

Thank you for purchasing the Applied Processor and Measurement, Inc. Model 400 PWM Controller. We are pleased to provide this high quality, feature rich, and value minded product for use in your application.

The purpose of this guide is to ensure proper usage and installation of your Model 400 Pulse Width Modulation Driver / Controller (PWMC 400) for your application.

This guide will:

- describe what you need to control your device with the PWMC 400
- describe configuration of your PWMC 400 unit and refer you to the proper User's Manual references regarding configuration of the PWMC 400
- illustrate how to connect the PWMC 400 in a low side drive application
- provide references to the User's Manual for further information

What you will need to set up your application with the PWMC 400:

- your device that is to be driven by the PWMC 400
- a power supply capable of providing the voltage and current necessary to drive your device and power the PWMC 400 unit
- wire – 18 or 16 AWG preferred
- for analog control of the output duty cycle – an analog 0 to 5V DC control signal
- for USB control of the output duty cycle – host computer or PLC

General Description:

The PWMC 400 provides a PWM output with the duty cycle controlled in proportion to a 0 to 5V DC analog input signal, or a USB command. PWM frequency is controlled using the PWMC 400 USB port.

Configuration:

Prior to use, the PWMC 400 must be configured. Configuration involves setting:

- PWM output frequency
- output duty cycle resolution (1%, 0.5%, 0.2%)
- analog input control or USB control (if USB control, start-up duty cycle)
- normal or reverse acting analog operation
- enable or disable external enable feature

Factory default settings are 100Hz, 0.5% resolution, analog input, normal acting, and external enable on. Simply connect the PWMC 400 USB port to a PC (no other connections are necessary) and use our PC configuration utility. Refer to the User's Manual sections 3.1 or 4.6 for details.

Fusing:

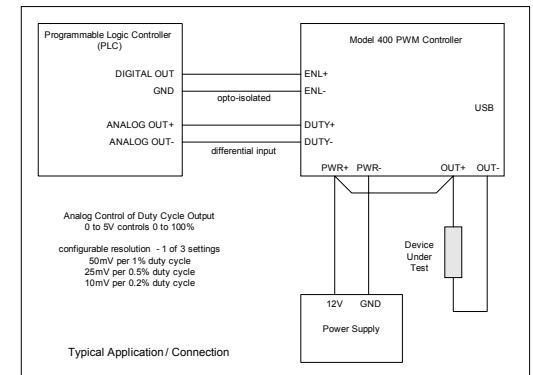
The PWMC 400 contains an internal fuse for protection of the unit's internal power MOSFET. This fuse is connected in series with the device (load) and will limit current to BOTH the load as well as the output drive electronics in the PWMC 400. The default fuse for the unit is 4A (chosen for 12V, max 50W application). A lower fuse value may be installed to better protect your device in your application.

Fusing (cont'd)

The 4A fuse in the PWMC 400 is replaceable (replacement fuse – Littelfuse 0451004.MRL) Replacement fuses are available from electronic distribution / component suppliers. See User's Manual section 3.3 for part numbers and other fuse values.

Connection:

A typical installation using the PWMC 400 in the low side drive configuration is shown in the figure below. Note that an external connection MUST be made from the positive (+) terminal of the output, and the positive terminal of the input on the PWMC unit. Refer to the User's Manual for other possible connection configurations (Section 3.0 Installation).



Once power is applied to the PWMC 400, the unit will operate as configured (analog or USB to PWM duty cycle out).

Note that the USB powers the PWMC-400 for configuration, but will **NOT** control the PWM output without applying PWR+/PWR- power.