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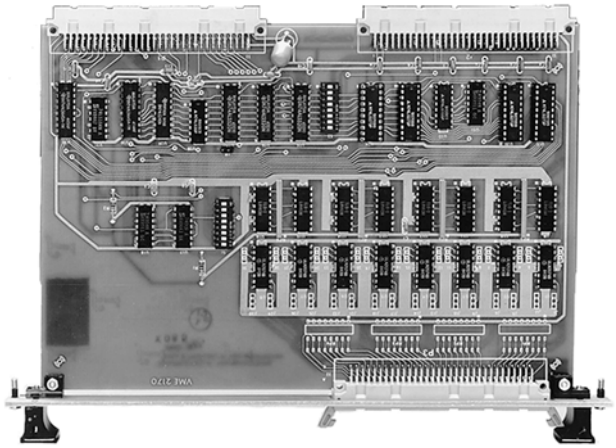
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Find the *Abaco Systems / VMIC VMIVME-2170A-110* at our website: *Click HERE*

GE Fanuc Automation

VMIVME-2170A Specifications



32-bit Optically Isolated Digital Output

Features:

- 32 optically isolated outputs
- 2.5 or 300 mA outputs
- Externally supplied pull-up voltage for maximum isolation
- Field-configurable pull-up resistors
- Source or sink output capability with low current option
- High output voltage tolerance to 30 V normal mode
- High isolation potential; 1 kV sustained, 6 kV pulsed
- Positive or negative true options
- 8- or 16-bit data transfers
- On-board DIP switches provide 14-bit board address selection
- Double Eurocard format with front panel
- Field-selectable nonprivileged or supervisory short I/O transfers

Applications:

- Digital control from VMEbus
- Elimination of system ground loops
- Control in high-electrical noise environments
- Control of multiple-potential system components

FANUC

Embedded Systems

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Ordering Options							
March 9, 2006 800-102170-000 F		A	B	C	D	E	F
VMIVME-2170A	–			0	0	0	

A = Data Polarity
1 = Positive True
2 = Negative True
B = Output Current
0 = 2.5 mA
1 = 300 mA
CDE = 0 (Options reserved for future use)
F = Special Sales Order
0 = Standard VME front panel w/o conformal coating
1 = Reserved
2 = Standard VME front panel w/ conformal coating

Connector Data	
Compatible Cable Connector	Panduit No. 120-964-435
Strain Relief	Panduit No. 100-000-072
PC Board Header Connector	Panduit No. 120-964-033A

Note

Panduit is also known as ITW/Pancon.

For Ordering Information, Call:
1-800-322-3616 or 1-256-880-0444 • FAX (256) 882-0859
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Functional Characteristics

Introduction: The VMIVME-2170A Optically Coupled Digital Output board consists of VMEbus compatibility logic, data control logic, four 8-bit output registers, and 32 optically isolated high-level outputs. The board is implemented as a double Eurocard form factor PC board, and provides all necessary address decoding and data transfer control logic to accept both 8- and 16-bit data transfers. Optical couplers isolate the 32 outputs from each other and from the VMEbus. Both supervisory and nonprivileged data transfers are supported.

The VMIVME-2170A's typical output configuration is shown in Figure 1. The internal configuration of the VMIVME-2170A board is shown in Figure 2.

Board Function: 32-bit, optically isolated, digital output board, designed and optimized specifically for the VMEbus. Featuring high isolation, the VMIVME-2170A board is shown in Figure 2.

Compatibility: The VMIVME-2170A is a standard double height VME printed circuit board and is electrically and mechanically compatible with the VMEbus.

Addressing Scheme: Addressable as four 8-bit ports or two 16-bit registers, located on any 32-bit boundary within the short supervisory or short nonprivileged I/O space.

Board Address: The board address is selected by 14 on-board DIP switches. Operation is supported in any available slot in the VMEbus backplane, except slot 1.

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

Data Transfer Type: D16, D8(EO)

Access Time: 250 ns maximum

Output Characteristics

Output Current Modes: See Figure 1 and Table 1 for high and low current options.

Output Configurations:
Current sinking, with pull-up resistor
Current sinking, no pull-up resistor
Voltage sourcing (low current mode)

Output Leakage Current:
High Current Version: 500 µA maximum at V_{CE} = 50 V and T_A = 70 C

Low Current Version: 50 nA maximum at V_{CE} = 10 V and T_A = 70 C

Output Voltage: 30 V maximum

Switching Time: See Table 1

Output Isolation: 10 MΩ, minimum

Isolation Voltage: 1,000 V maximum sustained field-to-VMEbus, 6,000 V for one second. Sustained channel-to-channel potential is 500 V maximum.

Physical/Environmental Specifications

Dimensions: Double height Eurocard

Height	9.2 in. (233.4mm)
Depth	6.3 in. (160mm)
Thickness	0.8 in. (20.3mm)

Power Requirements:
1.5 A (typical) at +5 VDC
2.2 A (maximum)

Airflow: Forced air convection, 400 CFM

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

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

Humidity:
Operating: relative humidity 20% to 80%, noncondensing

MTBF: 153,100 hours (stress)

Output Connector: Front panel 64-pin DIN connector. Refer to the Connector Data table on the Ordering Options sheet.

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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 GE Fanuc Embedded Systems for a description of current products and a list of application guides.

Specifying Factory Options

To accommodate the variety of control output requirements encountered in VMEbus applications, the following VMIVME-2170A characteristics can be specified as factory options:

Data polarity	Positive or negative true
Pull-up resistor sockets	User may select and install pull-up resistors
Output current	2.5 or 300 mA sink

Refer to the Ordering Options to obtain the part number codes associated with each option.

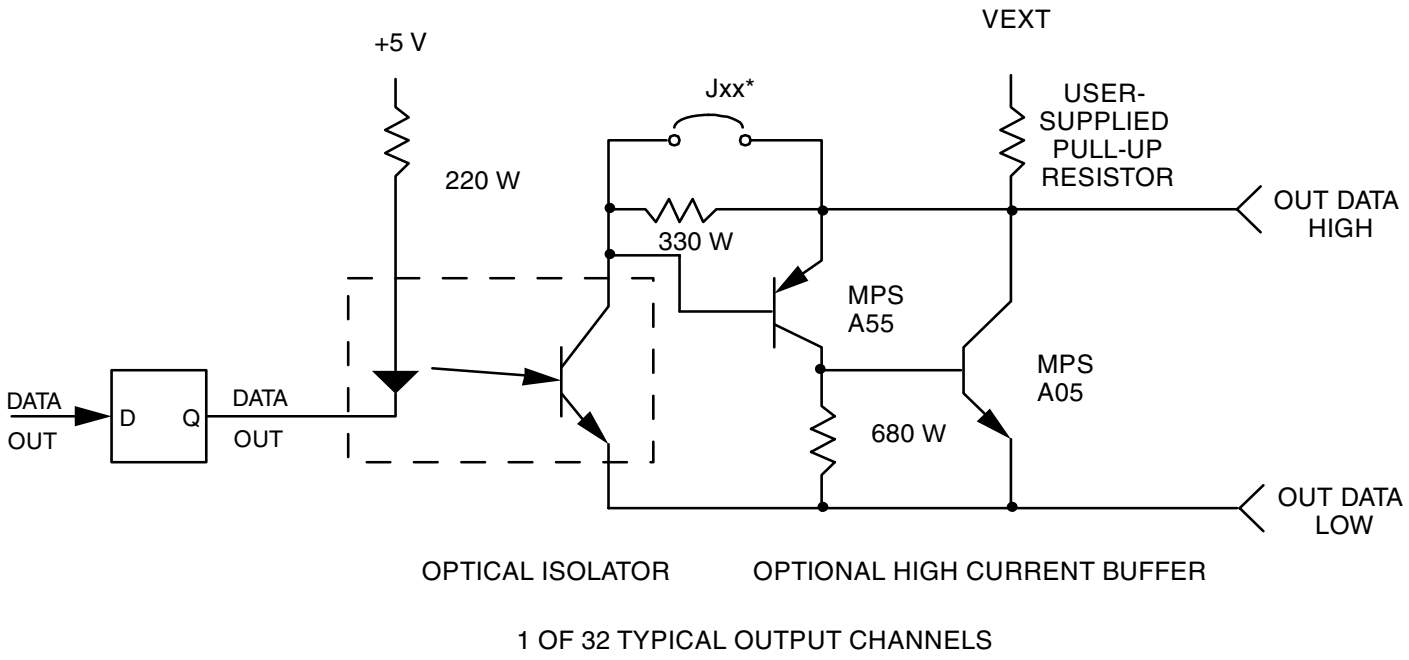
Output current is specified either as *zero* for low (2.5 mA) current, or as *one* for high (300 mA) current. All low current outputs are mutually isolated from each other and from the VMEbus. High current outputs are isolated in groups of four outputs.

The user chooses the pull-up resistor. DIP sockets are installed on the board for these resistor networks. The type of resistor DIPs used must be the isolated type. This DIP has individual resistors between pins across the package. For example, a resistor is between Pins 1 and 16. The value of this resistor is a function of the voltage across it and the power it can dissipate. For example, a 1/8 W DIP with an external voltage (V_{ext}) of 48 V would have a value of 18 kΩ ($R = V^2/P$) as a minimum.

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* Install only Jxx for low current option.
Install the resistors and transistors for high current option.

Figure 1. VMIVME-2170A Typical Output Configuration

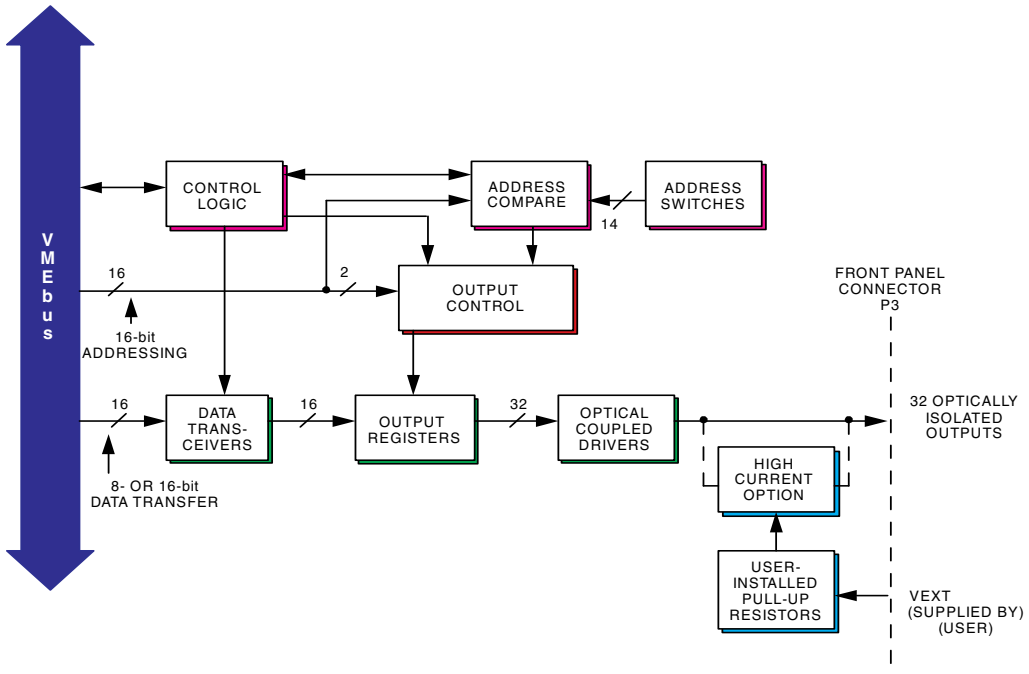


Figure 2. VMIVME-2170A Functional Block Diagram

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Table 1. Output Characteristics

HIGH CURRENT OPTION					
Parameter	**Conditions**	**Minimum**	**Typical**	**Maximum**	**Units**
V_{CE}		50			V
V_{CE}(SAT)	I_{CE} = 300 mA			2.5	V
I_{CE}				300	mA
T_D ON			7.0		µs
T_D OFF			3.5		µs
I_{CEO}	V_{CE} = 50 V T_A = 70 C			500	µA
LOW CURRENT OPTION					
Parameter	**Conditions**	**Minimum**	**Typical**	**Maximum**	**Units**
V_{CE}		30			V
V_{CE}(SAT)	I_{CE} = 2.5 mA			0.7	V
I_{CE}				2.5	mA
T_D ON			6.0		µs
T_D OFF			25	50	µs
I_{CEO}	V_{CE} = 10 V I^F = 0			50	nA

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Additional Resources

For more information, please visit the
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