

Value-add Solution as an alternative to Full Custom Design

INDUSTRY

**Life Science:
Immunoassay
Diagnostic Systems**

SOLUTION

**Value-add Solution
using field proven
Standard Configurable
Products iVS3 and iMP4**

EQUIPMENT

**Clinical immunoassay
blood testers**

CHALLENGE

The challenge for the customer was to find a power supply – within a short timeframe - which was able to support:

- Loads for various parts of the immunoassay diagnostic system with specific DC voltages (e.g. +5VDC@70A; +12VDC@8A; -12VDC@4A; +24DC@45A; +36DC@20.8A; +48DC@38.7A).
- A maximum power of 4200W.
- The supply would be required to operate off a single-phase AC input, 200 to 240 VAC +/-10%; 47-63Hz

In addition the power supply also needed to include AC outlets and breakers for various external equipment, e.g. routing the AC current to an EMI filter with EFT and surge protection.

The AC and DC subsystems required protection and monitoring capabilities for over-temperature, over-current, over-voltage and under-voltage conditions. In addition, the power supply had to have its own built in fan cooling.

The total power solution had to be enclosed in a customer defined metal chassis finished with special anodised coating and with front panel having circuit breakers, fan status LED's and input connector with the back side having the output connectors. The power supply provided had to support specified Control and Monitor functions via PMBus.



SOLUTION

The team at Advanced Energy offered a value-add solution using standard configurable Artesyn iVS3 and iMP4 in a custom enclosure. The key features included:

- Single PSU solution with multiple DC outputs that addressed the various power requirements of the customer
- Output Intelligent I2C control and an I2C monitoring for voltage, current and temperature
- Programmable voltage, current limit, inhibit/enable through I2C
- Configurable input and output OK signals and indicators
- Housekeeping circuits (OVP, OCP, OTP and SC)
- Industrial shock and vibration able to withstand >50G
- RoHS compliant

RESULTS

The focused support from AE's value-add team in the RFQ stage, working through multiple design ideas to meet this customer's requirement, provided confidence to customer of the exact solution for their need. The AE team ensured full compliance to the customer specifications, while providing quick turnaround of samples to meet the prototype test schedule. The Advanced Energy team were also able to demonstrate similar proven solutions developed for other medical Life Science, Imaging and Electrosurgery OEMs.

CONCLUSION

There are several reasons that this Advanced Energy solution was chosen for this specific Immunoassay Diagnostic System, the primary being AE's reputation for quality and reliability. Flexible engineering adjustments coupled with Advanced Energy's leadership position in providing high quality modular power supplies allowed us to meet the end customer requirements.

The continued strong support and close communications between the end-customer's engineering and purchasing departments with AE's local FAEs and sales reps helped to address and close any issues in an efficient manner. The exceptional applications and engineering support provided by the AE team ensured a quick turnaround time.



For international contact information, visit advancedenergy.com.

sales.support@aei.com
+1.970.221.0108

PRECISION | POWER | PERFORMANCE | TRUST

Specifications are subject to change without notice. Not responsible for errors or omissions.
©2023 Advanced Energy Industries, Inc. All rights reserved. Advanced Energy®, AE®, Ascent® and PowerInsight by Advanced Energy™ are U.S. trademarks of Advanced Energy Industries, Inc.