CASE STUDY

Seamless Transition to a New Power Supply Solution – An Example of Product Line Extension (PLE)

INDUSTRY	SOLUTION	APPLICATION
Life Science	NGB425 Family	Chromatography

CHALLENGE

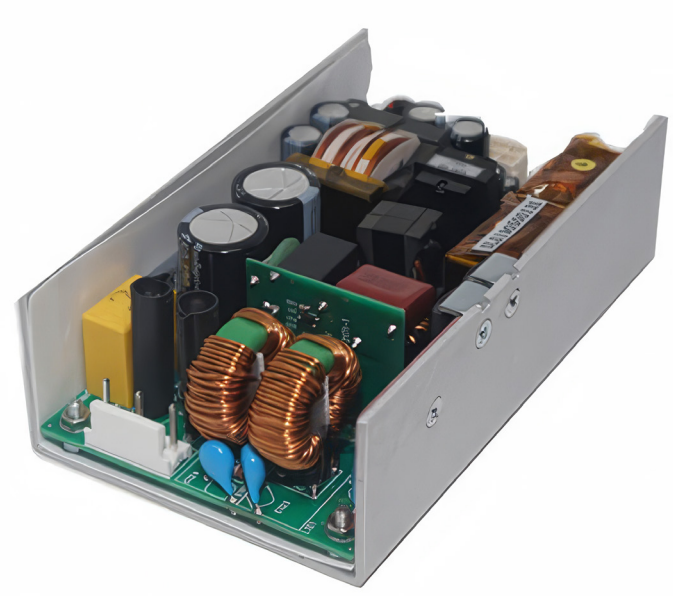
In the dynamic world of electronics, ensuring seamless transitions when products are discontinued is crucial for maintaining operational efficiency. This case study explores how a customer successfully navigated the challenge of replacing a soon-to-be discontinued power supply with a new solution that met their stringent requirements.

The customer faced the daunting task of finding a power supply that could replace an existing product while supporting several critical needs:

- **Mechanical and Electrical Backward Compatibility:** The new power supply had to be compatible with the existing setup to enable field replacements in deployed equipment without any modifications.
- **Longevity:** It was essential for the new power supply to support continued production for up to 5-8 years and provide field replacements for an additional 5+ years.
- **Cost Efficiency:** The development and qualification of the new power solution needed to be cost-effective to justify the investment.

The existing product was a value-add solution utilizing the GNT400 series, featuring:

- Built-in fan cooling
- Filtered AC inlet
- Output cable terminating at AMP/Molex type connector
- Extended chassis and cover
- DC OK signal and switch closure inhibits
- 5V/1A standby output



SOLUTION

The team at Advanced Energy provided a value-added solution by utilizing the NGB425S24K base model from the NGB425 series and enhancing it with additional features and functionalities needed to meet the customer's requirements, as a simple modified-standard part would not suffice in this case. The key changes needed to enable a "drop-in" replacement, this included:

- Extending the U channel chassis to 9" in length
- Adding a front panel with a filtered AC inlet and cooling fan
- Incorporating a solid top cover, approximately 9" in length
- Integrating an interface PCB within the U channel to connect the NGB425 and allow interconnect to the fan, AC inlet, and output cable
- Ensuring the interface board matched the inhibit and DC OK logic of the existing GNT400 series model
- Adding an output cable with the same length and terminations as the existing GNT model

RESULT

The focused support from Advanced Energy's engineering team throughout the process provided confidence to the customer that the value-added solution fits their needs. The AE engineering and factory NPI team ensured full compliance with the customer's mechanical and electrical specifications, delivering quick turnaround of products to meet both prototype and pre-production test schedules. The customer has fully qualified and released the product, placing production orders.

BENEFITS

By using a newer AC-DC power product within the same mechanical footprint while providing the same or better functional performance, the customer was able to:

- Extend the life of their existing products using the discontinued part
- Guarantee seamless field services for their existing products
- Design the new model into new designs with no risk of discontinuance of the power supply
- Save cost, as the newer product was 25% to 30% less expensive than the older legacy model

CONCLUSION

Advanced Energy's solution allowed the customer to continue production of existing equipment, provide field service to their customers, and save costs. The strong support and close communication between the end-customer's engineering and purchasing departments with AE's local FAEs and sales reps ensured a quick turnaround time and ultimately a successful outcome for both the customer and AE.

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