

C-600

Multi-Axis Precision Stepper Motor Controller

(Preliminary Datasheet)

ORDERING INFORMATION

C-600.42
2/4 Phase Stepper Motor Controller, 4 Axis, 19" Rack Mount, RS-232 Interface

- **4 Axes Stepper Motor Controller/Driver for Complex, High-Precision Motion Control**
- **20,000 Steps/rev. Micro-Stepping 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 RAM for up to 8000 Lines of MotionBASIC™ User 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, Infineon 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 set-up and provide improved reliability.

The C-600 simultaneously operates up to 4 axes and supports complex 2D and 3D trajectories (synchronized circular & linear interpolation) and continuous path contouring, a must for high precision measurement tasks and complex motion profiling. In addition, the controller features up to 20,000 steps/rev. micro-step technology for ultra-smooth, high-resolution motion at step frequencies to 200 kHz.

Programming the C-600 is a cinch. 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 a modern general purpose BASIC programming language and the G-code language used in CNC machines.

The C-600 provides non-volatile flash RAM to hold up to 8000 lines of MotionBASIC™ program code and data. User defined motion libraries make the C-600 a versatile automation device covering all features of traditional PLC controllers.

Further, 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 LED's provide system status information.

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). Four additional power outputs provide 200 mA current, e.g. for direct motor brake control etc. The C-600 even supports analog data acquisition via 2 A/D input channels.

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

Communication is via a serial RS232 interface for universal connectivity.

The integrated power supply provides 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 2/4 phase stepper motor driven micropositioning system.



C-600 Multi-Axis Stepper Motor Controller

TECHNICAL DATA: C-600.42

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	50 x programmable micro-step resolution (20000 steps/rev) with most PI stepper motors), up to 200 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 keyboard and LCD display, joystick interface
Command set, programming	MotionBASIC™ command language, for online and offline programming
On board memory	64 kB non-volatile flash RAM 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	450x300x135 mm (19" rack mountable)

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