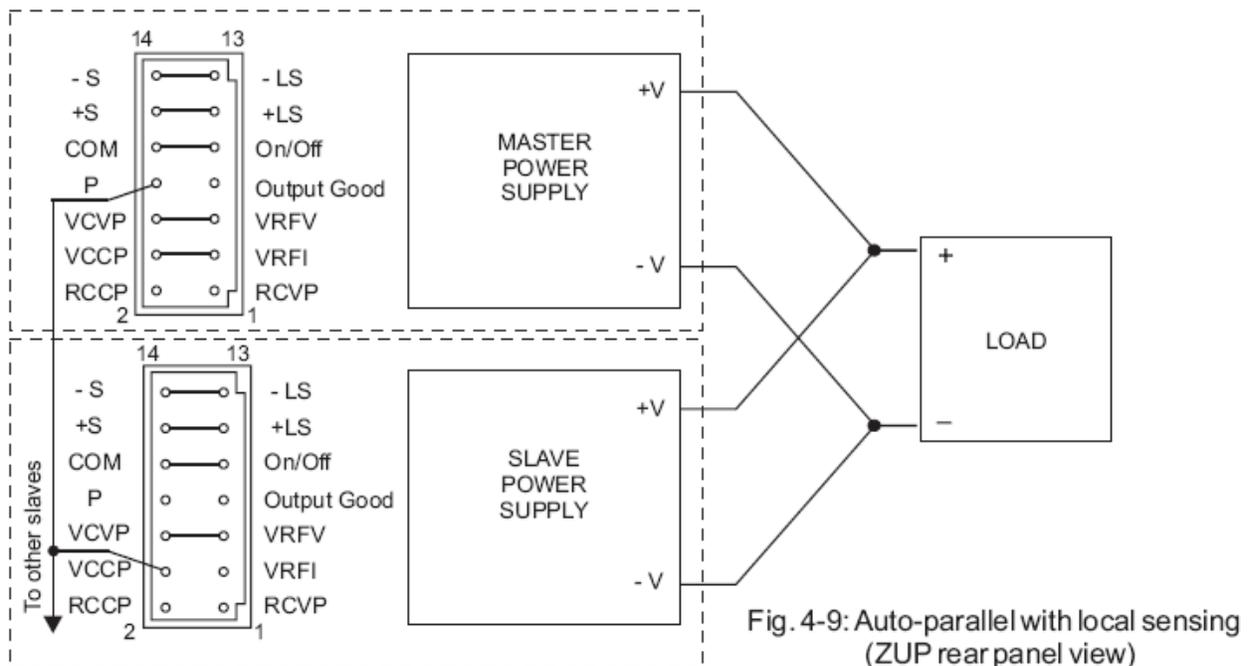




How to Parallel Lambda's ZUP Programmable Power Supplies

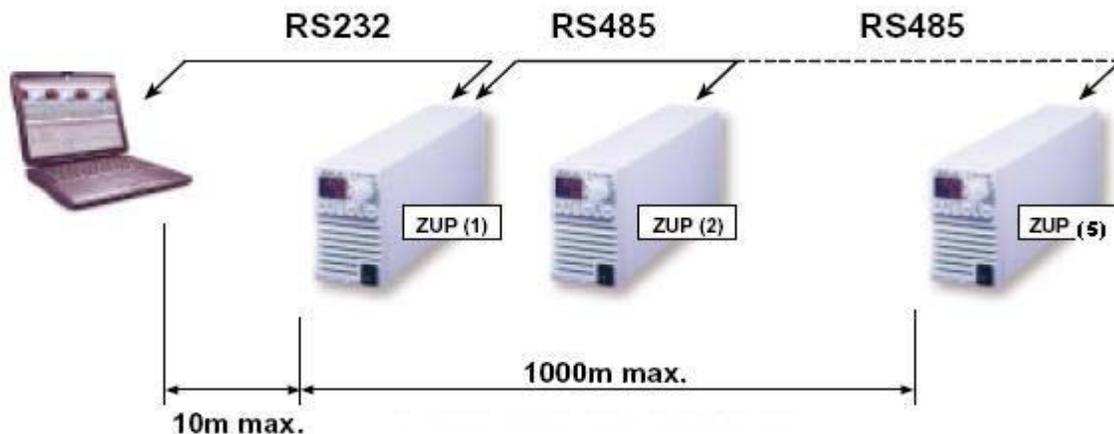
Lambda's ZUP Programmable Power Supplies have a vast array of useful features and options to fit the needs of most applications. Many times we receive questions regarding "how to parallel the ZUPs" for increased current loads. Up to five (5) ZUP units of the same output voltage and current rating can be paralleled with automatic current-sharing. This is simply done by connecting the supplies in parallel with the first ZUP assigned the role of "Master" and the other parallel-connected supplies becoming "Slaves". The wiring diagram below shows the connections of the rear mounted DC Output bus bars to the load and the Ext. Control connections between paralleled ZUPs.



Note that on the Master ZUP supply, pin P (parallel output) from its Ext. Control connector connects to the VCCP pin (input to constant current control circuit) on each of the Slave ZUPs. In this way, the master unit sends an analog control signal to all the slave units to keep their output currents at the same level for optimum current-sharing.

How to Remotely Control Paralleled ZUP DC Supplies

Up to five paralleled ZUP programmable supplies can be remotely controlled via the built-in RS232 and RS485 serial port interfaces. After the units are connected in parallel as shown in the previous section, an RS232 or RS485 cable can be connected to the Master ZUP's remote "IN" RJ-45 connector. The communications and remote control is primarily between the computer and the Master ZUP via a single address. The Master supply should be set to provide its share of the total current load. For example, if three (3) ZUP10-80 (0-10V/0-80A) supplies are connected in parallel and a total of load current of 210 Amps is required, you would remotely set the Master supply to provide 1/3rd of the total current or 70 Amps. Communications with the Slave supplies is optional since these supplies are hard-wire controlled by the Master unit. If it is desired to "view" remotely the current and voltage from each of the Slave units (without control), this can be done by daisy chain connections of RS485 or RS232 cables between the IN and OUT RJ-45 serial ports of the paralleled supplies. Please refer to the serial link diagram below as an example.



If using a PC with Windows 98 or above, the HyperTerminal function can be used to remotely control the ZUP supplies. HyperTerminal is part of the Windows operating system. It can be found by clicking the "Start" button, then going to Accessories, then Communications, and finally to HyperTerminal.

Detailed ZUP Programmable Supply operating and setup instructions as well as information about HyperTerminal and other serial communication formats can be found on Lambda's ZUP web site: <http://www.lambdapower.com/products/zup.htm>