

Questions? – User’s Manual References

Note: all PWMC 402 documentation and software is available on our website

- Introduction / Features – Section 1.0
- Specifications and Pin Out – Section 2.0
- Installation Configurations – Section 3.0
- Quick Start Instructions – Section 3.1
- RS-232 Commands – Section 4.2
- Diagnostics – Section 5.3

Questions? Diagnostics, is my unit working?

An efficient method by which to determine that the PWMC-402 is connected properly and the output is working is to use a handheld DMM and measure the DC voltage across a load (your device or any load such as a resistor). A standard DMM will provide some “average” voltage value that will change as the duty cycle is varied.

Questions? – Support:

Support for your application is available by contacting APM, Inc. directly. Send us your application / connection and questions so that our engineers may best address your installation.

Web: www.appliedprocessor.com
Email: support@appliedprocessor.com
Phone: 716-741-1141
FAX: 716-741-1142

Controller Information

<u>Model 402 PWM Controller Information</u>	
Model	<input type="checkbox"/> PWMC-402R (non-isolated) <input type="checkbox"/> PWMC-402T (isolated)
Serial Number(s):	_____
DOM:	_____
This unit is fused for operation at:	_____
Fuse Installed:	_____
<u>Configuration</u>	
	<input type="checkbox"/> Default <input type="checkbox"/> Customer Requested*
Frequency of Operation (Hz):	_____
Start-up Duty Cycle (%):	_____
* contact APM, Inc. at time of order for PWMC-402 units pre-configured for your requirements.	

NOTICE !

Read This First Before Proceeding

INSTALLATION GUIDE

MODEL 402 PULSE WIDTH MODULATION DRIVER/CONTROLLER

Model 402R - non-isolated RS232/PWM
Model 402T - electrically isolated RS232/PWM

DOCUMENT NO. 00092-22



Thank you for purchasing the Applied Processor and Measurement, Inc. Model 402 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 402 Pulse Width Modulation Driver / Controller (PWMC 402) for your application. This guide is applicable to both the Model 402R (non-isolated RS232 to PWM) and the Model 402T (electrically isolated RS232 to PWM).

This guide will:

- describe what you need to control your device with the PWMC 402
- illustrate how to connect the PWMC 402 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 402:

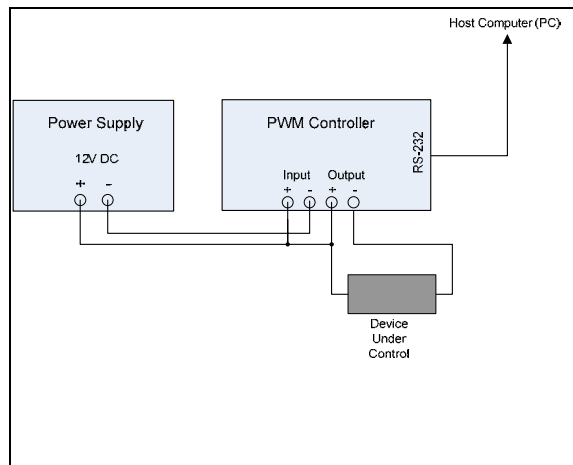
- your device that is to be driven by the PWMC 402
- a power supply capable of providing the voltage and current necessary to drive your device and power the PWMC 402 unit
- wire – 18 or 16 AWG preferred
- serial cable, DB9F to DB9F, straight through
- a host computer or PLC for RS-232 control of the output duty cycle

General Description:

The PWMC 402 provides a variable frequency and duty cycle PWM output. The frequency and duty cycle are controlled using single character commands over an RS232 communications interface.

Connection:

A typical installation using the PWMC 402 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 and Start-up).



PWMC-402 – Single Supply Connection

Fusing:

The PWMC 400 contains an easily accessible mini-blade 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 peak applications). A lower fuse value may be installed to better protect your device in your application.

RS232 Interface Connections:

DB-9 pinout: 2=TX, 3=RX, 5=GND
Comm Settings: 9600,N,8,1, no handshake

Operation:

The PWMC-402 may be controlled using any RS232 interface, such as a PC using HyperTerm. A command summary is provided in the table below. Duty cycle is set in 0.1% increments

PWMC-402 Command Set

Dxxxx<CR>	set duty cycle to xxxx = [0..1000]
D<CR>	read current duty cycle
Hxxxx<CR>	set freq to xxxx = [10 to 1500 Hz]
H<CR>	read current frequency
Q<CR>	read back current settings / status
E<CR>	save current settings to EEPROM
I<CR>	report system information
?<CR>	help