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AdeptMotion Interface Board (MI3/MI6)

9

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Introduction

The AdeptMotion Interface (MI6/MI3) board is a 6U single-slot VME board designed to control motion axes for use with the AdeptMotion VME product. The MI6 board controls up to 6 axes of motion; the MI3 controls up to 3 axes of motion. Each board has industry standard servo drive outputs, incremental encoder inputs, and digital I/O for machine and amplifier control.

See the ***AdeptMotion VME Developer's Guide*** for complete information on installation, configuration, and operation of the AdeptMotion VME product.

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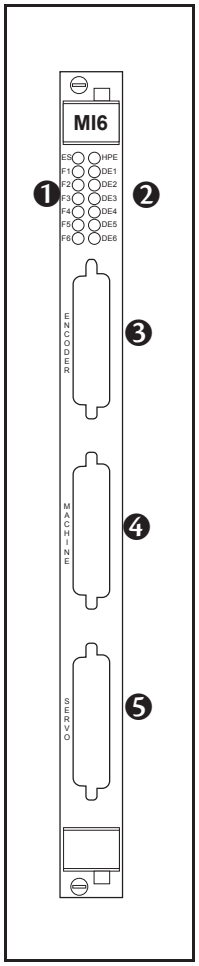
Connections and Indicators



❶ Red Status LEDs. When lit:

ES — indicates a latched E-Stop signal on the backplane has been asserted from the MI6 board or somewhere else in the system.

F1 — indicates a fault condition exists on Axis 1. The cause could be an Overtravel or a Drive Fault. The same applies to axes 2 through 6.

F2 — indicates a fault condition exists on axis 2.

F3 — indicates a fault condition exists on axis 3.

F4 — indicates a fault condition exists on axis 4.

F5 — indicates a fault condition exists on axis 5.

F6 — indicates a fault condition exists on axis 6.

❷ Yellow Status LEDs. When lit:

HPE — indicates the High Power Enable signal is asserted.

DE1 — indicates the Drive Enable signal is asserted for Axis 1.

DE2 — indicates the Drive Enable signal is asserted for Axis 2.

DE3 — indicates the Drive Enable signal is asserted for Axis 3.

DE4 — indicates the Drive Enable signal is asserted for Axis 4.

DE5 — indicates the Drive Enable signal is asserted for Axis 5.

DE6 — indicates the Drive Enable signal is asserted for Axis 6.

❸ **Encoder** connector — a 44-pin D-Sub female connector for the encoder cable to interface to encoder signals in the installation.

❹ **Machine** connector — a 44-pin D-Sub female connector for the machine cable to interface to the machine signals in the installation.

❺ **Servo** connector — a 44-pin D-Sub female connector for the servo cable to interface to the servo signals in the installation.

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VME Bus Address

Each MI3/MI6 board must have a unique VME bus address. The information in **Table 9-1** shows how to set the address when you have multiple boards in an Adept controller. If you purchased the Adept controller from Adept with all the motion boards installed, the correct DIP switch settings already will have been set for you by Adept.

The address is set at DIP Switch SW1 on the MI3/MI6 board. To operate the switch, use a small insulated instrument, such as the point of a pencil. Each switch position is a miniature rocker switch. To open a switch, press down on the side of the switch marked "open". See ***AdeptMotion VME Developer's Guide*** for the location of the switch.

Table 9-1. VME bus Address Switch Settings for MI-3/MI-6 Board

Servo Board Address	Switch Position on Switch SW1[a]			
	1	2	3	4
1	Closed	Closed	Closed	Closed
2	Closed	Closed	Closed	Open
3	Closed	Closed	Open	Closed
4	Closed	Closed	Open	Open
5	Closed	Open	Closed	Closed
6	Closed	Open	Closed	Open

[a] The position notation on DIP switches can vary. If the switch is marked open/closed, then open = off and closed = on.

NOTE: In systems with an EJI board (Adept robot systems) and MI3/MI6(s), the first MI3/MI6 board should be set to servo board number 3. This allows optimal processor allocation for the servo code with the default V^+ software configuration.

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Jumper Settings and Resistor Configuration on MI3/MI6

See the ***AdeptMotion VME Developer's Guide*** for information on the correct settings for the switches, jumpers, and resistor packs on the MI3/MI6 board.

Connecting to User Equipment

The MI3/MI6 board connections to user equipment are divided into three groups: the encoder, the machine, and the servo. Adept offers a set of cables and Motion Interface mounting panels (MP6) that should be used to make connections between the MI3/MI6 board and your equipment. Each connector on the MI3/MI6 has a corresponding cable and MP6 mounting panel. The MP6 panels can be installed on standard DIN mounting rails.

See the ***AdeptMotion VME Developer's Guide*** for complete information on the installation and setup of user equipment.

MI3/MI6 Board Specifications

Table 9-2. Technical Specifications[a]

Electrical Power Consumption	5 VDC at 4.0 A max +12 V at 84 mA –12 V at 21 mA
Maximum MI6 per controller	MV-19: 4 MI-6 MV-5: 2 MI-6 MV-10: 4 MI-6
Number of axes of control	3 axes of control per MI-3 board 6 axes of control per MI-6 board
Width	Occupies one backplane slot

[a] Specifications subject to change.

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