VICOR

Case study: Coastal surveillance radar

A modular VPX solution providing reduced time to market

Customer's challenge

Coastal Surveillance Radars are specialized, all-weather sensors designed to detect small, low-radar-cross-section targets like dinghies and fishing boats, often in heavy sea clutter. Acting as the core of coastal surveillance systems, they provide real-time situational awareness, monitor maritime traffic, and secure ports. They require high power and power density to effectively enable, identify, and track maritime threats. The key goals were:

- Minimize significant testing required to meet MIL-STD
- Reduce time to market and limit design effort
- Deploy within size and weight constraints

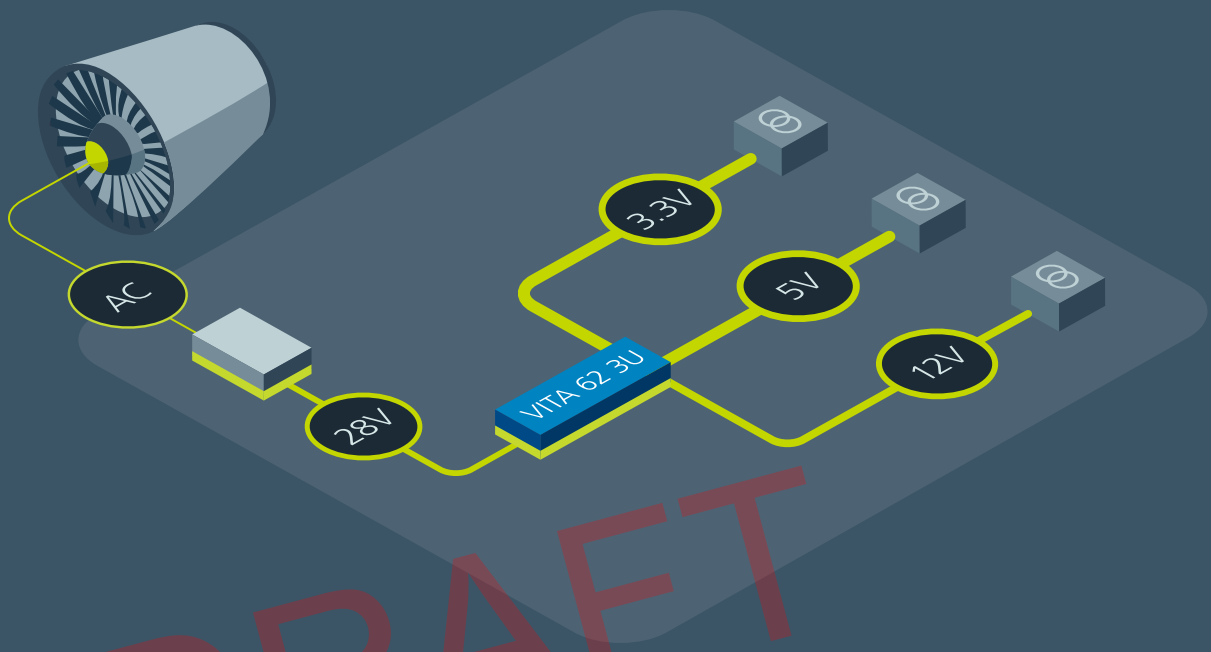
The Vicor solution

Vicor provides up to 600W in a 3U package. I^2C communication protocol provides real time operation status monitoring. Selecting this power supply allowed the customer to provide future scalability for a redundant solution. A Vicor VITA 62 power supply meets MIL-STDs, eliminating the significant timeframe and effort to qualify for the standards. Key benefits were:

- MIL-STD compliant power supply
- Shorter design lead time
- Lightweight, power module-based VPX power supply

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. Thermally adept packaging ensures high performance under harsh conditions, efficiency 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