



SWITCHING POWER SUPPLIES - LOW PROFILE

Acopian Low Profile switching regulated power supplies include models with outputs up to 750 watts. They have universal input and power factor correction, and can be operated in either constant voltage or constant current mode. Features include voltage and current programming (either with external resistance or with voltage), terminals for monitoring output voltage and current, inhibit input and output Voltage OK signal. Other standard features are short circuit protection, overload and thermal protection, remote sensing and a green "DC on" indicator.

INSTALLATION

Threaded holes on the bottom and right side surface may be used for mounting. An accessory Mounting Kit (model NP6) is available to enable mounting the power supply when the opposite side of the mounting surface is inaccessible.

It is very important to allow for the free circulation of air around and THROUGH the power supply (do not block fan intake or exhaust). Failure to do so will result in thermal shutdown or possible damage to the power supply.

Space at least one-half inch away from surrounding objects.

Make all connections before applying AC input power.

OPERATION

THE SENSING TERMINALS MUST BE CONNECTED to the output terminals, either at the output terminals of the power supply or at the load. Failure to have the sense terminals connected will affect the output voltage (usually causing it to be higher than the rating of the supply, and unadjustable), or may result in the overvoltage protection circuit latching the output 'off'. If voltage drops in the output voltage leads (which degrade regulation) are not objectionable, local sensing can be used; leave in place the jumpers provided with the power supply (connecting the +Sense to the +Rtn and the -Sense to the -Rtn). However, if the best possible regulation at the load is required, then remove the jumpers and use two lighter gauge leads to connect the sense terminals to the output leads at the load, as shown in the schematic. This configuration permits the power supply to sense and compensate the voltage actually across the load. Note that remote sensing is capable of compensating only limited wiring drops. The voltage across the load, plus the voltage drops through the wiring, must be within the output voltage range of the supply for the voltage at the load to remain within the load regulation specification. Therefore, the wire gauge used for the output lines MUST BE LARGE ENOUGH to assure that their combined voltage drops will not exceed the difference between the maximum output voltage of the supply and the voltage to be maintained across the load. (Wide adjust output models compensate up to 0.5 Vdc drop per output line.)

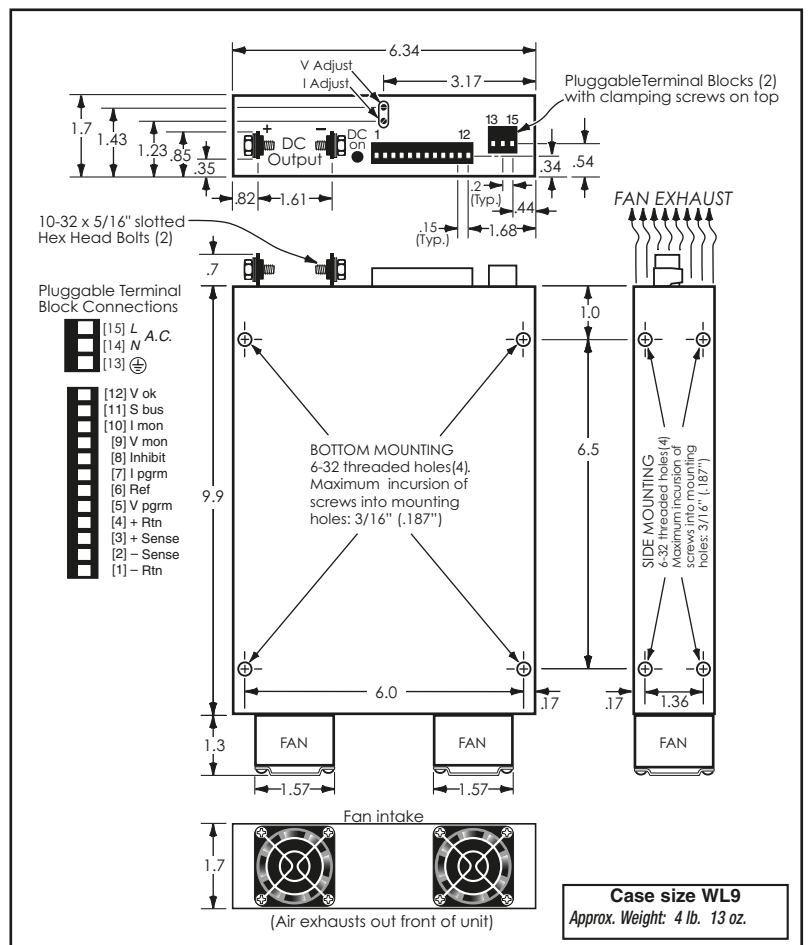
In electrically noisy environments it may be necessary to use shielded wire for remote voltage control and remote sensing. Connect the shields to the ground terminal on the terminal strip. Usually, the lowest level of output noise results when the load ends of the shield are *not* connected. Noise can be reduced in some applications with the use of a capacitor connected across the sense lines at the power supply; and in other applications, when one is connected across the load. A 0.1 mfd (100 WVdc) capacitor with good high frequency characteristics (such as Mylar types) is appropriate. Do not use a capacitor unless necessary.

Over Voltage Protection: A higher than normal output voltage (even if momentary, as when caused by a transient induced into the output wiring) will result in the overvoltage protection circuit latching the output OFF. To reset the output, interrupt the AC input power for 5 seconds. (Models with "N" option reset automatically.)

Overload/Short circuit Protection: These power supplies function as a constant voltage or constant current source. A short circuit or overload will force the power supply into the constant current mode. The supply will recover automatically when the overload or short circuit is removed.

Series operation: Outputs may be connected in series to obtain a higher voltage provided that a reverse-biased diode, having PIV and current ratings exceeding the combined output, is used across each output; however, keep in mind that the output current to be drawn cannot exceed the output current rating of the lowest rated supply used.

Parallel operation: see note ② on other side of this sheet.

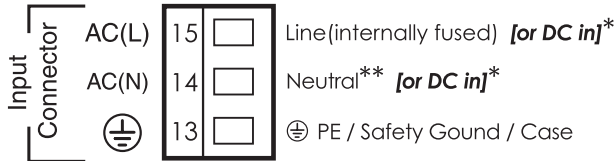


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**ALL ACOPIAN
POWER SUPPLIES
MADE IN U.S.A.**

CONNECTIONS

Connector accepts 28 to 12 awg wire size.
Tightening torque = 0.5NM or 4.5" lbs.

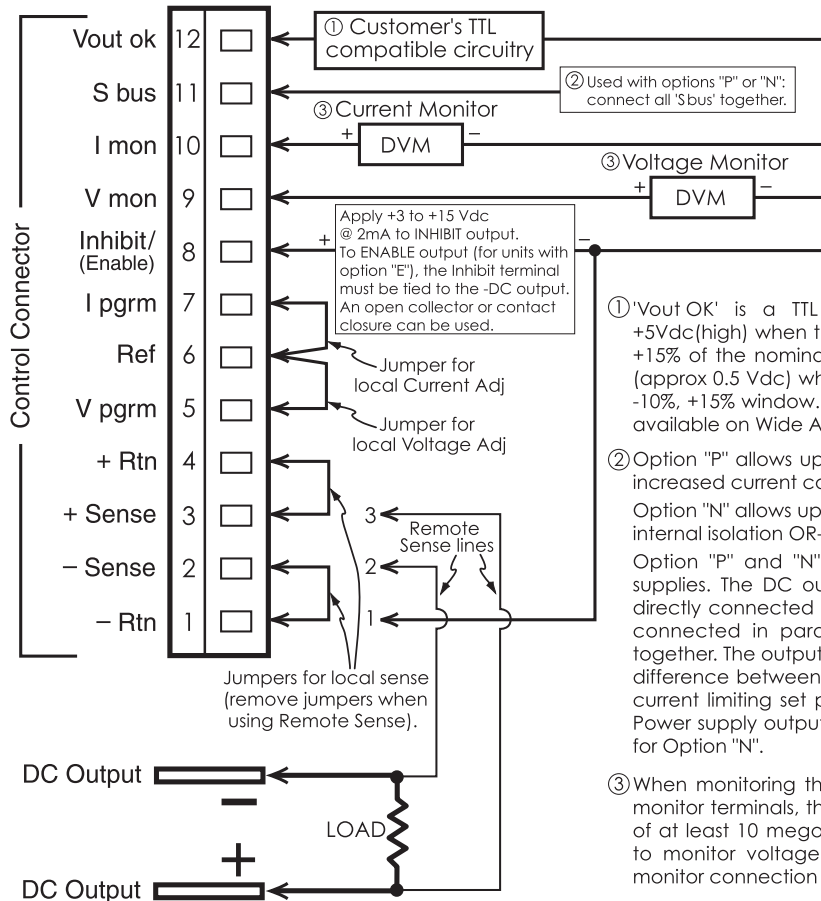


AC INPUT: 90-265 VAC, 49-420Hz

*DC INPUT: 110-350 Vdc
(DC input may be connected without regard to polarity.)

**These power supplies are internally fused for protection in the event of power supply failure. When using a two phase input (two high lines as with typical 208 VAC and 230 VAC sources) for safety reasons it is recommended that an external fuse of 15 amps be used in series with the 'N' side of the AC input.

Connector accepts 22 to 16 awg wire size.
Tightening torque = 0.2NM or 1.7" lbs.



① 'Vout OK' is a TTL compatible signal voltage between +3 and +5Vdc (high) when the power supply's output voltage is within -10% and +15% of the nominal output voltage. The 'Vout OK' voltage will go low (approx 0.5 Vdc) when the power supply's output voltage is outside the -10%, +15% window. 'Vout OK' can source 1 mA or sink up to 5 mA. (Not available on Wide Adjust Output models.)

② Option "P" allows up to 4 like models to be directly wired in parallel for increased current capability.

Option "N" allows up to 4 like models to be wired in N+1 redundancy. An internal isolation OR-ing diode is included in each power supply.

Option "P" and "N" forces equal current sharing among like model supplies. The DC output load lines of each individual supply may be directly connected in parallel. Remote sense lines may also be directly connected in parallel and all S-bus terminals must be connected together. The output voltage of each supply is individually set so that the difference between the highest and the lowest is less than 100 mv. The current limiting set point of each supply should be set at equal value. Power supply output current must be derated by 5% for Option "P"; 10% for Option "N".

③ When monitoring the output voltage and/or current by means of the monitor terminals, the use of an instrument having an input impedance of at least 10 megohms is recommended. The ratio of output voltage to monitor voltage is 10:1. The ratio of the voltage on the current monitor connection to the output current is 100 mV/Amp.

If there is any possibility of voltage from another source (another power supply, a battery, transients, etc) being applied to the power supply's output terminals, protect the power supply by using a diode in series with either the +OUT or the -OUT.

<p>REMOTE VOLTAGE ADJUSTMENT: First set front panel voltage adjustment to maximum rated output voltage, then remove jumper between 5 and 6.</p> <p>Do not remove jumper between pins 5 and 6 if remote voltage adjustment is not used.</p>	<p>REMOTE CURRENT ADJUSTMENT: First set front panel current adjustment to maximum rated output current, then remove jumper between 6 and 7.</p> <p>Do not remove jumper between pins 6 and 7 if remote current adjustment is not used.</p>
<p>VOLTAGE PROGRAMMING OF OUTPUT VOLTAGE: First set front panel voltage adjustment to maximum rated output voltage, then remove jumper between 5 and 6.</p>	<p>VOLTAGE PROGRAMMING OF OUTPUT CURRENT: First set front panel current adjustment to maximum rated output current, then remove jumper between 6 and 7.</p>

CAUTION: DO NOT apply negative polarity control voltage to the voltage or current program terminals.