

# Micropositioner & Control Unit

## Application Note

Phresh Photonics MicroDrivers / Micropositioners are a line of precision linear motion motorized micrometers with linear travel ranges of 12mm, 25mm, and 50mm depending on which model is used. The tip of the MicroDriver does not rotate as the lead tube progresses. The MicroDriver has a further advantage in that it is tolerant of lateral force loads on the tip. The motor input operates off of a +/- 12 volt supply. The travel direction is determined by the polarity of the applied voltage. The MicroDriver has a two phase TTL output encoder which produces 16,920 counts per millimeter.

In a typical application the encoder outputs are compared to determine the direction of travel. These output signals are also used to determine the amount of travel. A controller circuit is used to interpret these signals and to compare the actual direction and position to a desired user created input signal. The circuit then determines the amount of voltage and current required to cause the motor to move the tip to the user defined position. In sum, the user inputs the desired position and the MicroDriver proceeds to that position and holds until a new position is requested. Figure 1 diagrams the complete system.

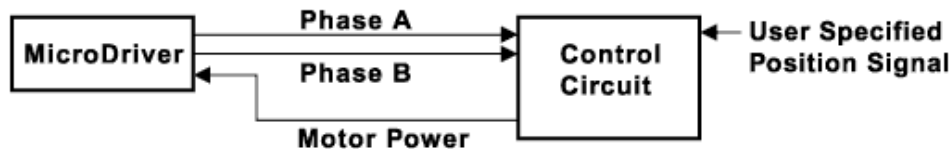


Figure 1

Care must be taken not to apply too much current to the motor (see MicroDriver specifications for operating parameters)



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