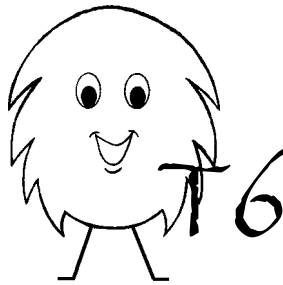


PWM Amplifier Unit



Installation guide for part number:

AMP-02

General:

This device is specifically designed to amplify the signal from an output of a T6 analog I/O section. It takes the output signal and boosts its sinking capability to 27 amps. The output of the amplifier is thermal overload and load transient protected. Unlike a solid state relay, this amplifier is designed to operate at a high speed and with DC power. It uses the latest technology, to achieve a very high efficiency that generates the least amount of heat.

Additional amplifiers can be connected in parallel to further increase current capabilities. For example, two amplifiers would be capable of sinking a total of 54 amps.

Installation:

Amplifier sections must be DIN rail mounted. Since they do not connect to the buss of the T6 system, they should be located to the far right of the other units. Due to its high slew rate and power rating, the amplifier will emit EMI/RFI in excess of FCC regulations. Therefore, it should be housed in a metallic enclosure that is properly grounded and output wires should be properly shielded and as short as possible.

Wiring the (+) supply:

The amplifier needs a 10 to 15 vdc supply. This supply is used only to operate the amplifier, *not the load device*. It is easiest to use the 10v supply of the analog section as shown. The amplifier will consume just 10ma. of current (leaving 90 ma. for other uses). If you want to use some other DC source, be sure that it is of a regulated type measuring 10-15 volts. The use of a linear supply is recommended because switching type supplies may not perform well under a low load current.

Wiring the load supply:

A high power DC power supply is required to power the load device. This supply must be rated for the voltage and current of the load. The voltage must not exceed 95 volts. Connect the load supply as shown.

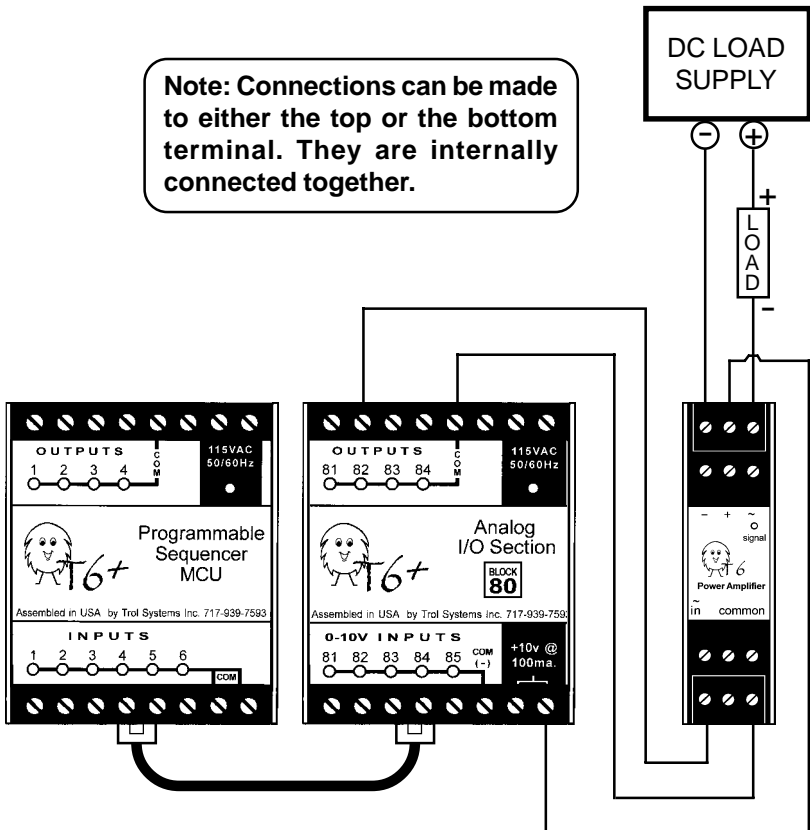
NOTICE: A linear (non-switching) power supply is highly recommended. Switching supplies may not be able to regulate properly due to the influence of the PWM load signal. This may cause voltage spikes in excess of 95v, resulting in damage to the amplifier.

Wiring the input:

Connect the output of the analog section that you want to amplify to the input of the amplifier. Do not connect the amplifier to more than one output because outputs of an analog section are not synchronized.

Wiring the load:

Connect the negative side of the load device to the output terminal (~ signal) of the amplifier and the positive side of the load to the positive terminal of the DC load supply. For high current applications, two load wires and two negative wires may be required (one on top terminal, one on bottom). Use shielded wire or metallic conduit to reduce EMI/RFI emissions and keep the length as short as possible. Be sure to ground the shield or conduit.



Specifications for PWM Amplifier

Model: AMP-02

Operating Power Requirements

10 to 15vdc @ 10ma.

Output

Sinking configuration (NPN) HEXFET

On resistance 0.055 ohm (typical)

+95 volts (absolute maximum), back emf protected

27 amps continuous (100% duty cycle)

85 amps intermittent (< 5% duty cycle)

28 micro second slew rate @ 15 amps

Input

1K ohm impedance, biased toward + supply

Threshold of comparator 50% of + supply .1v hysteresis

Physical

Size 2.9" (75mm) x .88" (22mm) x 4.3" (110 mm)

Mounting DIN rail only

Weight 6 oz. (170 grams)

Temp -20 to 140° F

Origin Designed and assembled in the USA.

T6 & T6+ are trade names of Trol Systems Inc.

TSI reserves the right to make changes to the information contained in this manual without notice.

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