VMIC VMIVME-1160A-123

32-Bit Optically Coupled Digital Input Module

In Stock

Used and in Excellent Condition

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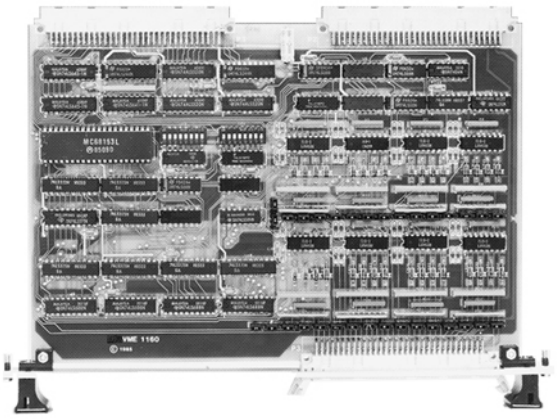
GE Fanuc Automation

VMIVME-1160A Specifications



32-bit Optically Coupled Digital Input with Change-of-State Interrupts

Features:

- 32 optically coupled digital inputs
- 5V to 48VDC input range
  - — Voltage sourcing
  - — Current sink/contact sense (internal pull-up resistors available)
- High isolation
- Input debouncing option for both *make* and *break* contacts
- Does not require *form C* (single-pole double throw) input signals
- Interrupt available on both rising edge and falling edge
- Change-of-State interrupts on any of seven levels eliminate CPU polling overhead
- Positive or negative true input options
- Nonprivileged short I/O, supervisory short I/O, or both
- High reliability DIN-type connectors
- 8- or 16-bit transfers

GE FANUC

Embedded Systems

Ordering Options							
August 3, 2007 800-101160-000 C		A	B	C	D	E	F
VMIVME-1160A	–				0	0	

A = Polarity/Input Type
1 = Positive True/Voltage Source
2 = Negative True/Voltage Source
3 = Positive True/Contact Sense
4 = Negative True/Contact Sense
B = Input Voltage
0 = 5V (TTL Compatible)
1 = 12V
2 = 24V
3 = 48V
C = Debounce Selection
0 = N/A
1 = 2µs
2 = 10µs
3 = 5ms
4 = 1ms
D = 0 (Option reserved for future use)
E = 0 (Option reserved for future use)
F = Conformal Coating
0 = No Conformal Coating
1 = With Conformal Coating

Connector Data	
Compatible Cable Connector	Panduit No. 120-964-435E
Strain Relief	Panduit No. 100-000-032
PC Board Header Connector	Panduit No. 120-964-033A

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

Functional Characteristics

Overview: This product is designed with standard Change-of-State (COS) control and interrupt logic that detects any COS and provides an interrupt vector to the byte level. It incorporates an MC68153 Bus Interrupter Module (BIM) and interrupts are supported on any of seven levels.

Each byte (8 bits) of input may have a unique interrupt vector that is generated upon a COS in any bit of that byte. This product also has an Interrupt Enable Register which is used to allow interrupts to be enabled on a byte-by-byte basis. The input data may be accessed as a D8 or D16 transfer.

A functional block diagram of this product is shown in Figure 1. Interrupts are generated on any COS (positive or negative transition). Polarity is determined by reading the input port after the COS interrupt.

Positive/Negative True Ordering Information: This board may be ordered with positive or negative true data. For positive true boards, when current flows in the opto-isolator diode, a logical *one* will be presented to the VME.

For negative true boards, when current flows in the opto-isolator diode, a logical *zero* will be presented to the VME. In either case, the data sent to the BIM is always positive true and not affected by the ordering option.

Related Products and Applications: GE Fanuc Embedded Systems offers a broad range of digital I/O products for VME systems and supports these products with comprehensive applications information. Contact the factory for a description of current products.

Compatibility: The VMIVME-1160A is a standard, double height printed circuit board that is electrically and mechanically compatible with the VME.

Input Organization: Four input ports, each eight bits wide. The ports are arranged as four contiguous 8-bit, read-only registers.

Addressing Scheme: Four 8-bit ports, individually addressable on 8- or 16-bit boundaries.

Board Address: The board address is selected by onboard DIP switches. Operation is supported in any slot on the VME backplane, except slot one.

VME Address: Address modifier bits are decoded to support either short supervisory I/O, nonprivileged short I/O access, or both. A dual jumper is provided to support this option, and is factory configured for short supervisory I/O access.

Data Transfer Type: D8, D16

Access Time: 250ns maximum

Data Polarity: Order as positive true or negative true[1]

Interrupts

Type: VME slave/interrupter; ROAK

Levels: Any of the seven available interrupt levels I(1) to I(7)

Interrupt Event: Each 8-bit input port is assigned an interrupt level. A COS of any bit(s) in a port causes an interrupt to be generated at the assigned level.

Interrupt Vector Location: D08(O)

[1] State changes that occur during the interrupt processing window (internal request to interrupt acknowledge cycle complete) will not be detected. The time between user input state changes must not be less than the computer interrupt processing time; otherwise, the state changes will be lost.

Input Characteristics

Signal Conditioning: Inputs can be either voltage sourcing or current sink/contact sense with voltages accepted in the range 5 to 48V.

Input Voltage Options: Input voltage can be ordered as 5, 12, 24, or 48V. Typical input circuit configurations are illustrated in Figure 2. Detailed specifications are provided in Tables 1 through 4.

Input Configurations: Voltage source or logic level current sink or contact sense

Debounce Selection: Debounce logic for all 32 inputs are available, with standard time constants of 2µs, 10µs, 1ms or 5ms

Isolation: 10MΩ, minimum

Isolation Voltage: 1,000V maximum sustained voltage; 7,500V for one second

Physical/Environmental Specifications

Dimensions: Standard VME double width board (166mm x 233.4mm x 12mm)

Power Requirements:
+5VDC (±5 percent), 1.1A (typical), 2.1A maximum

Input Connector: One 64-pin DIN connector, type C

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

Humidity: 20% to 80%, noncondensing

Cooling: Convection, forced air

Trademarks

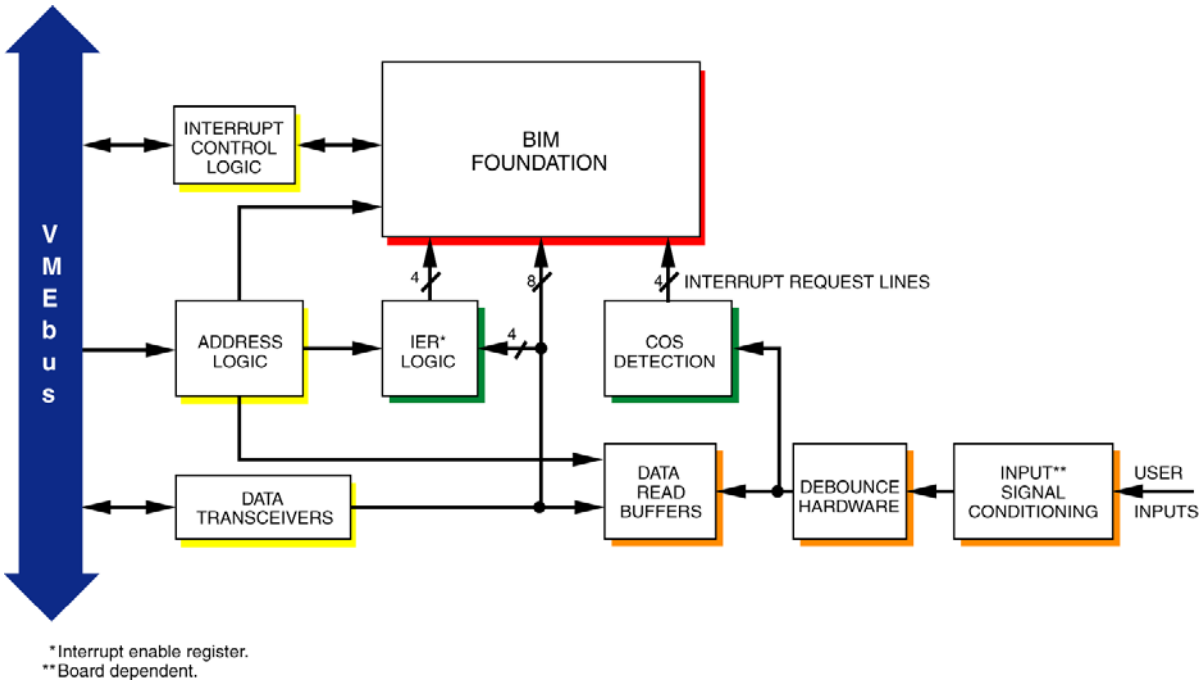


Figure 1. VMIVME-1160A Functional Block Diagram

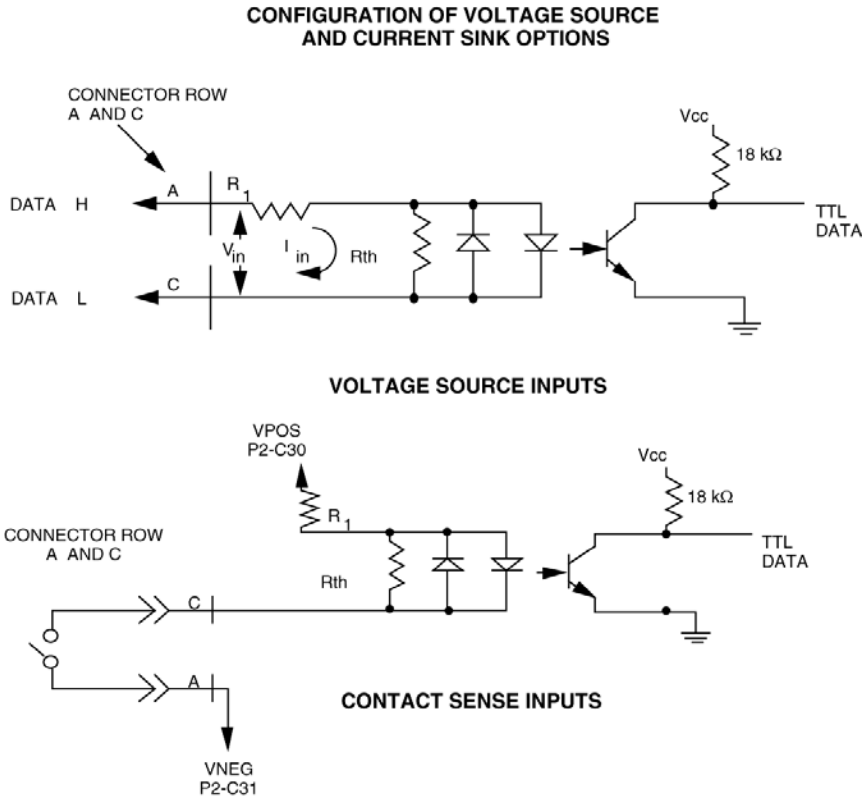


Figure 2. Typical Voltage Source and Contact Sense Signal Conditioning

Table 1. 5V Option

PARAMETER	CONDITION	MIN	TYP	MAX	UNIT
V_{IH} - HIGH THRESHOLD VOLTAGE	———	3.6	2.6	—	V
V_{IL} - LOW THRESHOLD VOLTAGE	———	—	2.6	1.8	V
I_{IH} - HIGH VOLTAGE CURRENT	VIN = 5 VDC	—	—	3.1	mA
I_{IL} - LOW VOLTAGE CURRENT	VIN = $V_{IL(MIN)}$	—	—	0.7	mA

Typical turn-on current is 1.43 mA at VIN = 2.6 V.
Absolute maximum input voltage is ± 12 VDC.

Table 2. 12V Option

PARAMETER	CONDITION	MIN	TYP	MAX	UNIT
V_{IH} - HIGH THRESHOLD VOLTAGE	———	9.2	5.9	—	V
V_{IL} - LOW THRESHOLD VOLTAGE	———	—	5.9	3.4	V
I_{IH} - HIGH VOLTAGE CURRENT	VIN = 12 VDC	—	—	3.4	mA
I_{IL} - LOW VOLTAGE CURRENT	VIN = $V_{INL(MIN)}$	—	—	0.7	mA

Typical turn-on current is 1.43 mA at VIN = 5.9 V.
Absolute maximum input voltage is ± 22 VDC.

Table 3. 24V Option

PARAMETER	CONDITION	MIN	TYP	MAX	UNIT
V_{IH} - HIGH THRESHOLD VOLTAGE	———	21.3	12.9	—	V
V_{IL} - LOW THRESHOLD VOLTAGE	———	—	12.9	6.9	V
I_{IH} - HIGH VOLTAGE CURRENT	VIN =24 VDC	—	—	2.9	mA
I_{IL} - LOW VOLTAGE CURRENT	VIN = $V_{INL(MIN)}$	—	—	0.7	mA

Typical turn-on current is 1.43 mA at VIN =12.9 V.
Absolute maximum input voltage is ± 34 VDC.

Table 4. 48V Option

PARAMETER	CONDITION	MIN	TYP	MAX	UNIT
V_{IH} - HIGH THRESHOLD VOLTAGE	———	43.2	27.0	—	V
V_{IL} - LOW THRESHOLD VOLTAGE	———	—	27.0	13.9	V
I_{IH} - HIGH VOLTAGE CURRENT	VIN = 48 VDC	—	—	2.7	mA
I_{IL} - LOW VOLTAGE CURRENT	VIN = $V_{INL(MIN)}$	—	—	0.7	mA

Typical turn-on current is 1.43 mA at VIN = 27.0 V.
Absolute maximum input is ± 50 VDC.

Embedded Systems

GE Fanuc Embedded Systems Information Centers

Americas:
Huntsville, AL 1 800 322-3616
1 (256) 880-0444
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Richardson, TX 1 (972) 671-1972

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Edinburgh, UK 44 (131) 561-3520
Paris, France 33 (1) 4324 6007

Additional Resources

For more information, please visit the GE Fanuc Embedded Systems web site at:
www.gefanucembedded.com