

Mobile x-ray equipment required multi-output, non-standard DC-DC power supply

INDUSTRY**Medical Treatments****SOLUTION****Excelsys CoolX1800****EQUIPMENT****Mobile X-Ray Systems****CHALLENGE**

Mobile x-ray systems are essential to meeting the demand for high-quality, point-of-care imaging. These systems are used throughout the hospital and can be used as important triaging and screening tools. Mobile systems reduce patient wait times and reserves usage of high-end imaging systems for the patients that need it.

A critical requirement for one of the leading manufacturers of mobile x-ray equipment was the ability to maintain power while moving the system. The power supply for this requirement had to be powered from a DC voltage generated from a battery pack and maintain consistent performance while the batteries discharged. The power supply also had to meet medical safety standards and provide multiple low voltage outputs to power other components on the system.

SOLUTION

Advanced Energy's Excelsys CoolX1800 power supply platform is certified to the latest medical safety standards IEC60601-1 (3rd edition) and IEC60601-1-2 (4th edition) and proved to be the ideal solution. Its modular design provides equipment design engineers the flexibility they need for voltage, power, and current leakage requirements to meet their low voltage medical needs.

Our experienced technical team worked with the customer to characterize the system needs and modified the CoolX1800 to allow it to be powered from a DC input source to deliver the multiple low voltage outputs required by the system. Upon electrical approval by the customer, Advanced Energy safety experts worked with the compliance agency to certify the modified product to the required medical safety approvals. The compact size and power density of the CoolX1800 was also a major benefit for a mobile unit where weight is a consideration.



RESULT

A power supply that operates of a nominal DC input of 150 V and maintains operation as the battery packs discharge to lower levels. The input voltage is monitored by the built-in firmware intelligence on the CoolX1800, guaranteeing reliable operation. The DC input version of the product is safety certified, greatly simplifying system safety compliance.

The design win of the CoolX1800 power supply is presently in production and being delivered to meet the customer's production needs.

CONCLUSION

Working closely with the customer, leveraging the CoolX1800 solutions design, flexibility, and capability, and utilizing our expert knowledge, the team was able to satisfy all of the requirements needed by the customer. Additionally, other input DC voltages can be investigated and approved depending on application and voltage level.



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