



787 Electrical Requirements

There have been many questions from airports and engineering firms requesting the electrical requirements for the 787. The following description of the 787 electrical requirements should answer these questions.

The 787 airplane utilizes two (2) forward ground power receptacles and one (1) mid-aft ground power receptacle. Each receptacle is rated at 90 kVA, as is standard on all Boeing current production widebody airplanes. By design each receptacle can support continuous 90 kVA and a peak power consumption of 112 kVA for up to five (5) minutes regardless of the output capacity of the Ground Power Unit (GPU). For continuous supply, the airplane will draw less than 90 kVA from any receptacle. Although the 787 is designed to perform a normal gate turn with two 90 kVA GPUs, Boeing recommends that a third 90 kVA GPU be available for non-normal engine start due to an inoperative Auxiliary Power Unit (APU).

Solid-state GPUs used for powering the 787 aircraft should meet or exceed the following inrush current levels:

- Worst Case Max Current: 1100 Amps peak
- Average Max Current: 730 Amps peak
- Decay to less than 500 Amps within 10 msec
- Decay to steady-state Amps within 130 msec.

Solid-state GPUs should be adjusted to the above specifications.

Similar to existing airplanes, the 787 utilizes power from the APU for normal engine start. The 787 is different in that it uses electrical power for engine start rather than pneumatic power used on existing airplanes. If the APU is inoperative, an engine start can be performed using a minimum of two 90 kVA external ground power units. Boeing recommends the use of three 90 kVA ground power sources to minimize the impact on cabin load shedding of ventilation, In Flight Entertainment (IFE) and cabin lighting.