

Advanced Energy Powers Ultrasound Devices with Smart Power

INDUSTRY**Medical****SOLUTION****Custom AC-DC Power
Supply****APPLICATION****Ultrasound****CHALLENGE**

A leading medical device company embarked on an ambitious project to design a cutting-edge ultrasound system with integrated battery charging and management functionality. Their challenge was multifaceted and required innovative solutions to meet the specific needs. They sought a custom AC-DC power supply that could intelligently handle battery management, offering flexibility to operate with one battery, multiple batteries, or without any battery at all. Additionally, the power supply needed to endure up to 3000 power on-off cycles per year, ensuring reliability and longevity. To achieve this, they needed a vendor with a comprehensive medical portfolio of highly reliable standard products that can be leveraged as building blocks.

SOLUTION

Advanced Energy's recommended solution was a custom AC-DC power supply with an output of over 850 W. This power supply was designed to offer more than 10 different output voltages, ranging from 3.3 VDC to 30 VDC, including ATX compatibility. The solution met stringent

size requirements, requiring them to fit within dimensions of below 300 x 300 x 110 mm. Additionally, it was suitable for multi-battery charging and discharging operations, ensuring flexibility and reliability for the system.

RESULT/ CONCLUSION

By leveraging Advanced Energy's expertise and innovative solutions, the company was able to overcome the challenges of designing a cutting-edge ultrasound system with integrated battery charging and management functionality. The custom AC-DC power supply, with its impressive output and flexibility, met all the stringent requirements and ensured reliable performance. A high-power density and cost competitive solution coupled with an exceptional quality system enabled a design win and helped the customer to be competitive in this sub-market. This partnership not only enhanced the company's presence in the market but also set a new standard for excellence in the medical device industry.



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