



User Manual for Analog controlled PAP Power Supplies

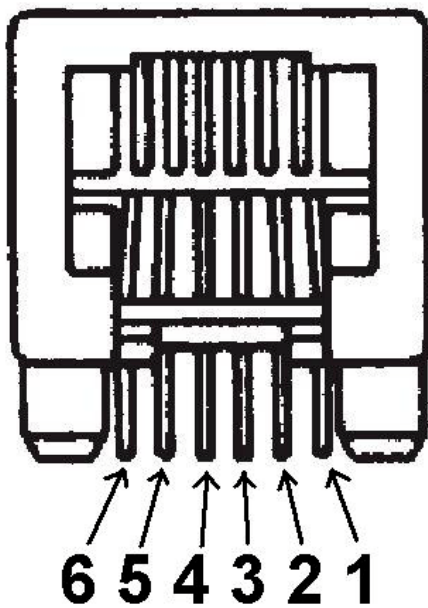
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Revision 1.3

Introduction:

PAP power supplies can be controlled many ways. Analog control option allows full control for output current and voltages and it gives measured values for both of these. There is +5V output for logic use and all of these have with 500V electrical insulation.

Modular connector:

Interface to analog control card is made through AMP Modular 6 connector. It's part number is 215-876-1. The product specification number is 108-19064 and application number is 114-19019. Part number for cable connector that fits to modular 6 is 737 336-1.



Pin order in the connector is following:

1. Ground
2. Target value for current
3. Target value for voltage
4. Measured value for current
5. Measured value for voltage
6. +5V, (max 20mA) output

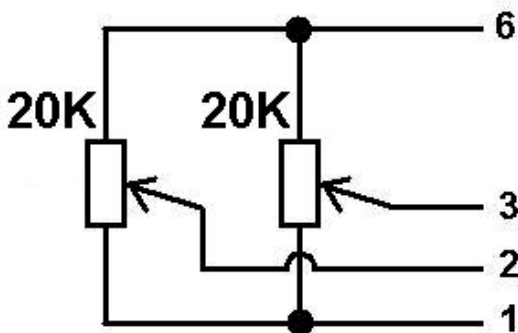
Controlling analog card:

All control voltages must be between 0 and 5 volts. Over 5V steering is not allowed. Logic for steering is positive so 5V in target value means maximum value from power supply and 0V means minimum output. If controlling connector is unplugged from modular connector, the power supply takes it's minimum values for output.

Measured values can be read from measured signals. Measured voltages are scaled equal as target values. If power supply lies on it's voltage reference, then measured voltage should be equal as target. Same thing on current steering and it's measured value. Measured signals (both together) can be loaded only 2mA or proper operation is not guaranteed.

Modular connector is isolated from power supply's input, enclosure and output terminals. That allows serial and parallel connection to separate power supply's so that equal steering voltages are used. Number or connected devices are not limited. Only be sure that 500V insulation voltage is not exceeded. If connector in analog card is not a modular connector (9 pin D-connector), it is a different version of analog controlled power supply and this manual is not valid to it.

Connection example:

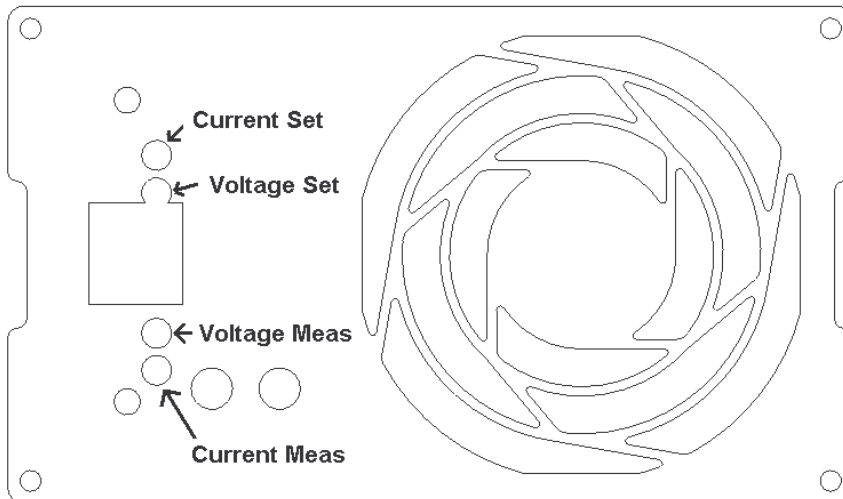


+5V output can be used to feed logic voltages for external circuits. Connection in an example works as a potentiometer controlled power supply. It is important to notice that +5V output is not allowed to load more than 2mA or proper operation is not guaranteed.

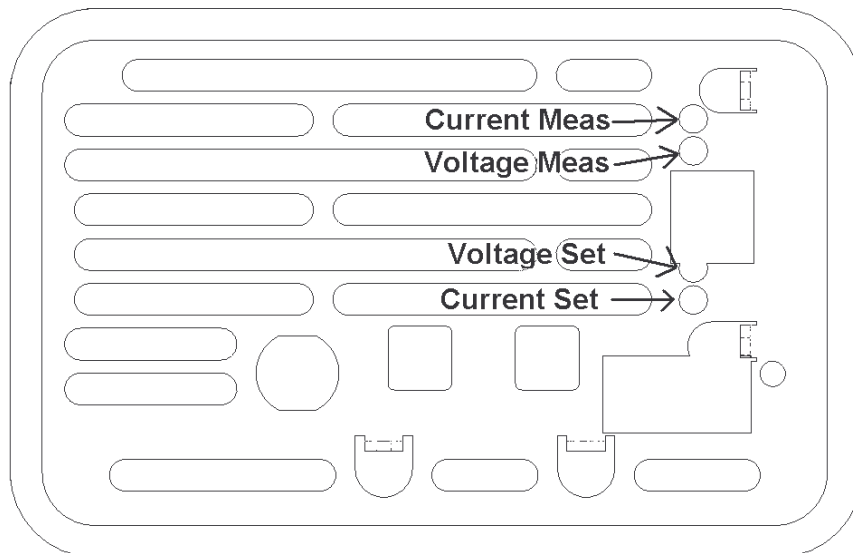
Tuning instructions:

Attention!!!

Analog interface is tuned in a factory before it is delivered to customer. There should not be any reason for tuning if card is used between 0-5V voltage values. Qualified person is needed for tuning the device.



Analog controlled PAC800:



Analog controlled PAC1600:



The plates should look as in pictures below dependin on power supply. Arrows show the places for tuning trimmers and the function of each. Tuning can be done with a pear of digital multi meters and example schematic from previous page. Procedure is following:

- 1. Adjust from potentiometers 5V to voltage target and 2V for current target. Connect digital voltage meter to power supply output. Tune from “Voltage Set” trimmer maximum output voltage to right value. Factories setting are the following, If PAC800 powersupplys are used. If other power supplies are used, please take care what is a maksimum values:**
 - T output version = 18 V**
 - N output version = 36 V**
 - R output version = 54 V**
 - P output version = 72 V**
 - S output version = 108 V**
 - U output version = 144 V**
- 2. Connect digital voltage meter to Modular pin number 5. Tune from trimmer “Voltage Meas” so that digital voltage meter shows always equal value as is in pin 3 (target voltage).**
- 3. Connect digital current meter to output so that it short-circuits the output. Now tune current target potentiometer to 5V. Tune from “Current Set” trimmer output current to value that is maximum value for device according to it’s specification. Be sure that your current meter has a right range. Do never exceed the current values that are specified for the device. If specified value is not known, take a contact to distributor.**
- 4. Measure with digital multi meter voltage from Modular connector pin 4. Tune from trimmer ”Current Meas” to equal with voltage in modular pin 2 (Target Current).**