VICOR

Case study: Multi-mode radar

Meeting a short qualification window when upgrading to a VPX power supply

Customer's challenge

Replacing an older radar with a smaller, lighter, and more capable system meant the need for more power in less space. The advanced surveillance radar required a power supply that could be quickly modified to support multiple generations of radars for high-resolution imaging, target tracking, and submarine periscope detection in all weather conditions. The key goals were:

- Modular power supply that can be quickly modified to support new requirements
- Reduce time to market and engineering effort
- Meet specific user-defined output voltage requirements

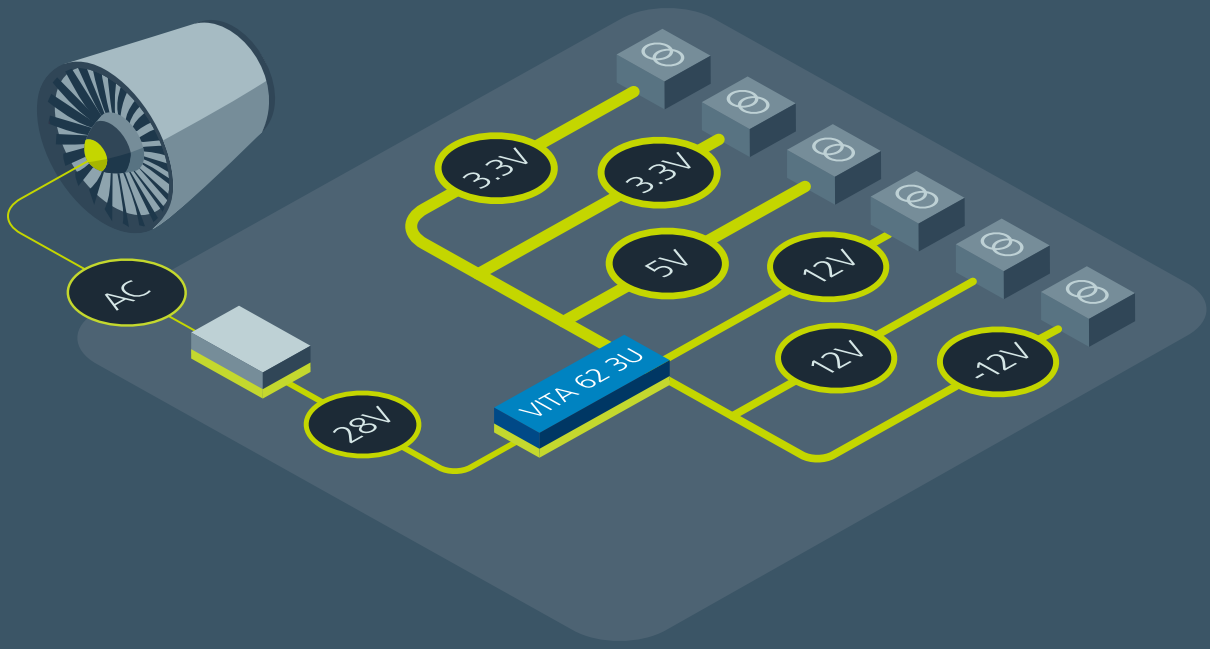
The Vicor solution

Vicor VPX power supplies are based on high performance power modules and efficiently deliver the power and voltages required within the standard footprint. The VPX power supplies are configurable, rugged, and can be easily modified and adapted to new requirements for quick prototyping. Scalable and adaptable to provide a form factor that easily upgradeable in the future. Key benefits were:

- A 3U Vita 62 compliant configurable power system
- A power supply that can be quickly modified and easily connected
- Meeting MIL-STD for aircraft power

The power delivery network

The Vicor VITA 62-compliant 3U power supply is based on Vicor DCM™ DC-DC converter technology, which provides superior density in a low-profile package. This solution can provide up to 600W within the 3U package. Employing high efficiency, two-sided conduction-cooled modules, the Vicor VITA 62 power supply meets the 85°C operational temperature (at the card edge) while powering the downstream loads.



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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