

DIVA Automation

Innovation in Motion

DA4010

PWM Generator with Limit Switch Protection

Original release, September 11,2006

Description

The DA4010 is a support circuit for the implementation of motor controls or any application requiring the control of high-power loads at high thermal efficiency and low cost.

It accepts a control command through a high speed serial interface to set the duty cycle of a selectable-precision Pulse Width Modulated (PWM) control signal which may be used to efficiently drive loads from watts to kilowatts.

When used with a host processor and a suitable feedback device, a complete motion control system can be produced at very low cost.

One of the key features of the DA4010 is the support provided for limit switches. Separate inputs are provided for forward and reverse motion. If the forward limit switch is activated, no further motion is allowed in that direction, with similar protection for the reverse direction.

Through the serial interface, commands can be sent to select the active state of limit switch activation, high or low.

Additional commands allow the limit switch function to be disabled on an individual basis. When used with a rotary mechanical stage or any other free running application, limit switch operation may not be desired.

Features

- Programmable PWM carrier frequency.
- Control by serial data or analog input.
- Programmable PWM resolution.
- Programmable limit switch state.
- Programmable limit switch enable.
- Programmable baud rate.
- Synchronous or asynchronous serial communications.

- Single channel operation, but may be networked for up to 16 channels on a single communications link.

Specifications

- 8, 10,12 or 16-bit PWM.
- Carrier frequencies up to 100 Khz at 8-bit precision.
- Up to 115 KBaud, asynchronous serial data.
- Up to 4 MHz synchronous serial data.



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