

Soft start

The application of the input power permits the unit to generate a secondary output. The switching on of the primary power circuit is controlled and gradually increased to allow a controlled charging of the secondary capacitors. The time duration for the secondary capacitors to be charged is defined as the soft start.

No load operation

Single output converters require no minimum load for operation within tolerance.

Multi output converters require the main output be loaded. Semi-regulated auxiliary outputs may also require a minimum load to be applied.

Short circuit protection

The main output of a converter will be immune against a momentary or continuous short circuit.

The secondary current limitation will not permit the sustained output current to be higher than the calibrated setting, and it will actively reduce the output voltage in accordance to the overload. The removal of the overload / short circuit will result in the output voltage being increased to the calibrated value.

Regulated auxiliary outputs will also reduce the output voltage / current in accordance to their overloading. The characteristic may vary according to the circuit employed.

Over voltage protection (OVP)

The main output voltage is measured, either internally or through sense leads. This measured value is compared against a calibrated value. When the calibrated value has been reached, this circuit turns off the primary power circuit. Once the measured value has reduced below the calibrated value, the primary power circuit is permitted, once again, to be activated.

The high power units have an additional feature, which will shut down the primary power circuit after a continued OVP operation. For removing this shut down, the unit must be reset.

Sense leads

Through the use of sense leads, an output voltage may be regulated to a point outside of the unit. The sense leads should be connected to the power connection at the point of load under regard of polarity. There should be a non-interruptible connection between sense and load points. Interruption may lead to damage or the activation of the OVP circuit. The units, which have sense leads, have the ability to regulate to a higher voltage at the output connection. This increase is largely dependent upon the unit. The details may be found in the respective unit specification.

Parallel operation with sense leads allows a common point for the units to regulate their voltages to. Units whose output voltage has been calibrated to be near identical will now be able to supply a common load.

De-coupled outputs will be sensed both, before and after the decoupling diodes, which in turn will lead to an output voltage regulation, specific to load and unit. Sense leads are typically employed with a decoupled output voltage of less than 40 VDC. The current sharing option will effectively override the sense lead output voltage setting, but the point at which the output voltage is regulated, will be the point of sense lead connection.