

## PC78 Family

### DESCRIPTION

The PC78 is both a PC/104 controller that supports the PC/104 ISA bus standard as well as a stand-alone controller via a high speed RS-232 communication port. The PC78 supports up to 24 general purpose TTL I/O.

The step pulse is a TTL level 50% duty cycle square wave that supports velocities of 0 through 1,044,000 pulses per second. The encoder feedback functionality supports quadrature encoders up to 12 MHz and is used as feedback for the servo or stepper axes or as independent position feedback. The encoder feedback can provide slip or stall detection. Every axis includes dedicated opto-isolated +/- over travel inputs, a home input, and an auxiliary output. The PC78 is available in several different models at several different prices so that you don't have to pay for a lot of functionality that you don't need.

### PROGRAMMING

PC78 motion controllers are easily programmed with double character ASCII commands through an extensive command structure. The commands are combined into character strings to create sophisticated motion profiles and are passed to the PC78 data I/O register. A separate 'FIFO' command queue for each axis is used to store the parsed commands by the PC78 until they are executed allowing the host to send a complex command sequence and attend to other tasks while the PC78 manages the motion process. These command queues store 200 command and parameter words and include a command loop counter which allows multiple executions of any command string.

The commands available in the PC78 family of motion controllers are sent to the controller as ASCII character strings. Some commands expect one or more numerical operands to follow. These commands are identified with a '#' after the command. The '#' indicates a signed integer input parameter or a signed fixed point number of the format ##.# when user units are enabled. With user units defined, distances, velocity and acceleration parameters may be input in inches, revolutions, etc.



### FEATURES

- 1-4 Axes
- Four axes of Servo, Open Loop Stepper, or Closed Loop Stepper axis control options
- Stand-alone with high speed RS232 port
- 16 bit DAC analog resolution
- Configurable PID filter with feed forward coefficients
- Encoder feedback available for stepper axes
- Two limits, one home, and one auxiliary output are standard per axis
- Up to 8 "user definable" I/O, expandable to 144 opto-isolated I/O
- Constant velocity linear interpolation (all axes)
- Software for Windows® 98/NT/2000/XP
- Compatible with the IO68 breakout board
- Electronic gearing
- Circular interpolation
- Linear, Parabolic, Cosine, and Custom Profiles.