

## G5 Controller - Product Data Sheet

The G5 Motor Controller is the most dynamic, versatile, and cost effective on the market. With its exceptional accuracy, stability, and flexibility, it is capable of satisfying the most demanding motor controller requirements. With its simple to use interfaces, it is the easiest to install and use.

The G5 Motor Controller comes standard with a motor breakout board that can operate up to 6 motors using either step and direction signals (for stepper and linear motors) or PWM and direction signals (for DC Brushless or AC induction motors). You can even mix and match motor types from the controller. For example, one axis can be configured as a stepper, another as DC Brushless, and a third as a linear motor.

The G5 Motor Controller can also be ordered with any of four different motor driver boards in the same package: a dual axis half/micro-stepping driver; a dual axis DC Brushless motor driver; a single axis linear motor driver, and an AC induction motor driver. Each motor driver board has encoder input(s) and the linear and AC motor driver boards can be stacked up to three axes.

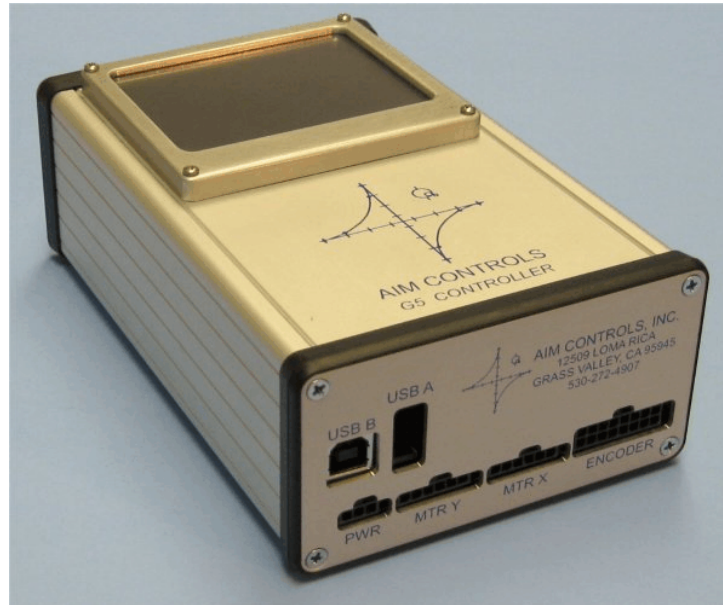


The G5 Motor Controller features:

1. Open or closed loop operation for each axis;
2. Mixed motor types;
3. Up to six motor axes;
4. High or low level motion programmability.
5. USB 2.0 interface ( RS-232 and/or RS-485 interfaces optional); and
6. Three encoder inputs (A, B, & I)
7. Four I/O connections for limit switches, relays, etc.

The G5 Motor Controller Options include:

1. VGA touchscreen interface;
2. infrared remote control (Sony or J type handheld remote);
3. 24 hour real time clock; and
4. PC Windows software for high level user interface (custom designs also available).



## 32 Bit Smart Control

The G5 motor controller employs a high speed 32 bit processor and a high density FPGA for processing operational commands into motor driver signals. Real time position feedback is employed for full PID loop closure.

The G5 motor controller allows users to either write their own control software or utilize Aim's multi-axis PC interface software. All low level commands are available through the USB 2.0 interface. See the operations manual for command details.

In addition, commonly used commands for motor control are available through the optional VGA touchscreen, along with special motor control function commands such as "line", "rectangle", "arc", or "circle" that enable the user to input the key coordinates and the controller does the rest of the vector work to move in the desired pattern. The general purpose motion commands available on the VGA menu include: velocity, distance, stop.

## Versatile Interface Options

The G5 motor controller has a full set of user interface options that provide the most versatile user interface capabilities. The VGA touchscreen allows for touch menu control. The IR remote control option allows for handheld remote control. The joystick input option allows for manual operator control of 2 or three axes. The VGA camera input option allows for vision system functions such as centroid calculation and motion capture for tracking objects.

## G5 Complete Motor Systems

The G5 Motor Controller can be purchased as a bundle with any of the G5 standard motor driver boards. These include:

### **G5 Two Axis Micro-Stepping System**

This is a complete two axis stepper system in a single package. This small, highly integrated unit runs on +12-30 vdc (higher voltages available). It has two encoder inputs (A, B & I) and 6 isolated I/O lines (either input or output).

### **G5 System -- Dual DC Brushless Motor Version**

This is a complete two axis DC Brushless system in a single package. This small, highly integrated unit runs on +12-30 vdc. It has two encoder inputs (A, B & I) and 6 isolated I/O lines (either input or output). This system can work with any of the G5 options.

### **G5 System -- Linear Motor Version**

This is a complete single axis Linear motor system in a single package. This small, highly integrated unit runs on 90-240 vac. It has two encoder inputs (A, B & I) and 6 isolated I/O lines (either input or output).

### **G5 System – AC Induction Motor Version**

This is a complete two axis AC inductor motor system in a single package. This small, highly integrated unit runs on 90-240 vac. It has two encoder inputs (A, B & I) and 6 isolated I/O lines (either input or output).

## Optional Accessories

- \* VGA Color Graphics Display
- \* IR remote — the user can use a hand held remote
- \* Joystick -- the user can operate two or three axes with an external joystick
- \* VGA camera
- \* Windows PC Software -- high level software that runs on Windows based PC platforms.

This software enables sophisticated, programmable motion control operations. AIM can also prepare custom user applications upon request.

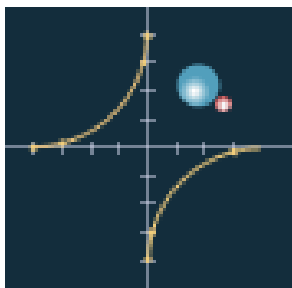
\* 24 hour clock — Each system can be ordered with a 24 hour, battery backed, real time clock that can be used as an integral part of the control system.

## Physical Specifications

- +12 vdc for G5 controller
- +12 to 24 vdc for dual microstepper driver
- +12 -30 vdc for dual DC brushless driver
- 90-240 VAC for Linear driver

Size: 4”w x 2.125”h x 6.5”l; approximately 2-3 lbs.

Interface: USB 2.0; optional RS-232; RS-485 full duplex up to 1 Mbit /sec.



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