

Advanced Energy Powers CT Systems with High Power Demands

INDUSTRY**Medical****SOLUTION****uMP Series
High Power C Series****APPLICATION****CT****CHALLENGE**

A leading medical device company embarked on an ambitious project to design a cutting-edge power supply for the rotating gantry part of their innovative CT system. The challenge was multifaceted and required a solution that could meet the following stringent criteria:

- **Versatile Power Range:** The power supply needed to be modular, capable of delivering AC-DC power ranging from 2.85 V to 48 V.
- **High Wattage:** The total wattage requirement was approximately 3 kW in one system or PSU, ensuring sufficient power.
- **Advanced Technology Integration:** Additionally, a high-voltage DC-DC power supply was essential to deliver the right bias voltage for a new detector technology.
- **Durability Under Extreme Conditions:** Both power supply units (PSUs) had to withstand the intense rotational forces within the gantry, with a minimum requirement of 50 g.

SOLUTION

To address the complex requirements of the rotating gantry system, Advanced Energy proposed a highly customized solution. This solution included:

- **Modified AC-DC Power Supply:** The design featured three different modular uMP09 PSUs, providing a total of nine outputs, all mounted within a single housing.
- **Collaborative Development:** The power supply was developed in

cooperation with the customer, ensuring thorough testing and approval processes.

- **High Voltage DC-DC Converter:** The UltraVolt® High Power 1C24-N250 was selected for its capability to deliver up to 250 W and 60 kV. The High Power C series, which is a compact and reliable high-voltage power supply (HVPS), was chosen for its ability to meet demanding dynamic load requirements.

RESULT/ CONCLUSION

The exceptional technical support by the AE engineering team, both local and online, combined with the ability to quickly customize and adapt to even the smallest details, significantly accelerated the development cycle. This collaborative and responsive approach not only streamlined the process but also enhanced the speed to market for the customer's CT system. The innovative power supply solution delivered on the system requirements efficiently and effectively.

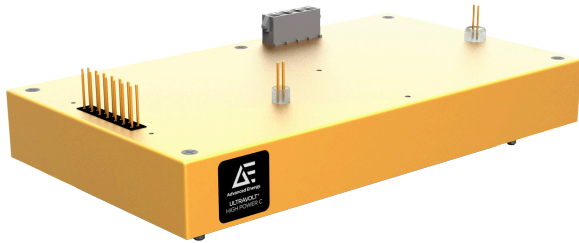


Fig. 1 UltraVolt® High Power C Series



Fig. 2 uMP Gen II Series



For international contact information,
visit advancedenergy.com.

powersales@aei.com
productsupport.ep@aei.com
+1 888 412 7832

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