# A Low-Cost Motion Control System
Using EZTouch I/O & Allen-Bradley MicroLogix

Motion control generally means the use of servo and/or stepper systems as the "muscle" to move a given load. These motion control systems are capable of extremely precise speed, position, and torque control. Applications that require positioning of product, synchronization of separate elements, or rapid start/stop motion are all perfect examples of the use of motion control. Some applications require such extensive motion control, but the budget does not allow for the use of an expensive Allen-Bradley ControlLogix PLC. Hence, this system in the application note, controls the Motion and Position feedback of a Servo and/or Stepper Motor using a low cost AB MicroLogix 1400 and EZAutomation's EZTouch I/O. The EZTouch I/O Flex with a High Speed Counter Module (EZIO-HSCM2) and a Pulse Width Module (EZIO-PWM-P) provide a way to control the motion and position feedback of servo and/or stepper systems. The HSCM2 Module receives the signal from your existing PLC and sends it to the PWM module for position feedback of a quadrature Encoder (in this case the Size 25 EZEncoder).

SYSTEM DIAGRAM:
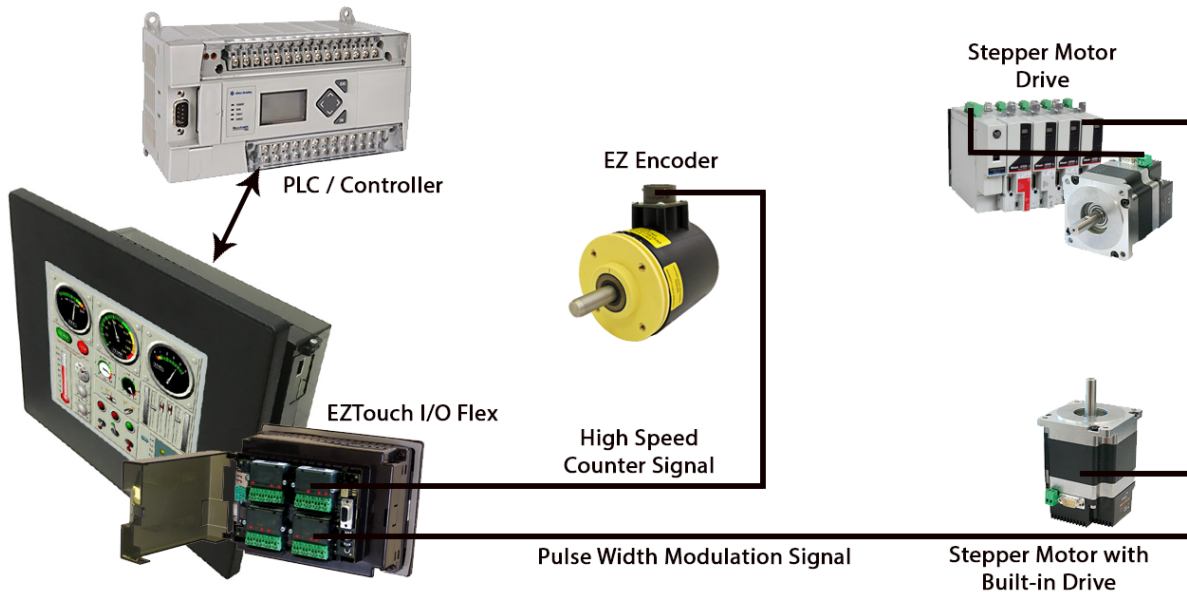
DESCRIPTION

This application note uses the EZTouch I/O Flex with EZ-TouchEditor programming software along with a MicroLogix 1400 Series A PLC over Ethernet I/P using RSLogix 500.

The program starts with the MicroLogix turning on an indicator when the "Start" button is pressed on the EZTouch I/O. When the indicator is on, the stepper motor will start turning based on the number of pulses and frequency indicated by the user using the numeric keypad on the EZTouch I/O. While the stepper motor turns, the encoder position is shown and the number of pulses sent will increase on the meter per step. When all pulses are sent a "done" indicator light will pop up (under the E-Stop button) and will stop the process of the MicroLogix, and then wait for the next cycle. You now have a complete motion control system using the EZTouch I/O for just $977, and your existing MicroLogix PLC and Stepper Motor Setup.

Please see below links for RSLogix500 program and EZTouch I/O program. For further details on this application note please contact Jerry Case at 1-877-774-3279 ext. 432 or mailto:jcase@avg.net

A screen shot of the Panel program is shown below:

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