CASE STUDY

Improving ECG Machine Accuracy with Advanced Energy ME20 Series

INDUSTRY	SOLUTION	APPLICATION
Medical	ME20B Series	Patient Care

CHALLENGE

A customer was conducting a new qualification test with Class II adapters for their new ECG machine. During testing, they discovered an issue related to power line interference due to the lack of grounding. This interference was affecting the performance of their ECG machine, leading to inaccurate readings and potential risks for patients.

SOLUTION

To address this issue, the recommendation was made to the customer to switch to a Class I adapter with the protective earth (PE) tied to the output ground. This change resulted in different and improved results, indicating that the problem was related to the application rather than the power supply itself. The Advanced Energy (AE) engineering team provided samples of their ME20B series, which has the output ground connected to the input PE, effectively eliminating the power line interference. Additionally, AE incorporated a custom connector that the customer required, ensuring seamless integration with their existing setup.



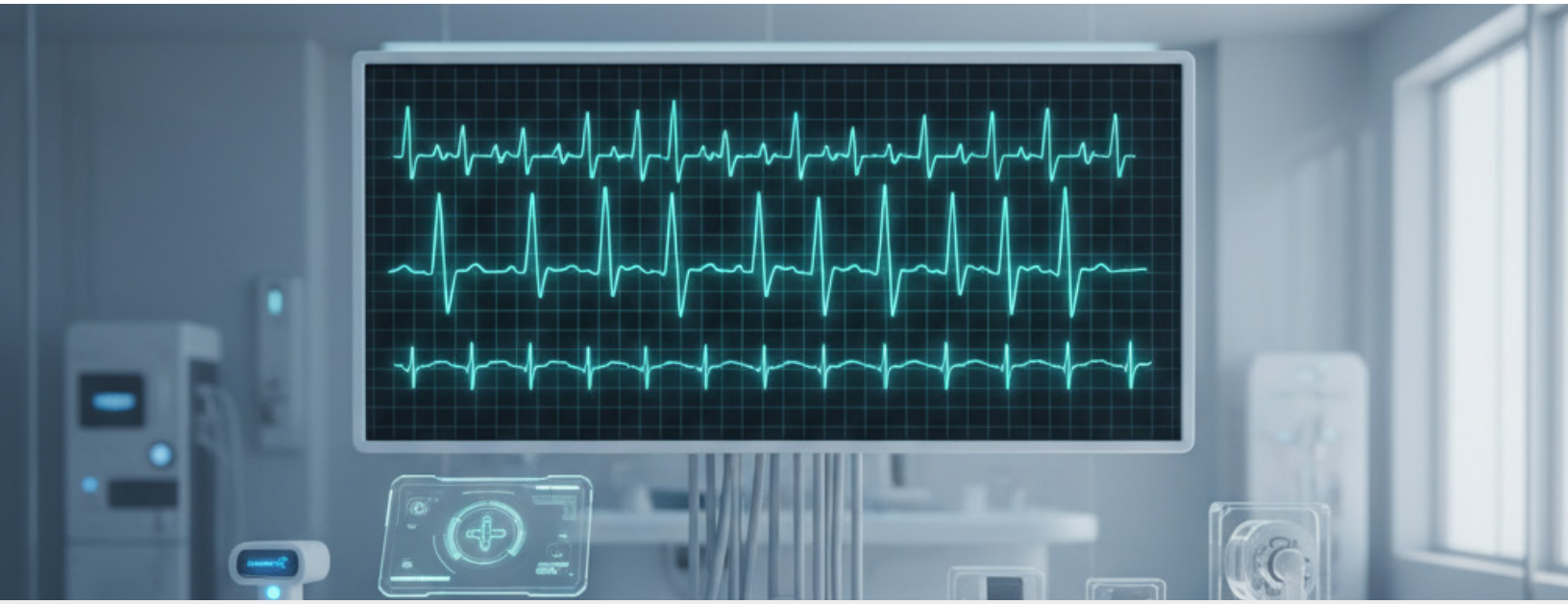
BENEFITS

The ME20B series is a high-performance power supply designed for medical applications. It is ideal for environments where AC mains power may be noisy or unstable, and equipment shutdown is not an option.

- **High Performance:** Designed specifically for medical applications, ensuring reliable and consistent power supply.
- **Great EMI, EMC, and Noise Performance:** Ensures easy integration into the end equipment without interference issues.
- **Efficiency:** Meets DoE Efficiency Level VI requirements, ensuring energy efficiency.
- **Safety:** Approved to UL/EN/IEC60601-1, 3rd edition and meets UL/EN/IEC60601-1-2, 4th edition for EMC, providing high safety standards.
- **Durability:** IP22 rated enclosure and e-cap life of over 10 years, ensuring long-term reliability.
- **Warranty & Support:** The product series comes with a 3-year warranty. In addition, AE's global support network ensures that customers receive timely assistance and solutions.

RESULT / CONCLUSION

The customer observed significant improvements in the performance of their ECG machine with the ME20B series. The power line interference issue was resolved, leading to accurate readings and enhanced patient safety. Impressed with the results, the customer issued purchase orders (POs) for their immediate needs, demonstrating their confidence in AE's solution and commitment to using the ME20B series for their upcoming ECG machines.



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