Power Boost Function of the SDN-C Series Power Supply

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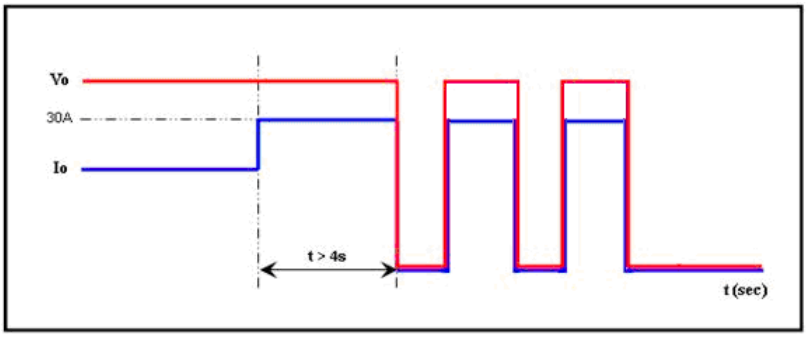
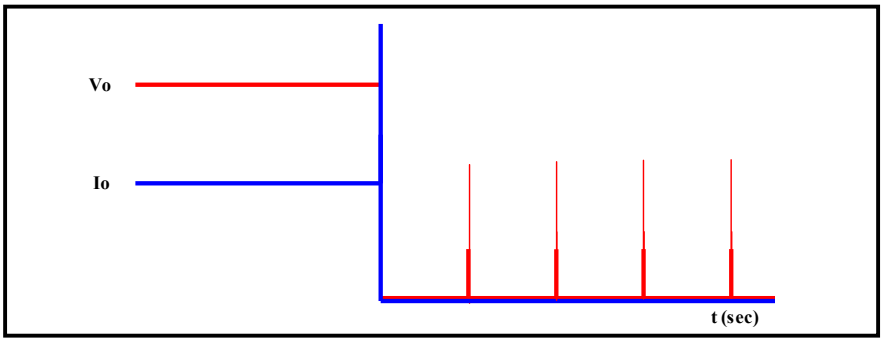
Each SDN-C power supply from SolaHD incorporates an important feature called Power Boost. Power Boost allows the power supply to provide 150% of its output current during overload conditions. Unlike many competitive products, the SDN-C does this while maintaining its rated output voltage. This allows for the start up of high inrush devices such as solenoids, air valves and contactors without disrupting other loads on the power supply.

There is a potential downside of any over current function that allows greater than the rated current. This could require special load wiring or over current devices on the output of the power supply to deal with that additional current. The SDN-C eliminates that need by also incorporating short circuit detection. This detection overrides the Power Boost function when the power supply detects a direct short circuit (less than 0.03 ohms resistance between the output terminals).

To illustrate the Power Boost and short circuit functionality, let's use the SDN20-24-100C as an example. In the following graph, the power supply will output 30A for at least 4 seconds (20A * 150% = 30A). This will allow high inrush loads to start without interrupting the rated voltage to other loads.



In the next graph we show the output under a direct short circuit. The unit periodically attempts to restart, and will recover automatically once the short circuit is removed.



A significant advantage of the SDN-C design over many competitors is that it will supply enough overload current to start up high inrush loads (relays, contactors, solenoids and DC motors), but still have short circuit protection to prevent wires from burning during a short circuit.

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