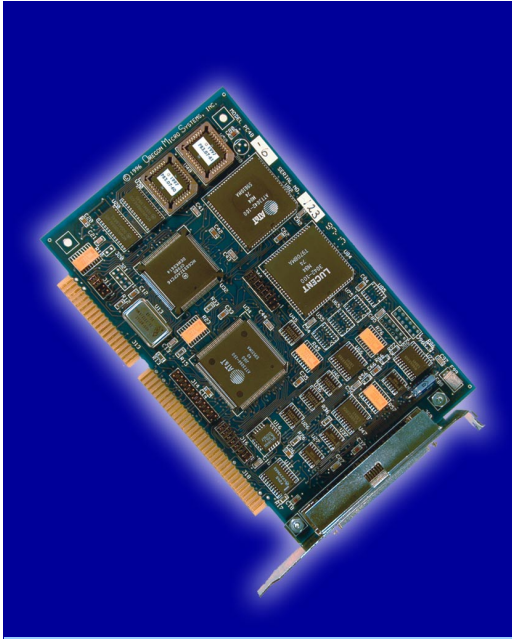


Motion Control

PC46 Family



FEATURES

- Independent home and plus / minus over-travel inputs per axis plus an auxiliary output for driver current control
- Independent and coordinated motion of all axes
- Constant velocity linear interpolation (all axes)
- Custom, Parabolic, Cosine & Linear trajectory profiles
- Software for Windows® 95 and Windows® NT
- Encoder feedback is available
- Electronic gearing
- Circular interpolation

DESCRIPTION

The PC46 intelligent motion controller allows control of up to 6 axes in one I/O slot of an ISA/AT Bus or compatible computer. All axes are controlled through 4 I/O ports for control, status feedback, data and commands. Each axis has a separate command queue allowing the host computer to transfer a command string then proceed with other tasks, while the PC46 manages the motion process. The computer can be interrupted at any point in the command stream to coordinate the motion process with other activities. Each axis can perform individual unrelated moves or they can be coordinated as required by the application.

The PC46 generates step and direction pulses for control of most popular step motor drivers. It also supports servo or linear motor drivers which accept step and direction inputs. The PC46 supports high resolution micro stepping of 50,000 steps per revolution with a standard 200 step per revolution (1.8 degree per step) stepping motor by developing the high pulse rates required for these applications. This high resolution allows the stepping motor to run smoothly at all speeds and minimizes low speed torque loss due to mechanical resonance effects. The velocity streaming mode allows an arbitrary move contour under control of the host computer. Constant velocity contouring with circular interpolation on any 2 axes and linear interpolation on up to six axes at constant velocity are available for applications on selected models.

Simple ASCII commands can be easily sent to the board from any high level language, for example Basic, Pascal or C, which allows input and output to an I/O device. An additional 20 bits of general purpose input and output lines can be used to monitor or initiate other events and are under the control of the host computer. Complex move sequences, time delays, status checks and control of other external events can be programmed through the ISA/AT Bus interface.

Incremental encoder feedback is available as an option on up to 2 axes for those applications requiring precise position feedback and/or correction. The encoder option can correct for position errors, monitor for slip or stall, or allow tracking of one motor with another.

PROGRAMMING

PC46 motion controllers are easily programmed with double character ASCII commands through an extensive command structure. These commands are combined into character strings to create sophisticated motion profiles. It includes a 200 command and parameter buffer for each axis and a command loop counter which allows multiple executions of any command string.