VICOR

Case study: Air, Land, Sea
Platform aircraft pod-mounted power supply



Configurable VITA 62 compliant system adapts to specific power requirements

Customer's challenge

Upgrades to an aircraft pod-mounted system demand more power on its 12V rail, the existing standard VITA 62-compliant 3U converter – currently delivering 500W from the aircraft's 270V DC bus – simply falls short of this new requirement. Many standard VITA 62-compliant 3U converters lack the flexibility to provide a higher power solution within the existing constraints. This severely hinders crucial system upgrades, emphasizing the need for adaptable and efficient power solutions. The key challenges were:

- Find a power solution flexible enough to meets power needs
- Reduce time to market
- Meet specific operational temperature requirements

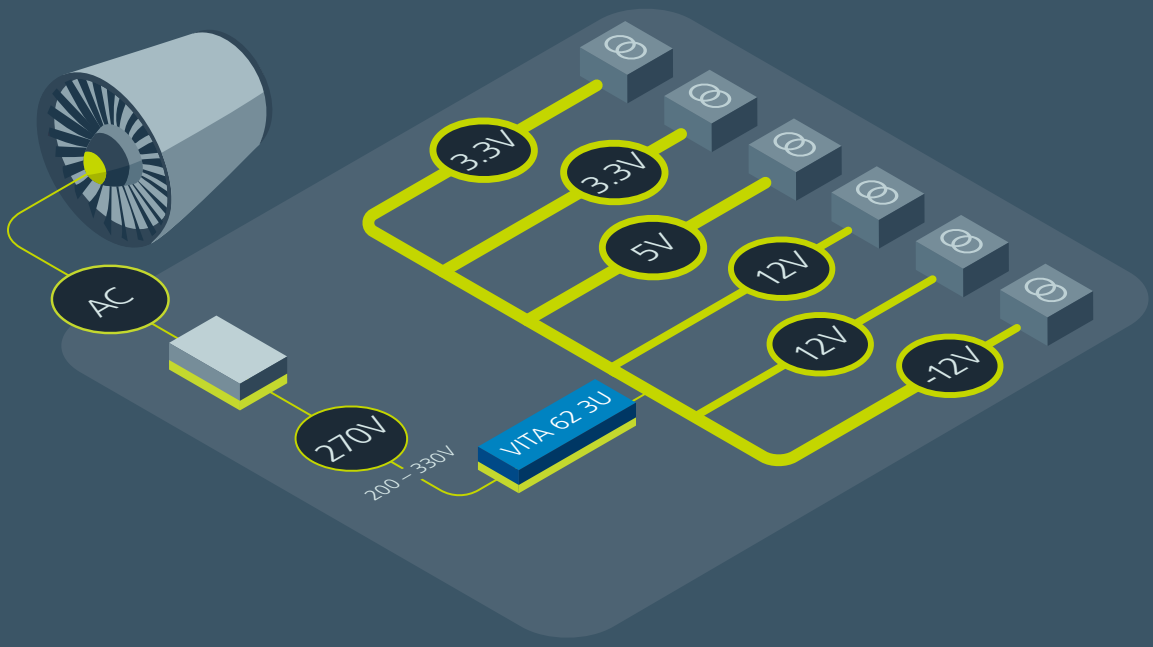
The Vicor solution

Vicor VITA 62 compliant power converters directly address the challenge of evolving power demands. They significantly reduce time to market compared to standard approaches. Vicor VITA 62 configurable power solutions are based on high-density DCM™ DC-DC converters and efficiently deliver the power required within the standard footprint. The use of DCM modules allows for uniform and predictable heat dissipation and considerably improves the overall thermal management. The key benefits were:

- VITA 62 compliant configurable power systems
- Modular approach enables quick design modifications and improves time to market
- Two-sided conduction-cooled modules for optimal heat dissipation

The power delivery network

Vicor VITA 62-compliant 3U solution is based on Vicor DCM™ DC-DC converter technology, which provides superior density (up to 1240W/in^3) in a low-profile package. This solution is capable of providing up to 600W within the 3U package. Employing high efficiency, two-sided conduction-cooled modules, the Vicor VITA 62 converter meets the 85°C operational temperature (at the card edge) required in this kind of application.





VITA 62 power supply

VPX systems

Input: 18 – 42V, 18 – 45V, 220 – 320V

Output: 28, 12, 5, 3.3, –12V

Power: 3U 750W, 6U 1000W

Full power to 85°C (at card edge)

As small as 3.9 x 6.6 x 0.95in

vicorpower.com/vita-62

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