

M5000

1-, 2-, or 3-Axis, High-Speed
ISA-Bus Stepper Motor
Controller

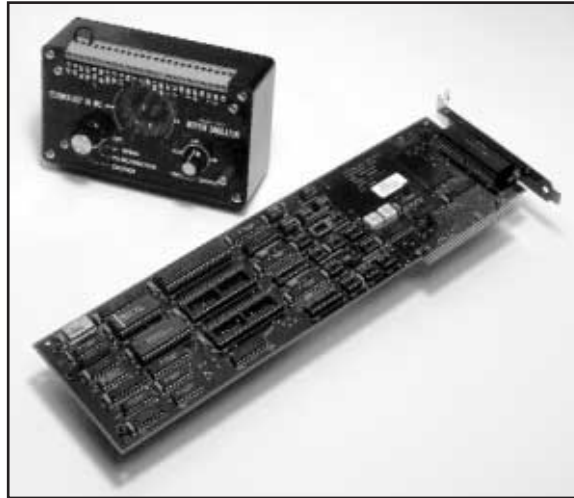
Functional Description

The M5000 stepper motor controller is ISA-bus compatible. It can intelligently control up to three independent stepper motor drives, enabling the performance of complex motion profiling routines.

Each independent stepper channel provides five control inputs (two stop limits, two deceleration inputs, and one home input). Outputs include pulse, direction, and hold. The pulse and direction outputs allow up to 240,000 pulses per second. All inputs and outputs are optically isolated to minimize noise and protect the M5000 from induced transients.

Operation of the M5000 is accomplished via the included driver software. The M5000 may be programmed under Windows or DOS.

Also included is a sample program designed to facilitate programming of the controller. The "PRO5000" Profile Utility program automatically calculates values needed to accomplish trapezoidal movement using the M5000. Sample programs provide a series of simple commands by which the M5000 can be programmed to execute stepping routines.



All connections necessary for operation with the M5000 are made through a standard 37-pin connector. Keithley offers as options a screw-terminal adapter (STA-U) or screw-terminal panel (STP-37).

Software

The accompanying utility software simplifies use of the M5000, and saves you programming time. The standard command set is designed to be used from DOS-based languages (Microsoft C, QuickC, QuickBASIC, Borland or Turbo C/C++, or Turbo Pascal) and Windows 3.1x/95/98 based languages (Microsoft Visual C++ or Visual Basic).

FEATURES

- Up to 3-axes per board
- Up to 240,000 PPS
- Windows 3.X/95/98/NT/2000 32-bit driver support
- Independent operation
- Opto-Isolated outputs and inputs

APPLICATIONS

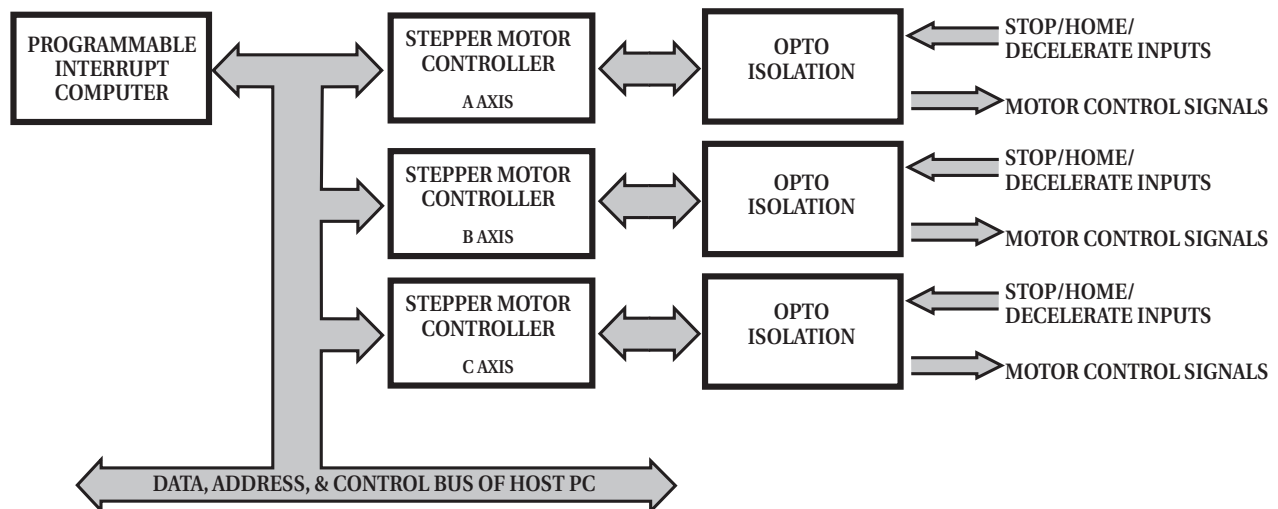
- X-Y table control
- High-speed motor control
- Process automation
- Robotics

QUESTIONS ?

1-800-552-1115 (U.S. only)

Call toll free for technical assistance, product support or ordering information, or visit our website at www.keithley.com.

Block Diagram

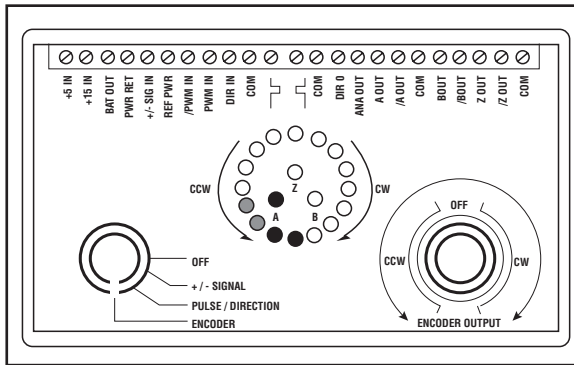


M5000

Example Programs

The Profile Utility (PRO5000.EXE) allows you to enter physical parameters for a trapezoidal move. The internal register values corresponding to these parameters are calculated and displayed on the PC's screen. A move can then be triggered either on a single axis or globally (on the axes that are enabled). During the move, the number of pulses left to move, the status register, and the state register are displayed for each axis.

For Windows 3.1x/95/98, comprehensive demonstration programs for Visual C++ and Visual Basic are provided. This is excellent both as a programming tool and a way of getting the "feel" of the instruction set. All sample programs are heavily commented and available for cut and paste.



ORDER	DESCRIPTION
M5000-1	Single axis motor controller
M5000-2	Two axis motor controller
M5000-3	Three axis motor controller
OPTIONS	
TESTPOINT	TestPoint Software Package

SPECIFICATIONS M5000

- STEPPER CHANNELS:** 3 (individually programmable).
- MAXIMUM STEP COUNT:** 16,777,215.
- MAXIMUM STEP RATE:** 240,000pps.
- ACCELERATION/DECELERATION:** programmable start, run, & ramping rates.
- LIMIT SWITCH INPUTS:** 5 per channel (two stop, two deceleration, one home).

POWER REQUIREMENTS

+5VDC: 1.3A typ, 2.5A max.

ENVIRONMENTAL

- OPERATING TEMP RANGE:** 0 to 70°C.
- STORAGE TEMP RANGE:** 0 to 70°C.
- HUMIDITY:** 95% non-condensing.
- WEIGHT:** 8oz (230g).
- DIMENSIONS:** 13.3in L x 4.25in H x 0.75 in D (33.5cm x 10.8cm x 1.9cm).

POWER REQUIREMENTS

- EXTERNAL:** +5 to +15VDC.
- INTERNAL:** +6VDC, 4 AA Cells (included).

ENVIRONMENTAL

- OPERATING TEMP RANGE:** 0 to 70°C.
- STORAGE TEMP RANGE:** 0 to 70°C.
- HUMIDITY:** 95% non-condensing.
- WEIGHT:** 8oz (230g).
- DIMENSIONS:** 6in L x 4in H x 2in D (15.25cm x 10.16cm x 5.08cm).

QUESTIONS?

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