C-600

Precision Motion Controller/ Driver for Stepper Motors

- **4-Axis Stepper-Motor Controller/Driver for Complex, High-Precision Motion Control**
- **20,000 Steps/Rev. Microstepping for Ultra-Smooth, High-Resolution Positioning**
- **Precision Circular/Linear Interpolation and Continuous Path Contouring for Complex Motion Profiling**
- **RS-232 Interface for Universal Connectivity**
- **Powerful MotionBASIC™ Programming Language for Online/Offline Programming**
- **Front Panel Keypad and LCD Display for User-Friendly Operation**
- **Non-Volatile Flash ROM for up to 8000 Lines of MotionBASIC™ User Program Code**

The new C-600 is a highly advanced, easy-to-use, multi-axis motion controller for automation, precision measurements or general positioning tasks in research and industry.

The controller is based on a high-speed, 32-bit DSP processor for high-precision synchronized control and program/command handling. The integrated drivers for four stepper motors (2- or 4-phase, 1.5 A max.) simplify system setup and offer improved reliability.

C-600 Multi-axis stepper motor controller/driver

Circular & Linear Interpolation
The C-600 simultaneously operates up to 4 axes and supports complex 2D and 3D trajectories (synchronized circular and linear interpolation) and continuous path contouring—a must for high-precision measurement tasks and complex motion profiling. In addition, the controller features microstep technology with up to 20,000 steps/rev for ultra-smooth, high-resolution motion at step frequencies up to 100 kHz.

Programming
Programming the C-600 is easy. The controller's unique MotionBASIC™ online and offline IDE (integrated development environment) is intuitive and allows powerful, complex programs to be written and downloaded to the controller with minimum effort. MotionBASIC™ is a combination of the unsurpassed functionality of the modern general-purpose BASIC programming languages and the G-code language used in CNC machines.

Communication is via a serial RS-232 interface for universal connectivity.

Stand-Alone Operation
The C-600 provides non-volatile flash ROM to hold up to 8,000 lines of MotionBasic™ program code and data. User-defined motion libraries make the C-600 a versatile automation device with all the features of a traditional PLC (programmable logic controller).

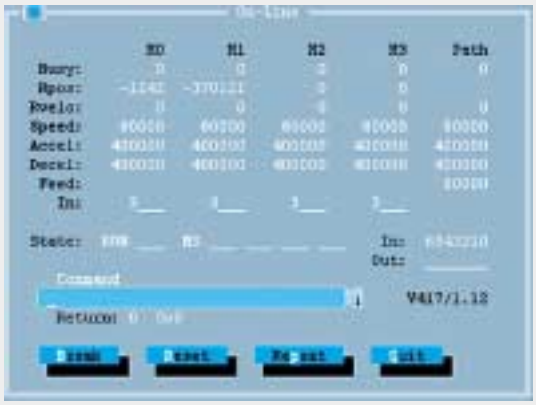
Furthermore, the C-600 features a backlit LCD display and a user-friendly, front-panel-operated menu system for manual positioning, execution of complex motion programs, or system configuration. Four LEDs provide system status information.

Ordering Information

C-600.42
Controller for 2- and 4-Phase Stepper Motors, 4-Axis, 19" Rackmount, RS-232 Interface

I/O Capabilities

Synchronizing motion with events internal and external to the controller (e.g. firing a laser) is easily achieved with one or more of the 12 digital I/O (TTL) lines. Four additional power outputs provide 200 mA current, such as for direct motor-brake control. The C-600 even supports analog data acquisition via 2 A/D input channels.



MotionBasic™ compiler

Other Benefits

Since the controller's firmware resides in flash ROM, it can be updated by simple downloading, allowing users to benefit from newly added features without the need for factory return or even opening the case.

The integrated power supply permits a wide range of operating voltages (85-240 V) for universal usage—another decisive benefit for OEM customers.

This controller is compatible with all PI 2- and 4-phase stepper-motor-driven micropositioning systems.

Technical Data

Model	C-600
Function	Rack-mountable stepper-motor controller and driver for 2- or 4-phase motors, 32-bit DSP
Axes	4
Trajectories	Point-to-point, 2D and 3D trajectories (synchronized circular & linear interpolation), continuous path contouring
Motor resolution	100 x programmable microstep resolution (20,000 steps/rev) with most PI 2-phase stepper motors, up to 100 kHz output frequency
Motor current	Up to 1.5 A, 24 V, chopped
Limit switches (per axis)	2 TTL (pull-up / pull-down, programmable), programmable soft limits
Origin switches (per axis)	1 TTL (pull-up/pull-down, programmable), real-time position capture
I/O ports	12 TTL I/O (programmable), for synchronizing motion with internal/external events, 4 programmable power outputs (200 mA)
Analog input	2 channels
Interface / communication	RS-232 (cable included), 19.2 kbit/sec.
Manual operation	Front panel keypad and LCD display, joystick interface
Command set, programming	MotionBASIC™ command language, for online and offline programming
On-board memory	64 kB non-volatile flash ROM for up to 8000 lines of MotionBasic™ user program code and data
Motor connectors (per axis)	15-pin (f) sub-D
Operating voltage	85 to 240 VAC, 50 to 60 Hz, wide-range P/S
Dimensions	450 x 300 x 135 mm (19" rackmount)
Weight	6.6 kg