PCL-839

3-axis Stepping Motor Control Card

Features

- Independent, simultaneous control of three stepping motors
- Direct access to the card's controller registers
- Linear and circular interpolation
- Optically-isolated outputs
- Five isolated digital inputs per axis for limit switches
- Half-size PC add-on card
- Up to 16 Kpps step rate
- 16 DI and 16 DO

Introduction

The PCL-839 three axis intelligent stepping motor control card turns your IBM-compatible PC into a 3-axis motion-control station. The card's three PCL-AK intelligent controller chips can execute a variety of motion-control commands. For advanced applications, we supply function libraries which you can link to your C program.

Programming the PCL-839

You can control each axis directly through the card's I/O registers, but we recommend use of the card's high-level interpreter. This interpreter reads high-level commands from a text file to perform specific tasks.

We also supply function libraries which you can call from your C program. The libraries come with 'Turbo C' source code which you can recompile if you want to access the libraries from other C compilers.

Applications

- X-Y table control
- Rotary machine control
- Robotics control
- Precision position control using stepping motors

Specifications

- **No. of axes**: 3, independent
- **Max. step count**: ± 262,143 steps
- **Max. step rate**: 16,382 pps
- **Acceleration/deceleration**: Automatic trapezoidal, ramping, programmable start run and sampling rate
- **Output pulse signal**: Two pulse (CW/CCW) mode or one pulse (pulse, direction) mode. Optically coupled with 10 kΩ pull-up resistor

- **Output driving capability**: 20 mA sink @ 0.4 V
- **Output polarity**: Positive/negative, programmable
- **Limit switches**: Five per channel (home, forward/reverse end limit, forward/reverse high speed limit)

DIO and Interrupt

- **DIO**: 16 digital inputs and 16 digital outputs, TTL compatible
- **Interrupt**: IRQ 2, 4, 5, 7, 11, 12 or 15 for limit switches, jumper selectable

General

- **I/O addresses**: 16
- **Power consumption**: 5 V @ 300 mA max.
- **Operating temperature:** 0 ~ +60° C (32 ~ 140° F)
- **Storage temperature:** -20 ~ +70° C (-4 ~ 158° F)
- **Operating humidity:** 5 ~ 95% RH non-condensing (refer to IEC 68-2-3)
- **Connectors**: DB-37 for limit switches and pulse output; 20-pin flat cable for general DIO
- **Dimensions**: 185 mm (L) x 100 mm (H) (7.3" x 3.9")

Ordering Information

PCL-839: Intelligent 3-axis stepping motor control card. Includes interpreter, C library and user's manual

PCL-10137: DB-37 cable assembly

ADAM-3937: DB-37 wiring terminal for DIN-rail mounting