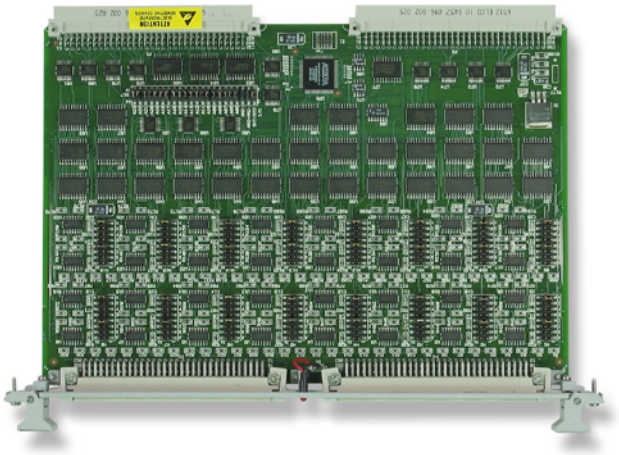
GE
Intelligent Platforms

VMIVME-1128* Specifications



128-bit High-Voltage Digital Input Board with Built-in-Test

Features:

- 128 bits of high-voltage digital inputs
- Each group of eight inputs is jumper selectable to monitor voltage source or current sinking signals
- Open circuit provides logic zero or (jumper-selectable) logic one
- Built-in-Test logic for fault detection and isolation
- Front panel with fail LED
- User-selectable input voltage thresholds (0.61 to 34 V) with inputs of 0 to 66 V (see Table 1)
- Complies with the VMEbus Specification Rev. C.1
- A24:A16:D32/D16/D08 (EO): slave: 39/3D:29/2D
- Double Eurocard form factor (6U)
- High reliability DIN-type I/O connectors
- Compatible with GE's Intelligent I/O Controllers (VMIVME-90xx series) and Universal I/O Controllers (VMIVME-9300 series)

imagination at work

Ordering Options							
August 12, 2010 800-001128-000 J		A	B	C	D	E	F
VMIVME-1128	–	0	0	0			

ABC = 000 (Options reserved for future use)

Connector Data

Style	Description	I/O Connectors
96-pin IDC	Mating Connector (96-pin Mass Terminated)	ERNI No. 913 031
	0.033-inch Ribbon Cable (96-pin Mass Terminated)	ERNI No. 913 049
96-pin Discrete Wire	Mating Connector (96-pin Discrete)	Harting No. 09 03 096 3214
	Female Crimp Contacts (For 96-pin Discrete)	Harting No. 09 02 000 8484
Both	Connector Shell Housing (For 96-pin Connectors)	Harting No. 09 03 096 0501
	PC Board Connector Part Number	ERNI No. 913 216

*The Harting crimp tool part number is 09 99 000 0075.

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

Functional Characteristics

Compliance: This product complies with the VMEbus specification (ANSI/IEEE STD 1014-1987, IEC 821 and 297) with the following mnemonics: A24:A16:D32/D16/D08 (EO):

Slave: 39/3D:29/2D Form factor: 6U

Input Connector Type: Two 96-pin female connectors are used with this board. For mass terminations (IDC), an ERNI IDC DIN connector and 0.033-inch 30 AWG ribbon cable are recommended. The ERNI order numbers are:

96-pin connector	913 031
96-conductor 0.033-inch cable	913 049

For discrete wire use, Harting connectors are recommended. This connector consists of a contact housing with female crimp-on contacts. Harting order numbers are:

96-pin connector	09 03 096 3214
Female crimp-on contacts	09 02 000 8484
Crimp tool (for stripped wire)	09 99 000 0075

Either connector needs a shell housing with holding levers. We recommend the Harting housing. Its order number is 09 03 096 0501. This shell is used with the discrete wire cable, latching the discrete wire cable to the board connector and providing a strain relief.

I/O Organization: Sixteen input ports, eight bits wide for a total of 128 inputs, addressable to any address within the short supervisory and/or short nonprivileged or the standard supervisory data and/or standard nonprivileged data I/O map.

Addressing Scheme: Thirty-two bytes individually addressable on 8-, 16-, or 32-bit boundaries. A Board ID Register is located at the base address of the board. A Control and Status Register (CSR) is stacked above the ID Register. The sixteen input bytes are placed above the CSR. Twenty jumpers establish the base address of the board. Another jumper is used for standard or short I/O accesses. The following address map shows the relative locations of all the registers used by the board.

Decoded Address Bits				Register Name or Description
A4	A3	A2	A1	
0	0	0	0	Board ID
0	0	0	1	Control and Status Register (CSR)
0	0	1	0	Not Used
0	0	1	1	Not Used
0	1	0	0	Not Used
0	1	0	1	Not Used
0	1	1	0	Not Used
0	1	1	1	Not Used
1	0	0	0	Input Data Word (16 bits) 0
1	0	0	1	Input Data Word (16 bits) 1
1	0	1	0	Input Data Word (16 bits) 2
1	0	1	1	Input Data Word (16 bits) 3
1	1	0	0	Input Data Word (16 bits) 4
1	1	0	1	Input Data Word (16 bits) 5
1	1	1	0	Input Data Word (16 bits) 6
1	1	1	1	Input Data Word (16 bits) 7

Input Circuit Characteristics: The inputs are single-ended with a high input impedance (15 kΩ) and a threshold accuracy of 10 percent (typical) for 3 through 66 V input range and ±200 mV for 0 V up to 3 V input range. Refer to Figures 3 through 5 for typical single-ended signal conditioning configurations. Table 1 lists the threshold levels for inputs using the stated input range.

Built-in-Test: This board is designed with built-in-test logic that supports a board-level diagnostic which exercises all of the on-board active components. Special output registers are provided to test the input circuitry. These registers are controlled by a test mode bit in the CSR. Thus, the user can monitor the data written to this board and determine if it is functioning properly. A front panel Fail LED is provided to help in isolating a faulty board. This LED is illuminated at powerup and can be extinguished under program control upon the successful completion of user-defined diagnostic software.

Physical/Environmental Specifications

Dimensions: 6U Double Eurocard form factor

Height	9.2 in. (233.4 mm)
Depth	6.3 in. (160 mm)

Power Requirements:
+5 VDC (±5 percent), 2.31 A (typical)

This power requirement is determined by the user load. Connections can be made at either the front panel (P3 or P4) or at P2. To facilitate connections made at P2, GE offers the VMIACC-0129* P2 power accessory which is recommended, but not required.

Temperature:
Operating: 0° to +55° C
Storage: -20° to +85° C

Altitude: Operating: 0 – 10,000 ft (3,000 m)

Relative Humidity Range: 20% to 80%, noncondensing

Cooling: Forced air convection

MTBF: Contact factory

Trademarks

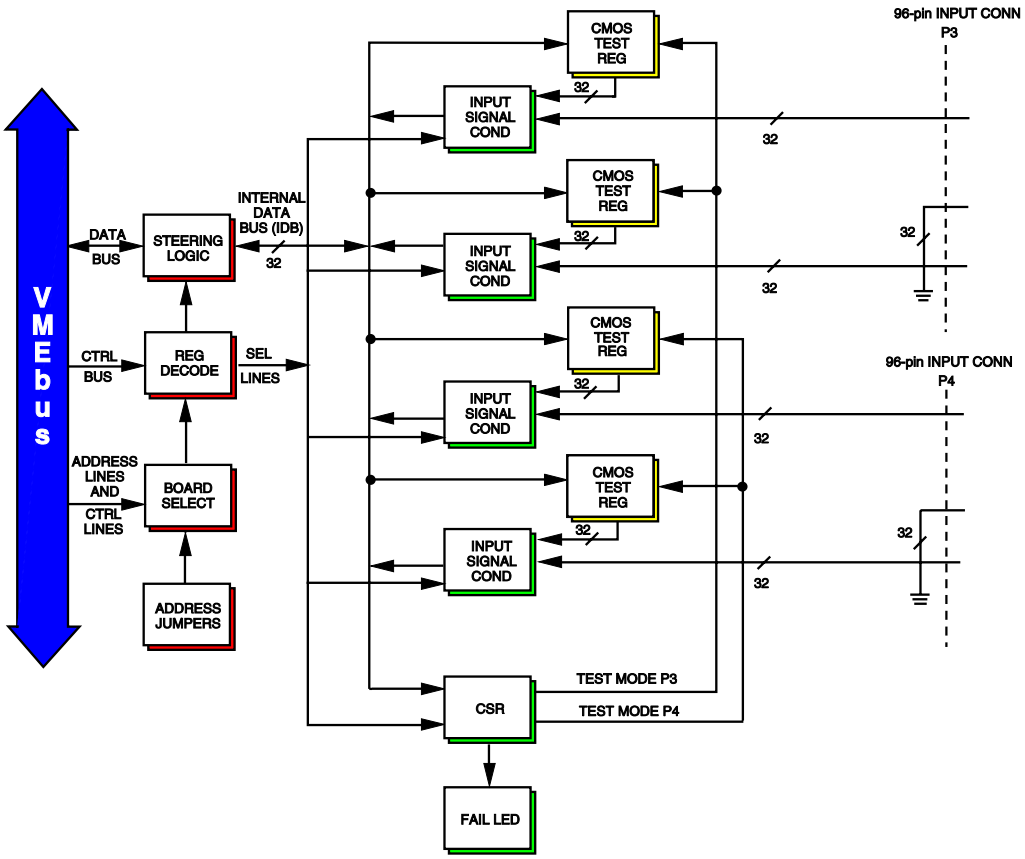
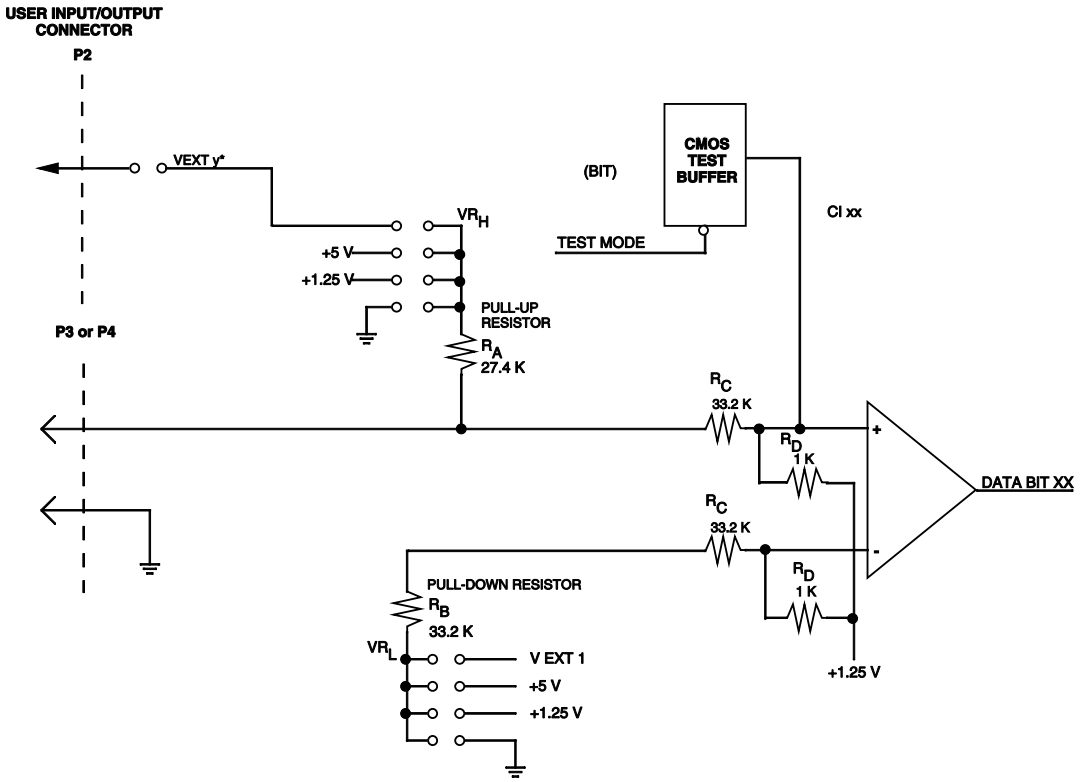


Figure 1. VMIVME-1128 Block Diagram



*Each group of channels (8 channels per group) has a separate jumper field for external voltage signals

Figure 2. Typical Input Signal Conditioning

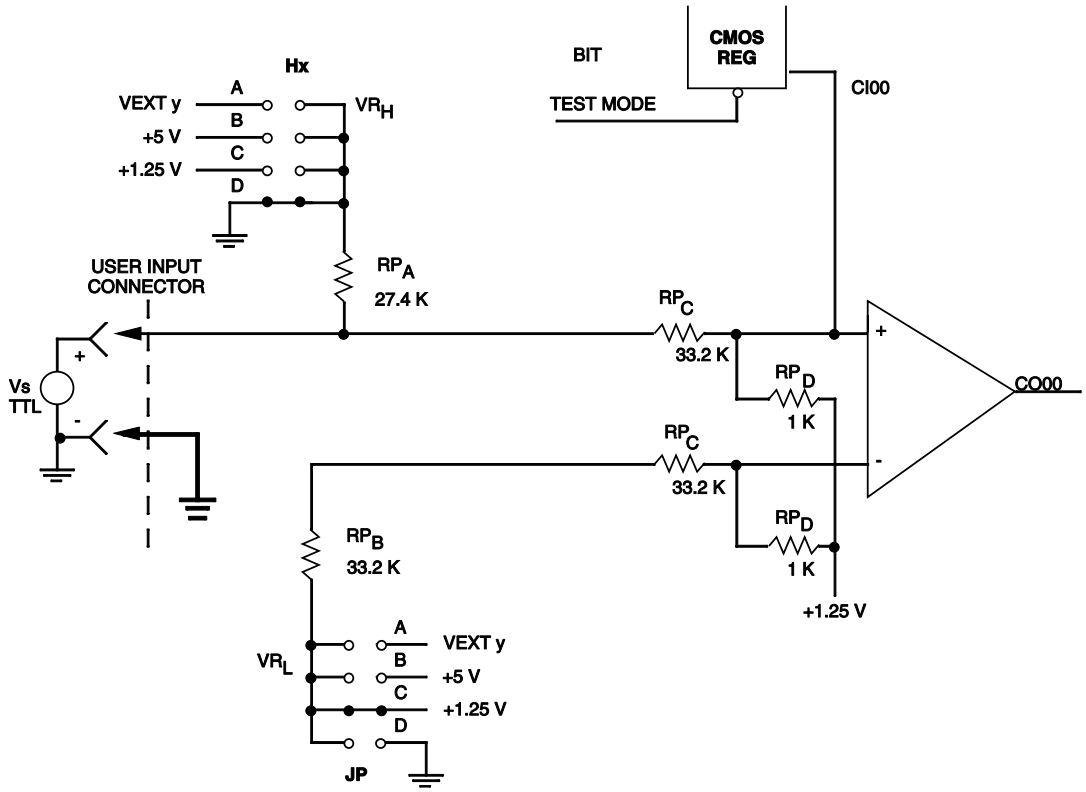


Figure 3. Input Configuration for Voltage Sourcing Inputs at TTL Levels

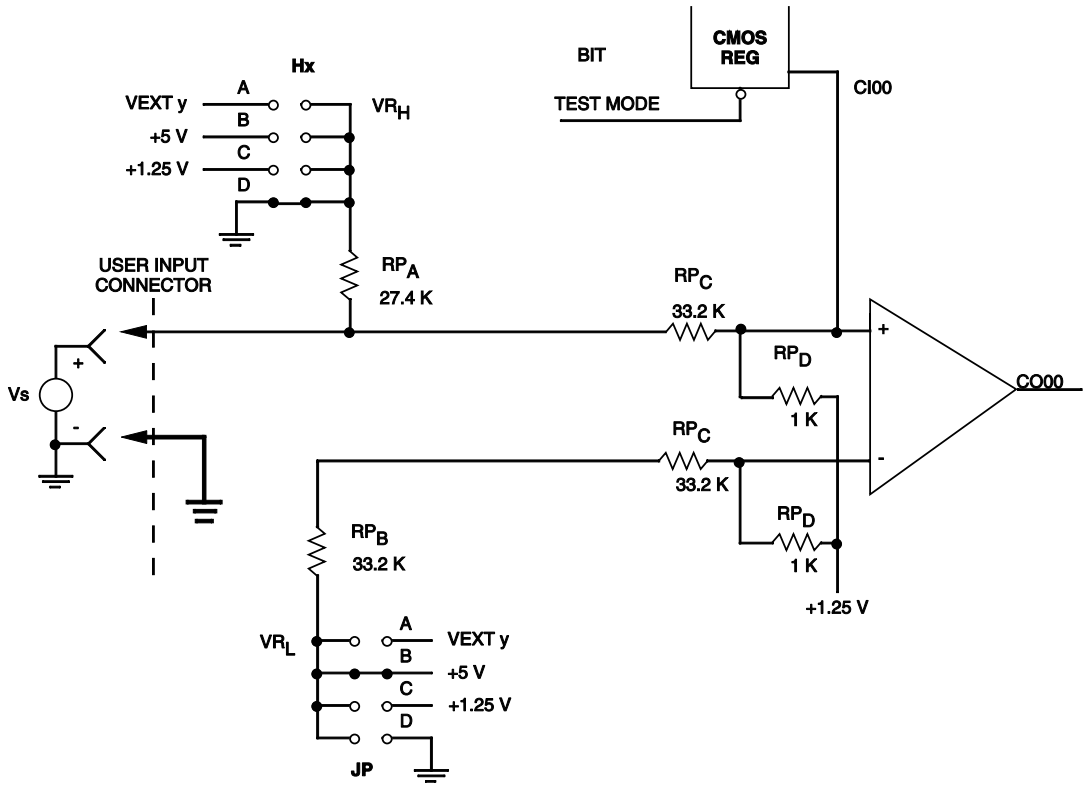


Figure 4. Input Configuration for Voltage Sourcing Inputs

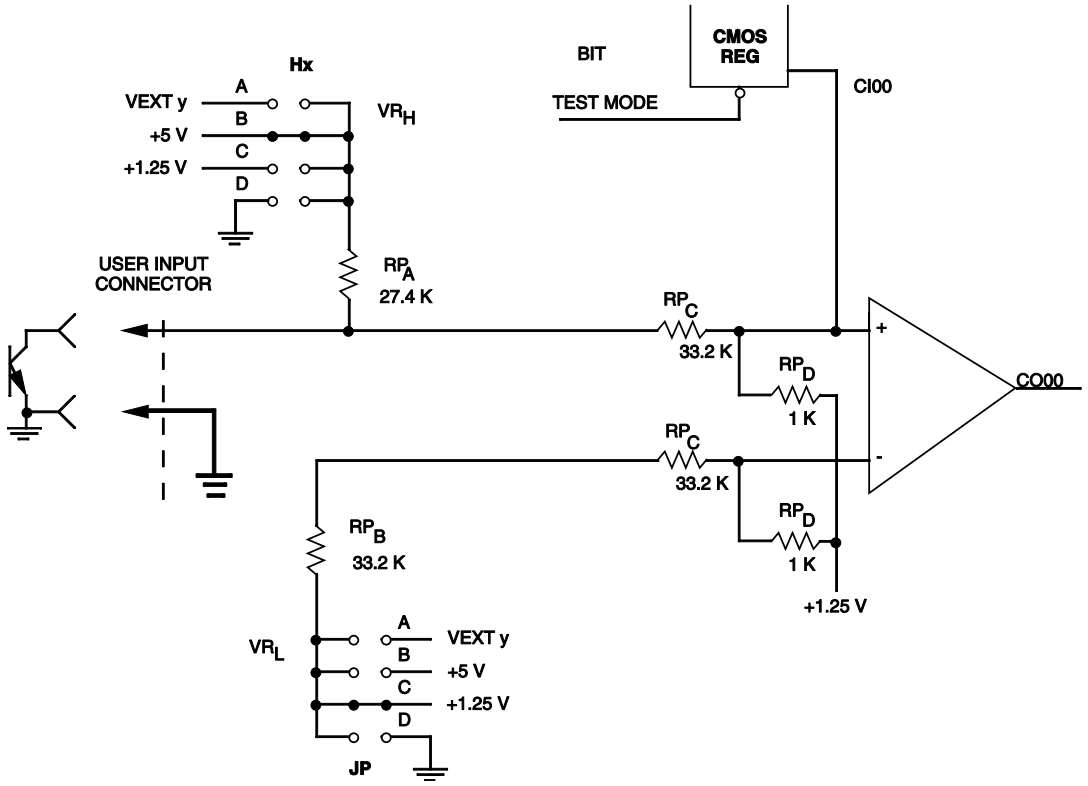


Figure 5. Input Configuration for Current Sinking Inputs

Table 1. Threshold Voltages

$V_t = 0.51\ VR_L + 0.61$

VR_L	**V_t**
0 V	0.61 V
1.25 V	1.25 V
5 V	3.2 V
12 V	6.7 V
24 V	12.9 V
28 V	14.8 V
48 V	25.1 V
66 V	34.3 V

GE Intelligent Platforms
Information Centers

Americas:
1 800 322 3616 or 1 256 880 0444

Asia Pacific:
86 10 6561 1561

Europe, Middle East and Africa:
Germany +49 821 5034-0
UK +44 1327 359444

Additional Resources

For more information, please visit the GE Intelligent Platforms Embedded Systems web site at:

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