





## DC-DC CONVERTERS - NARROW PROFILE (DN6)

### OPERATION

These converters operate as constant voltage sources when used at load currents equal to or less than their ratings. If overloaded, the current limit circuit will automatically reduce the output voltage until the overload is removed, and will then recover. Under high overload or shorted conditions, the green 'DC out' Indicator is not on.

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 momentarily shutting 'off' the output. The output will then automatically recover.

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

Do not attempt to directly parallel the outputs of two converters. This would result in current flowing from the higher-set output into the lower-set output, and probable damage to both circuits. 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 converter used.

These converters have internal DC line noise filtering. If the DC input power contains large voltage spikes ('noise') induced by the switching of high currents, inductive loads, electro-mechanical components, etc., the input power leads to the converter should include some means of transient suppression. Otherwise, a portion of the noise may be coupled through the converter to the load. Also, the converter could be damaged.

### TROUBLE ANALYSIS

Whenever an operating problem is experienced, systematically check for external causes first, including all fuses, primary power lines, external circuit elements, and external wiring. Failures and malfunctions often can be traced to simple causes such as improper wiring or connections. Lack of output may result from no DC input voltage or voltage too low, tripped overvoltage protection, presence of an inhibit signal, a blown fuse, thermal shutdown (self-resetting) or a damaged converter.

**For 18 to 36 Vdc input models in DN6A case size, the +DC input line must include a 10 amp time-delay fuse.  
For all other models, the +DC input line must include a 5 amp time-delay fuse.**