

CASE STUDY:

PROVIDING BACK-UP POWER FOR ROBOTIC SURGERY SYSTEMS

AT A GLANCE

Requirements

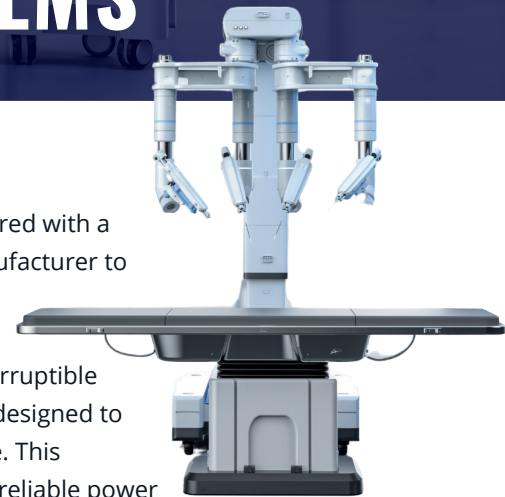
- ✓ Compatible for international use
- ✓ 2kVA output at 120VAC
- ✓ Over 4 minutes of runtime
- ✓ Rechargeable lithium battery
- ✓ Must adhere to IEC60601-1 Safety standards

Benefits

- ✓ Universal input range of 90-264VAC
2KVA output at 120VAC
- ✓ More than 4 minutes of runtime after 500 charge/discharge cycles
- ✓ LiFePO4 battery chemistry with a 10-year lifespan
- ✓ Integrated 2MOPP isolation
- ✓ The most compact lithium battery solution at this power level
- ✓ SNMP V3 communication capability

OVERVIEW

Astrodyne TDI (ATDI) has partnered with a leading innovative medical manufacturer to assist in developing a robotic surgery system. This project employs a backup online Uninterruptible Power Supply (UPS) specifically designed to support a robotic surgery device. This essential application required a reliable power source to ensure continuous operation during surgical procedures, as even a brief power interruption could have severe consequences.



POWER CHALLENGES

The goal was to find a certified rack mount UPS with 2kVA power and at least 4 minutes of runtime. It needed SNMP V3 for secure remote management, compatibility with global electrical standards, and a 2kVA 120VAC output for the robotic surgery device. The system required over 4 minutes of runtime for safe shutdowns during outages. A lithium battery was essential for a lightweight, durable solution, reducing maintenance costs. Compliance with IEC60601-1 Safety standards was crucial to ensure the safety of medical equipment for patients and healthcare professionals.

ASTRODYNE TDI'S SOLUTION

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