Connecting Constant Voltage LED Drivers in Parallel

Aimtec’s LED drivers are offered in a wide range of Output Power and Output Voltages. This gives the opportunity to use them in a “stand-alone” configuration or connected in parallel.

Why connect in parallel:

Some of the applications for connecting Constant Voltage LED Drivers in parallel include:
- To increase the Output Power by connecting 2 or more converters in parallel.
- To provide redundancy and to ensure that the system remains functional should a single LED driver fail.
- Higher power requirements can be achieved by using lower power LED drivers in parallel.

How to connect in parallel:

Ideally, the modules should be connected in parallel as shown in Figure 1. In the parallel configuration illustrated, the total output power is shared by the drivers.

Figure 1: 4 AMER150-50300AZ LED Drivers in Parallel configuration, with 20A Diode for circuit protection. Example shown, 50V Constant Voltage LED Drivers in Parallel produce 12A Current, total power 600W.

Important considerations:
- All LED drivers must be in constant voltage mode
- All LED drivers must be of the same model, mixed models will created imbalanced results and are not supported
- Diode selection should be at least 3 times the current of the driver output, with heat sink applied
- As in Constant Voltage mode normally, Dimming function is not supported, customers should order units with the “-F” suffix, without dimming

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