

High Voltage power supply required for use in intravascular ultrasound coronary artery imaging system

INDUSTRY

Medical Imaging

SOLUTION

AEQ

EQUIPMENT

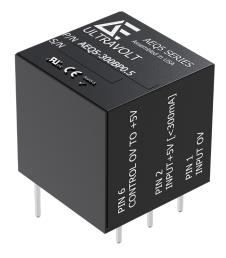
Intravascular
Ultrasound System

CHALLENGE

Medical equipment suppliers are having to design medical imaging products with higher resolution, reduced size, increased reliability, and accurate detection. The biggest challenge for this medical imaging manufacturer was achieving the miniature form factor required for their power supply unit. They needed a solution that could drive +/-100 V rails for the ultrasonic transducer in the end system. The current power supply solution being used at the time was a legacy unit and exceeded the power requirement for the application. The customer was seeking a lower-power alternative capable of withstanding extremes in shock and vibration. A crucial requirement for this customer was input-output isolation.

SOLUTION

The solution proposed by the Advanced Energy team was the AEQ Series of ultra-miniature DC-DC supplies. The customer would be advised to use two AEQ5-100FL0.5 units per system. The AEQ was the correct solution because it has the ability to provide -100 V for use in the systems ultrasonic transducer and +100V for the biasing. The higher input-output isolation is inherent in AEQ, which was limited in the legacy platform.



Additional AEQ considerations:

- 5 or 12 VDC input
- Output fully adjustable over 0 VDC to maximum rating
- Output short-circuit protection
- 0.5 W or 1.25 W maximum output power
- Low ripple (<1% peak to peak)

RESULT

There were several reasons the AEQ was the right solution for this medical imaging equipment. Firstly, the Ultravolt® high voltage DC-DC design architecture was superior when compared to the older platform. The smaller package size (ultra-miniature size (0.5" cube) and lower output power made the AEQ a more compact and efficient alternative. Advanced Energy was able to provide a higher input-output isolation solution at no additional cost and ensure rapid delivery of samples. This reduced the customers costs and lead time sufficiently. AE offers technical enhancements over the closest competitive product and our long-standing engineering background in this form of high voltage DC-DC modules gave the customer the assurance needed.





For international contact information, visit advancedenergy.com.

powersales@aei.com

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