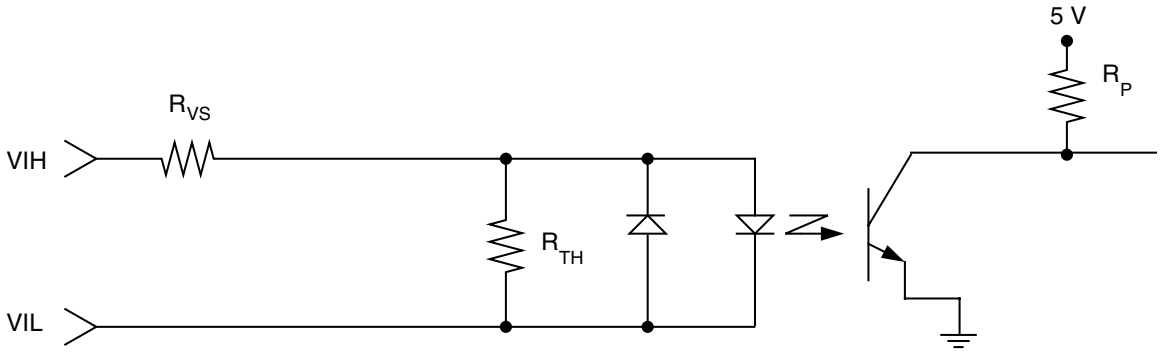


Figure 2. User Input Connection Circuit



a. TYPICAL CONTACT SENSE (CURRENT SINKING) OPTO INPUT



b. TYPICAL VOLTAGE SOURCE OPTO INPUT

Figure 3. Typical VMIPCI-1335 OPTO Input Configurations (5 to 125 V Inputs)

Table 1. Electrical Characteristics

INPUT VOLTAGE	THRESHOLD HIGH (V)	THRESHOLD LOW (V)	CONTACT SENSING		VOLTAGE SENSING (mA)
			OPEN CIRCUIT VOLTAGE (V) ±8%	CONTACT CURRENT (mA) ±15%	SOURCE CURRENT AT V_{INPUT} ±15%
5 VDC	3.1	1.2	4.1	6.7	1.7
12 VDC	7	2.1	9.7	5.5	1.3
24 VDC	13.8	3.4	19.2	5.1	1.3
48 VDC	31.1	7	38.4	4.5	1.1
125 VDC	53.1	11.4	77.2	2.7	1.7